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MARCH 2017



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CONEXPO: From Vegas to the world

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EARTHMOVING: Dragon's insatiable dozing appetite

DRIVER TRAINING:
REAPING PROFICIENT
DRIVING RETURNS
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WHAT HAPPENS IN VEGAS COMES TO AFRICA!

Big lights, big city, and still there aren't enough adjectives to adequately describe Las Vegas. It represents many different things to the multitudes who visit each year, and the golden rule is "what happens in Vegas stays in Vegas". But, when CONEXPO CON/AGG is in town, this commonly accepted truism is flipped on its axis as construction equipment innovations making their debuts at this grand show eventually dig their ways into the rest of the world, and Africa too.

While the Las Vegas Strip still had its fair share of attention, it was the bins, buckets and booms on show at the Las Vegas Convention Centre from the over 2 500 exhibitors – representing various segments of the industry such as asphalt, aggregates, concrete, earthmoving, lifting, mining and utilities – that stole the limelight.

Over the years, CONEXPO has been regarded as a construction equipment show with a sheer focus on the North American market. But, this perception is seemingly losing clout. Over 130 000 construction professionals who accounted for 63% of the attendees from 150 countries at this year's event were treated to new innovations that are set to help them decrease downtime and increase efficiencies within their respective countries of origins.

For me, CONEXPO CON/AGG has since improved its reputation from a regional North American show to a truly international construction equipment trade fair. Its association with Messe München, the organisers of Bauma, in ventures such as bauma ConExpo Africa and bauma ConExpo India, is testament enough that the Association of Equipment Manufacturers is taking a global view with its exhibitions.

While many new equipment pieces on show were making their grand entrances into North America, there were ample new launches for the rest of the world, too. For example, the world's first teleskid, the first skid steer and compact track with a telescopic boom from JCB, made its first appearance at CONEXPO but will be eventually available for global markets. Another key innovation making its grand

debut at this year's show was LiuGong's Vertical Lift wheel loader, said to be the first of its nature. The key innovations of the product are the vertical lift loader arms on an articulating frame and the mechanical self-leveling Z-bar bucket linkage on a vertical lift loader – both said to be industry firsts. Set to go into mass production this year, the technology will be universally applicable.

It is also worthwhile to mention the very strong interest in Africa, especially southern Africa from several OEMs exhibiting at this year's CONEXPO. To drive this point home, it was an honour for me to be chosen by the organisers to give a market overview of the southern African construction equipment market. A bigger share of the attendees were global OEMs looking to establish footprints into the region. Several OEMs shared their planned ventures into this market.

While the southern African agenda was apparent, my interactions with several OEMs also reinforced that Algeria is turning many OEMs' heads. Despite the lower oil prices, Algeria's growth is no passing phase. Revenues from its gas reserves are being put to good use, enabling considerable infrastructure development in recent years. For this reason, Algeria has been the second biggest construction equipment market in Africa for several years running, following hard on the heels of South Africa. The government's massive USD286-billion investment between 2010 and 2016 into new road networks and other major civil engineering projects has made Algeria a burgeoning market for construction equipment makers.

Many believe there is willingness within Algeria to maintain the continued pace of growth, a case for the past seven to eight years. Demand for excavators is said to have increased by about 10-12% in the past few years, while mobile and tower cranes are also among the top sellers.

These were my insights from CONEXPO. You know how they say "what happens in Vegas stays in Vegas?" Well I have a new saying; if it happens in Vegas and has anything to do with "yellow" metal equipment, it will find its way to Africa, too!



Munesu Shoko – Editor



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A leading machine in Doosan's range is its DX225LCA hydraulic excavator.



THE KOREAN BUILD PROMISE

2017 marks over 20 years of Doosan earthmoving equipment operating in South Africa. Equipped with a reliable product that has proved its worth in the local market, complemented by strong aftermarket support, Doosan South Africa has clear strategies to dig well into the future.

Doosan maintains its strong position in today's highly competitive earthmoving equipment sector through its reputation for reliable engines, a robust chassis structure, quality components that ensure extended service life and features aimed at easy serviceability that reduce downtime, according to Chris Whitehead, MD of DISA Equipment, trading as Doosan South Africa, part of the Capital Equipment Group (CEG) of Invicta Holdings Limited. "Of critical significance to Doosan's success is the technical support, as well as repair and maintenance services we offer to our customer base throughout the country. Doosan equipment is also supported by extended warranties."

"Our commitment to meeting exact market requirements includes the continuous launch of new machines locally, which are designed to cope efficiently and safely with Africa's tough conditions," adds Whitehead.

Manufactured in South Korea, Doosan earthmoving equipment encompasses track, wheel and mini excavators, articulated dump trucks (ADTs), as well as wheel loaders and various attachments.

Leading machine

A leading machine in the range is the heavy duty Doosan DX225LCA hydraulic excavator, which competes in the general construction excavator market – one of the

biggest size class of equipment in South Africa. The Doosan DX225LCA is known for improved fuel efficiency, enhanced productivity, minimal maintenance requirements and greater operator comfort.

The DX225LCA series has notable design features especially for the African market, with clear advantages over other machines in the same size class. Key features include a reliable six-cylinder water-cooled engine that is optimised and electronically controlled to boost production, maximise fuel efficiency and ensure harmful emissions remain well below the values required for Tier II engines. The machine is said to boast the most efficient fuel consumption of this size class of equipment, consuming less fuel for the same production.

A heavy duty boom and arm have increased material thickness which limits element fatigue, increasing reliability and extending component life. The DX225LCA has a longer undercarriage than competitor machines.

Although a shorter undercarriage reduces manufacturing costs, stability is compromised. All welded structures of the Doosan undercarriage have been designed to limit stresses. The lateral chassis is welded and rigidly attached to the undercarriage. Tracks locked by

The DX225LCA excavator is ideal for diverse industries, including construction, mining and quarrying, marine, civil engineering and forestry.



mechanically bolted pins are composed of sealed, self-lubricating links, which are isolated from external contamination for dependability in all conditions. The hydraulic track adjuster has a shock absorbing tension mechanism.

The DX225LCA series has standard hydraulic piping for hammer applications and an improved H Class bucket. The machine is supported by Doosan's 2 year/ 4 000 hour warranty.

More features

The swing mechanism – an axial piston motor with a two stage planetary reduction gear – offers increased swing torque at reduced swing times. The maximum swing speed is 11 rpm.

The 21,5 t operating weight is enhanced by new specifications that include a 0,92 m³ bucket capacity, a digging depth of 5 755 mm, a digging reach of 8 950 mm and a digging height of 9 750 mm. The engine rated power is 110 kW (148 hp) at 1 900 rpm. Maximum engine torque is 61,5 kg.m/1 400 rpm.

For optimum control, the e-POS system (Electronic Power Optimising System) provides a perfect synchronised communication link between the engine's electronic control unit and the hydraulic system. A controller area network system facilitates a constant flow of information between the engine and hydraulic system, ensuring

power is delivered exactly as it is needed.

Tests show that these machines have the industry's best traction force for their machine weight, especially when working on a slope or on tough ground conditions.

The hydraulic system enables independent or combined operations. Two travel speeds offer either increased torque or high speed tracking, while an auto deceleration system and cross sensing pump ensure better fuel savings.

The conveniently positioned multi-function colour LCD monitor panel has standard features for simple control and efficient operation.

The controls include mode selection, precise flow rate regulation, auto deceleration and display selection. Maintenance and oil change intervals can be displayed, a self-diagnosis function allows technical problems to be quickly resolved and an operational memory provides a graphic display of the machine's status.

Levelling operations, movement of lifted loads and tricky manoeuvres are all controlled easily and precisely with control levers. Buttons integrated on the levers are used to operate additional equipment, such as grabs, crushers and grippers.

Doosan's DX225LCA excavator has been designed with the latest ergonomics which enhance efficient operation, improve safety and offer greater operator comfort for reduced fatigue. New

features include a spacious, all-weather sound-suppressed cab with a clear all round view, effective air conditioning and an adjustable seat, with an optional air suspension system to reduce vibrations. For improved safety, there are large handrails and a wide step with anti-slip plates, right and left rear view mirrors, a travel alarm and safety glass.

The series has been designed for easy maintenance and reduced downtime. A PC monitoring function enables connection to the e-POS control system. Various parameters can be checked during maintenance, including pump pressure, engine rotation and engine speed. This information can be stored and printed for analysis.

Easy access to all components, including the engine oil filter, radiators and grease inlets, enables quick maintenance procedures and prevents contamination to the surrounding environment.

The DX225LCA excavator is ideal for diverse industries, including construction, mining and quarrying, marine, civil engineering and forestry.

To complement the gains of the Korean build, Doosan offers a national technical advisory, maintenance and support service throughout its branches in Johannesburg, Durban and Wolmaransstad, as well as dealers in East London, Port Elizabeth, Cape Town, Middelburg, Kimberley, Rustenburg and Bloemfontein. 🌐



FROM VEGAS TO THE WORLD

Technological innovations were at the centre of many earthmoving equipment OEMs' exhibits at this year's CONEXPO-CON/AGG. Munesu Shoko attended the event and filed this report.

A common message from both exhibitors and show organisers was that the construction industry is changing, at a rapid pace. To respond to the ever-changing needs of the industry, several original equipment manufacturers (OEMs) showcased their tremendous technological advancements since they last convened for CONEXPO-CON/AGG in 2014.

To help the 130 000 construction professionals who descended into Las Vegas grasp the future of their industry, organisers, for the first time, also set up a separate, 7 000 m² area called Tech Experience. The Tech Experience provided an interactive look at the trends and solutions in areas such as job site, workforce and infrastructure. Microsoft and Hyperloop were among the companies presenting at the Tech Experience.

"Over the past three years, all technology

has advanced at an exponential rate, and the same can be said for the construction industry," said Sara Truesdale Mooney, CONEXPO-CON/AGG show director. "Today we have autonomous trucks and augmented reality to allow drawings through glasses on a job site. It is CONEXPO-CON/AGG's role to raise awareness of new products and technologies, drive adoption and industry efficiency."

This year's show featured more than 2 500 exhibitors, up from 2 000 recorded during the previous show in 2014, representing various segments of the industry such as asphalt, aggregates, concrete, earthmoving, lifting, mining and utilities. Contractors accounted for 63% of the attendees, while equipment dealers and distributors,

the next largest group, made up 17%.

Of interest to **Capital Equipment News** was the sheer focus on technological innovations by earthmoving equipment manufacturers such as Volvo Construction Equipment, Caterpillar, Liebherr, Bell Equipment, JCB and LiuGong, to mention a few.

The age of smart iron

Caterpillar, exhibiting at its home turf, flexed its technological muscle with "The Age of Smart Iron" approach. Jim Umpleby, CEO of Caterpillar, says the OEM is driving an era where jobsites get connected, iron flexes its intelligence and industry evolves. "At CONEXPO-CON/AGG 2017 Caterpillar is launching new Cat Connect hardware and software to enable equipment



Caterpillar showcased the new Cat 745 articulated truck, featuring a next generation cab design, advanced truck control features that drive comfort and productivity gains.

managers to connect all of their assets – from the largest earthmover to the smallest generator, and including both light and heavy-duty trucks and utility vehicles. New Cat Product Link technologies connect any brand and type of equipment, powered or non-powered, and all report through a single system, VisionLink,” said Umpleby.

The new technologies offer multiple communications channels – cellular, satellite and Bluetooth – to best match the type of asset and the needs of the user. The systems are designed for easy installation using plug-and-play technology and apps for mobile devices. Battery backup for machine-powered devices and long-life batteries for units on non-powered assets help ensure reliable operation.

The new Product Link device for monitoring production machines has scalable features that enable increasing data collected as needed – from machine hours and location through to machine health parameters and production numbers. In contrast, a new

tracking device for non-powered assets, such as attachments and trailers, reports location only. The innovative device uses Bluetooth technology to connect with VisionLink, which enables managers to monitor equipment remotely using their smart phones, tablets and desktop computers.

The new truck monitoring hardware is designed for retrofitting all brands of light and heavy-duty trucks, including pickup trucks, service trucks and materials haulers. Using cellular technology, the system can provide information to enhance driver safety and to assist both production and maintenance managers.

Meanwhile, the company also showcased the new Cat 745 articulated truck, featuring a next generation cab design, advanced truck control features said to drive comfort and productivity gains.

Offering a 41 t rated payload capacity, the new Cat 745 articulated truck features a new cab design, said to be completely re-engineered from the inside-out using global operator feedback to advance comfort and ease of operation. Upon cab entry, the new “wake up” feature initiates machine displays as soon as the door is opened, while the lighter/stronger cab door offers shut assist for improved sealing against dust infiltration.

“Today we have autonomous trucks and augmented reality to allow drawings through glasses on a job site. It is CONEXPO-CON/AGG’s role to raise awareness of new products and technologies, drive adoption and industry efficiency.”



Volvo CE's new L260H wheel loader boasts 5% more horsepower and torque, 15% increase in payload and features larger bucket sizes.



The JCB Teleskid is a revolutionary new product that can reach 60% further forward than any other skid steer on the market.

The quieter cab design lowers inside sound levels by 5 dB at the operator's ear.

Inside the cab, a new combined transmission and hoist lever gives operators efficient single-lever control over truck speed and body hoisting functions to minimise operator effort and automate repetitive operations. At the flick of a switch, operators can choose between manual or fully automatic assisted hoisting control, which automatically applies the Waiting Break, sets the transmission in neutral and hoists the body to maximum angle at high RPM.

To further improve operator safety, the machine incorporates the new Cat Detect with Stability Assist system. The system audibly and visibly warns the operator if tractor or trailer unit has reached an angle

threshold where it is in risk of tipping over. The Advanced Automatic Traction Control is improved by technology that will proactively apply the differential locks prior to any wheel spin. Terrain-based throttle smoothing prevents the new truck from surging when an operator is traveling over extremely rough terrain and is unable to keep steady pressure on the accelerator pedal.

The new 745 truck's touchscreen display with revised menus offer intuitive navigation through the screens for simple machine control. The display enables the operator to monitor machine functions and personalise a variety of options. A new emergency stop brake switch next to the display offers a further level of operating safety in the unlikely event of incurring issues with both the main and secondary brake circuits.

New loading standards

Elsewhere, Volvo Construction Equipment (CE) used CONEXPO-CON/AGG to debut its new L260H wheel loader said to be a true global two-pass loader that is purpose-built for challenging jobs, ensuring optimum performance, profitability and a 10% fuel efficiency improvement.

At 34 t, the machine can load on-highway trucks in just two even passes. "When compared with previous models, the numbers speak for themselves. The L260H boasts 5% more horsepower and torque, 15% increase in payload and features larger bucket sizes. Add the Volvo Co-Pilot with Load Assist, and intelligently redesigned lifting-arm system and frame, the result is greater fuel efficiency, faster cycle times, increased on-site productivity, maximum operator comfort and simpler serviceability," says Martin Weissburg, president of Volvo CE.

Fuel efficiency is enhanced by the Volvo-patented OptiShift technology, which integrates the Volvo Reverse By Braking (RBB) function and new torque converter with lock-up to reduce fuel consumption significantly. Ideal for short cycle or truck loading applications, the RBB senses the loader's direction and slows the machine by automatically applying the service brakes instead of the torque converter, thereby increasing fuel efficiency, operator comfort and machine lifetime.

The driveline lock-up, meanwhile, improves drive response, rim pull, incline performance and fuel efficiency. Also contributing to fuel efficiency is the new transmission, featuring the Volvo Fully Automatic Power Shift (FAPS) concept. To deliver more efficient work cycles, FAPS shifts the gears to match the engine and travel speed to the best gear ratio, ensuring the loader operates in optimal gear for lower fuel consumption and wear.

The new load-sensing hydraulic on the new Volvo L260H system supplies power to the hydraulic functions only when required, resulting in greater on site productivity. Combined with features, including the new transmission, new converter and new rehandling bucket, the hydraulic system increases fuel efficiency by up to 10%, and offers better control over the load and attachment. Unlike previous models, the L260H does not use hydraulic pumps to lower the boom, but rather the combined gravitational effect and weight of the boom and the bucket – a feature that appears only on the L260H wheel loader.

The lift arm has been redesigned to feature a lighter, stronger arm, capable of handling 15% more payload. The L260H can be specified with the optional Boom Suspension System (BBS) to enhance productivity by up



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SCANIA



Bell Equipment's B60E, the largest articulated hauler in the world, attracted major attention at the South African OEM's stand at CONEXPO.

to 20%. By absorbing shock and reducing the bouncing and bucket spillage when operating on uneven terrain, the BSS enables faster and more comfortable cycle times and extends the lifetime of the machine.

From SA to the world

Meanwhile, South Africa's own Bell Equipment drew a lot of attention with its two articulated haulers on show, the B45E and B60E. The two models form part of Bell Equipment's E-Series Large-Truck range of articulated dump trucks that recently rolled off the production line with better payloads, increased engine power and several other safety-related features, all translating into increased productivity, safety and lower operating costs.

One of the key improvements on the Bell E-Series Large Truck range compared with the predecessor D-Series is the significant increase in payload. While the B45E maintains the B45D's existing 41 t rated payload, Tristan du Pisanie, product marketing manager at Bell Equipment, believes this is the company's jewel in the crown. "With increased demand for 45 t trucks globally, the B45E, with its rated payload of 41 000 kg, a bin volume of 25 m³, and a powerful new engine, has the potential to become the most popular model in the range due to its overall value proposition for customers," he says.

Initially introduced as a D-series prototype at the maiden Bauma Africa in 2013, the B60E boasts a massive 55 t rated payload and is the biggest truck of its nature in the world. As part of the radical upgrade of the Bell E-Series Large Truck range, it is now powered by the new Mercedes Benz HDEP engine platform optimised for off-highway applications by MTU. "While new for us, the

HDEP engine platform has been in production with Mercedes Benz for seven years. We are very confident that our customers will appreciate an array of advances in terms of fuel economy and power density over our D-Series machines," says Du Pisanie.

The new engine comes with a common rail injection system, which makes it quieter than the predecessor. Thanks to the higher combustion and injection pressures, the power density (number of kW obtained from a litre of engine capacity) is also greater than the previous engine. As a result, fuel consumption is lower when compared with the outgoing engine range.

The new range also benefits from Bell Equipment's aggressiveness with its new software development. "At Bell we have always aimed to be a class leader in our software developments. They make the operation of the truck faster, easier to learn and much safer. Over the past few years, this has been done with features such as Auto Horn, I Tip, Neutral Park Brake and Tip Safe, to mention a few," says Du Pisanie.

The trend has continued with the E-Series Large Truck range. The new Hillhold automatically applies brakes to stop the truck from rolling backwards on uphill drives. "If the operator is driving uphill and takes their foot off the throttle, the truck is at risk of rolling backwards. Hillhold automatically applies brakes to stop this. When the operator puts their foot back on the throttle, it automatically releases the brakes when there is enough torque produced to be able to pull away smoothly," adds Du Pisanie.

The Bell large truck range also comes with a significantly improved Hill Descent Control. The response time of this feature is now much faster and is said to give the operator

greater confidence in using the system. "Secondly, the performance at low speed is a lot more powerful and precise. As a result, tricky downhill driving is much easier as all the operator needs to do is to focus on steering while the speed control gives him the speed he wants," says Du Pisanie.

World's first teleskid

JCB's strong focus on innovation was on show with the launch of the JCB Teleskid, the world's first skid steer and compact track loader with a telescopic boom. The JCB Teleskid is a revolutionary new product that can reach 60% further forward than any other skid steer on the market and – in an industry first – it is the only skid steer in the world that can dig below its chassis to a depth of around 1 m. In addition, this innovative new machine can reach 8% higher than any other skid steer.

"Through innovation, this machine will surpass the expectations of our customers as the world's first skid steer and compact track loader with a telescopic boom. The JCB Teleskid can reach further forward and lift higher and dig deeper than any other skid steer," says Tim Burnhope, JCB's chief innovation and growth officer.

The JCB Teleskid has a forward reach of 2,4 m – making it 60% better than the nearest competitive skid steer. With a lift height of 4 m, it can reach 8% higher than any other skid steer in the world.

"The JCB Teleskid can do the work of four machines – a telescopic handler, masted forklift, compact loader and a skid steer, all in one easily-serviced machine. The telescopic boom will allow operators to load trucks without a ramp, reach over kerbing and dig below ground, all with clear visibility of the attachment," says Burnhope.

The JCB Teleskid will be the only skid steer on the market which is able to combine vertical and radial lift capability. A unique bucket-positioning levelling system allows the bucket level to be set and maintained throughout the boom's range of movement.

The JCB Teleskid features a fully enclosed cab that is 33% larger than industry average, and JCB's myCHOICE software, allowing control responsiveness and joystick sensitivity to be tailored to suit operator preferences.

First vertical lift loader

LiuGong also used this year's CONEXPO to show its Vertical Lift wheel loader, said to be the first of its nature. Initially unveiled at LiuGong's global dealer conference in November 2016, the new technology is said to mark an important milestone for LiuGong and for the

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The key innovations of LiuGong's new Vertical Lift wheel loader are the vertical lift loader arms on an articulating frame and the mechanical self-levelling Z-bar bucket linkage on a vertical lift loader – both said to be industry firsts.



Liebherr XPower is an integrated, innovative machine concept that is said to set new standards in terms of fuel efficiency, performance, robust design and comfort.

Chinese construction equipment industry at large.

The key innovations of the product are the vertical lift loader arms on an articulating frame and the mechanical self-leveling Z-bar bucket linkage on a vertical lift loader – both said to be industry firsts.

The vertical lift was developed as an innovative way to increase customer value when purchasing a loader. Vertical lift vastly improves the wheel loader's primary function: lifting and carrying a load, by providing a heavier tipping load and a higher lift height and reach than conventional wheel loaders of the same power and weight.

Fuel costs are greatly reduced since the reduced operating weight of the vertical lift machine allows more material to be moved per horsepower than with a conventional radial lift machine. This allows customers to move more tonnes per hour for lower initial investment, and lower owning and operating costs than would be required with conventional radial arm technology.

"This technology will create a new class of machines. Our 'truly new' LiuGong vertical lift loader will be the first ever for an articulating frame loader. The vertical lift loader will provide performance and value that no radial arm wheel loader can match," says Edward Wagner, director of LiuGong New Technology

Our 'truly new' LiuGong vertical lift loader will be the first ever for an articulating frame loader. The vertical lift loader will provide performance and value that no radial arm wheel loader can match."

and Test, inventor and lead engineer of the technology.

"This technology is universally applicable and it is especially advantageous for stockpiling and truck loading applications," adds Edward.

The idea of vertical lift loader technology was first generated in 2010 and then started and further developed in 2011. After four years of development, LiuGong expanded the team and went into final development stage in 2015. The new product will be ready for mass production this year.

German engineering

At CONEXPO 2017, Liebherr presented the new generation of its XPower wheel loaders. Liebherr XPower is an integrated, innovative machine concept that is said to set new standards in terms of fuel efficiency, performance, robust design and comfort.

The new power-split transmission of the XPower wheel loaders makes it possible to combine the two types of drive, hydrostatic drive and a mechanical drive. It is variable and continuously adapts the mixing ratio of the two drive paths without noticeable switching and without interrupting traction power.

Thanks to the power-split drive, the wheel loaders are optimally powered to ensure maximum productivity, whatever the application. The hydrostatic drive is most efficient for material uptake and traveling over short distances, and the mechanical drive is the more efficient and powerful option for long distances and for driving uphill. This gives the operator the ability to work in a variety of applications, from maintaining material

stockpiles to hauling and loading crushers and trucks with greater speed and improved fuel efficiency.

The combination of these two drive types in a single wheel loader ensures maximum efficiency and outstanding fuel savings in every situation, enabling operators of the Liebherr XPower wheel loader to reduce their fuel consumption by up to 30%.

The Liebherr Power Efficiency system (LPE) plays a key role of controlling all components in real time to achieve maximum possible efficiency. It is this special optimisation that enables the XPower generation to achieve such greater fuel savings, resulting in considerable operating cost savings for the operator.

Liebherr has reinforced the lift arm and optimised the lever ratio. The improved Z-bar linkage provides break-out forces up to 20% higher than those of previous machine generations. Liebherr customers can choose between Z-bar linkage and industrial linkage for the XPower L 550, L 556, L 566 and L 580 wheel loaders. Z-bar linkage is ideally suited to conventional wheel loader applications such as quarrying. The optional industrial lift arm, is best suited to uses with heavy equipment.

Liebherr has also re-engineered the bucket design. The optimised buckets penetrate the material more effectively to facilitate fast and efficient loading. Load capacity is increased as a result of the mounting position of the components. Liebherr fits heavy components, such as the engine, at the back of the machine, which shifts the centre of gravity towards the rear axle and removes the need for additional counterweight. The ideal weight distribution results in high tipping loads and greater handling capacity per hour of operation. 🌱



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Johnson Crane Hire operates one of the biggest heavy lift crane fleets in Africa.



TO NEW HEIGHTS

Hheavy lifting is such a specialised skill that calls for both special expertise and sophisticated equipment. There are several contractors in southern Africa who have paid their school fees as far as heavy lifting is concerned.

Some of the names that come to mind are Johnson Crane Hire and Mammoet Southern Africa. The skill and capability of these companies' heavy lift teams is simply unmatched in the areas they operate, complemented by two of the largest heavy lift

The southern African heavy lift industry is potentially a growth area for certain lifting contractors in the region, especially on the back of an array of specialised jobs that require both greater expertise and sophisticated equipment across several industries such as construction, mining, transport and energy, writes *Munesu Shoko*.

fleets in southern Africa and Africa at large.

Prospects of growth for heavy lift contractors in southern Africa are limited at this

stage, however there are current and future projects in construction, mining, petrochemical and wind sectors that call for heavy lifting

expertise. There is undoubtedly a slowdown in some of these industries, so what is the state of affairs at this stage?

According to Peter Yaman, sales executive at Johnson Crane Hire, the heavy lift market is fairly buoyant at present, with pockets of opportunity in various markets such as the petrochemical, wind and solar sectors. "The mining sector is ticking over mainly due to maintenance type of work, with few new projects on the horizon," says Yaman. "Current demand for our heavy lift expertise is coming from wind, solar and conventional power projects, with some demand from the petrochemical maintenance sector, as well as limited new petrochemical projects weighing in with a bit of more work." While the energy sector is still fairly exciting, Yaman notes that current power projects, such as the Medupi and Kusile coal-fired power stations in South Africa, are fairly stagnant.

Ryan Alexander Amos, marketing manager at Mammoet Southern Africa, tells **Capital Equipment News** that the heavy lift market is pretty slow at the moment as the company's bigger chunk of revenue is generated from the petrochemical industry, and due to the decline in oil prices, refineries have opted to scrap or put on hold some of their capital expenditure on new projects.

However, Amos believes that in South Africa, the next big thing will be the Concentrating Solar Power (CSP) projects. "The next growth prospect for heavy lifting in the near future is the CSP industry as components used in the make-up of these projects are huge and need an expert company such as Mammoet to assist with the heavy lifting requirements," says Amos. Meanwhile, he agrees that wind power projects offer big prospects for heavy lift contractors in South

Africa, but Mammoet Southern Africa is not very active in this market.

Degree of specialisation

According to Yaman, all heavy lift projects require specialisation due to the high levels of risk and technical expertise required to perform safely and deliver on time. For example, wind power projects call for great precision and planning due to the large, heavy components which are erected very high, and mostly in high wind conditions. "Often these projects require innovative technical solutions, and this is where Johnson Crane Hire excels. Our competitive edge comes from the depth of our technical knowledge derived from years of operating at this high level, both from our people and systems developed over time, as well as our extensive range of equipment able to offer the right solutions and value add engineering support," says Yaman.

Johnson Crane Hire has amassed years of experience in the heavy lift space with a range of flagship projects under its belt. These include inroads made into the wind industry, extensive work undertaken in the solar industry, an array of projects executed in the petrochemical sector, including maintenance shutdowns and new projects, as well as cross-border work performed in the DRC, Mozambique, Botswana and Zimbabwe.

For example, last year the company completed heavy lifts for Vestas wind farm projects at Grahamstown, Saldanha, Great Kei Municipality, Tsitsikamma and Grassridge in South Africa. The wind farms were located in areas that experienced high winds, and this posed a challenge when performing the lifts. Leveraging many years

of experience on a wide variety of projects across a number of industries, the Johnson Crane Hire's team of skilled engineers and operators overcame the inclement weather conditions and difficult logistics.

On the Chaba Wind Farm project, there were seven 3 MW V-112 turbines with a total output of 21 MW of power, while the Waainek Wind Farm had eight turbines producing 3 MW of power each and a combined installed capacity of 24,6 MW. Johnson Crane Hire was responsible for the lifting of all the turbines and associated componentry for both wind farms. The lifts at Chaba took a month, while those at Waainek took six weeks.

Prior to the erection of the Liebherr 750 t LG 1750 lattice boom truck mount on the hard stand on site, all the wind turbine components were pre-placed at a laydown area. The placement of the components is a critical element of the lift itself as it is necessary that they be located within the crane's safe working load area. The design of the Liebherr LG 1750 is said to allow for easy relocation between sites with increased mobility on sites with varying terrain.

Each turbine comprised a base tower, a mid-tower and a top tower section as well as a nacelle, the drive train, the hub and three rotor blades. With the exception of the base tower section which is pre-installed, all other components needed to be lifted into position for final installation and commissioning. Each turbine had an 84 m hub height and a 112 m rotor diameter.

Strong fleet

For its heavy lift equipment needs, Johnson Crane Hire favours Liebherr as its preferred supplier, and already boasts the biggest

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One of Mammoet Southern Africa's flagship projects was its heavy factory-to-foundation project where it removed and installed tanks for one of South Africa's leading refineries.



Johnson Crane Hire recently acquired a new hydraulic crawler crane specifically manufactured to handle lifts within wind farm applications.



Mammoet Southern Africa generates most of its revenue from the petrochemical industry.

fleet of Liebherr cranes in Africa, including a range of large capacity hydraulic boom all-terrain cranes ranging from 275 t to 750 t, as well as hydraulic and lattice all-terrain and crawler cranes in the range 400 to 1 200 t.

"Our selection of the Liebherr brand is due to our long association with the leading OEM which consistently brings new products, developments and innovation to the lifting market. As one of the top users of the Liebherr equipment outside Europe and America, Johnson Crane Hire enjoys high levels of support from Liebherr Africa in South Africa," says Yaman.

To boost its heavy lift capability, Johnson Crane Hire has recently invested in large capacity lattice cranes, including both lattice crawler and truck-mounted units, specifically the 750 t LTM 1750-9.1 hydraulic all-terrain mobile crane, a 750 t LG1750 lattice boom truck-mounted crane, as well as the 600 t LR1600/2 lattice boom crawler crane and the 1 200 t LTR11200 narrow track telescopic boom crawler crane.

Flagship project

With its years of experience in heavy lift, Mammoet Southern Africa has executed some flagship projects in recent years. According to Amos, one of the notable projects was the heavy lift specialist's factory-to-foundation project where it removed and installed tanks for one of South Africa's leading refineries.

Of note is that the one month tank replacement job was completed in two days. At this particular project, Sasol was in the process of replacing the tar separator tanks at its coal-to-liquids facility in Secunda. During the replacement operation, the facility had to remain in production. Due to the heavily congested plant, cutting up the separators on site was not an option. Also the time required to cut up all the separators on site had a huge impact on the project schedule.

Approximately four weeks was required

to cut up and remove one separator. With 24 separators to replace, Sasol was keen to find a faster approach. Mammoet provided the solution, by lifting the separators out in one piece, reducing removal time per separator to just two days.

Once the decision was made to lift out the separators completely, instead of cutting them up in their existing location, the logistic operation began. The facility itself presented the biggest challenge: space was very tight and, to raise the stakes even higher, the plant had to remain live during the entire separator replacement operation. The limited space called for very precise manoeuvring. As soon as the separators were lifted out of their position, they had to be moved over a pipe rack and onto a trailer for transport to a nearby scrap yard for further demolition.

Mammoet mobilised a 400 t crawler crane to lift out the separators to a temporary staging position. From there, the separator was moved onto the trailer. It was only one lift over the pipe rack onto the trailer. To keep up the pace, Mammoet brought two identical sets of crawler cranes to the site, so two sets of lifts could be carried out simultaneously.

The replacement separators were transported 11 km over public roads from their construction site to the facility, where Mammoet installed them into their final position – this was done in an operation which was an exact duplication of the removal process, only completely reversed, adding further to operational efficiency.

All in all, Mammoet's deep expertise in working in congested areas and close working relationship with its clients brought Sasol the much needed peace of mind and saved the client roughly two-and-a-half years of separator replacement time.

Market outlook

Looking ahead, Johnson Crane Hire is optimistic about the prospects of the heavy lift market at large. The company will continue to explore new markets and opportunities for further growth in this market segment. "We currently have a presence in Botswana and Namibia, and have recently performed specific projects in the DRC, Mozambique and Zimbabwe. We are exploring new opportunities in Africa," says Yaman.

Meanwhile, Amos is of the view that the heavy lift market is not enjoying the best of times at present as the business is generated from a derived demand and indications are that the industry is pretty quiet at this stage. However, he believes the slowdown is short-lived, and an upward trend is inevitable, especially with the oil price making sustained gains. 🌟

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Shantui offers an extended dozer range to the Southern African market, with over 10 models available for customers in the region.



DRAGON'S **INSATIABLE** DOZING APPETITE

Over the years, the Southern African dozer market has been such a competitive turf, mostly for premium makers jostling for a share of the seemingly lucrative market. In 2007 Chinese construction equipment manufacturer Shantui entered the fray with its range of dozers to challenge the dominance of premium makers such as Caterpillar, Komatsu and Liebherr, to mention a few.

Barely known to local equipment users at the time, Shantui already boasted in excess of 60% share of the Chinese dozer market. A subsidiary of Shandong Heavy Industry, historically its core product is bulldozers, but in the past few years the

In a market that is traditionally dominated by premium OEMs, Chinese construction equipment manufacturer Shantui continues to rip a sizeable share of the southern African bulldozer market, writes *Munesu Shoko*.

company has expanded beyond reliance on a single product line through an acquisition strategy.

To date, the company is known as the bulldozer king in China, holding about 60% share of the domestic Chinese dozer market, according to David Gao, chief operating officer at Everstar Industries, the authorised dealer of the Shantui range of construction equipment in South Africa. Back in 2010, it went on to become the largest producer of

bulldozers on a global scale, making over 10 000 units that year or two in five crawler-type dozers produced in the world. The next largest producer by number of units was Caterpillar. At present, Shantui's annual production capacity exceeds 15 000 units of bulldozers.

Meanwhile, South Africa is a 200-unit per year dozer market, and to date, Shantui claims to own 5-10% share of the particular market. Gao alludes to



David Gao, chief operating officer at Everstar Industries, the authorised dealer of the Shantui range of construction equipment in southern Africa.

the fact that South Africa, as the most advanced equipment market in southern Africa, is still dominated by premium dozer manufacturers. However, he tells Capital Equipment News that after Caterpillar and Komatsu, Shantui is the next biggest supplier of dozers by volume to the local market, especially in construction and small and medium mining applications.

While South Africa remains the biggest dozer market in the region, Gao says Shantui has made strong inroads into the rest of southern Africa where several of its units are operating in countries such as Zambia, Mozambique, Malawi and Zimbabwe. Since its arrival in southern Africa back in 2010, the Chinese construction equipment maker has well over 1000 units operating in the field.

Competitive edge

One of the key competitive edges is that Shantui plays in the value sector of the market, and few other competitors in this market category have minimal focus on their dozer offerings. Gao says Shantui's dozer offerings are reliable, basic pieces of equipment that come with no extra "bells and whistles" often found on premium makers' products.

The simplicity approach meets the needs of the upcoming construction contracting fraternity, as well as smaller and medium miners, and these market segments remain the lucrative and targeted customer base for Shantui. "Obviously our biggest benefit to this group of customers is our price advantage. Because we offer a simple product that comes with no expensive

and sophisticated features, we are able to sell our dozers at a significantly lesser price compared with the premium OEMs," adds Gao. A Shantui dozer is generally said to cost half the price of a comparable Caterpillar unit, while it is 30% cheaper than a comparable Komatsu offering.

Another key competitive edge of the Shantui dozer range is the quality of the machine, which Gao says is based on critical components from renowned manufacturers such as Komatsu and Cummins. Apparently, in China, Shantui started off as a Komatsu dozer importer before it ventured into the production of its own gear.

"In Africa, we still stick to less advanced, but robust mechanical offerings," says Gao. He reasons that the simplicity of the product not only translates into ease



Shantui used this year's CONEXPO-CON/AGG to introduce four new models to its dozer range.

of maintenance, but also means it can be serviced at customer level, timeously. "Overall, our key competitive edges are price, quality and ease of maintenance."

Having a good product is one thing, and being able to offer crucial backup and parts support when the product is operational in the field, is quite another. Based on a clear understanding of this notion, in 2014, Shantui abandoned its subsidiary approach in southern Africa and appointed Everstar, the local distributor of Powerstar trucks in the region, as its authorised dealer. This allowed the brand to leverage Everstar's strong dealer network across the region, complemented by the distributor's strong financial purse to keep a sizeable inventory of parts to better service Shantui customers operating across the region.

Big range

Shantui offers an extended dozer range to the Southern African market, with over 10 models available for customers in the region. The range spans from the smaller SD 16, which compares with Caterpillar's D6 model, to the larger SD 52-5, which is in the same class size as Caterpillar's D10. The range covers several market segments including farming, construction, forestry, small to medium mining, as well as coal mining.

The SD 16 is said to be Shantui's best-seller globally. The medium-duty dozer, with its 17 t operating weight, comes in various configurations for specific work environments such as desert, swamp, forest and high altitudes. It is powered by a Shangchai C6121ZG70B or Steyr

WD10G175E15 engine delivering 120 kW of power.

The SD52-5, with its 67,5 t operating weight, is the largest Shantui dozer available in southern Africa. It features a modular design for easy disassembly and speedy repair. It is powered by a four-stroke, in-line, water-cooled electronic control, turbocharged Cummins QSK19 engine delivering 392 kW of rated power at 1 800 rpm.

Other notable models in this range are the SD22W and the SD32W. The SD22W features a reinforced undercarriage, arms and blade for challenging applications such as large rocks and boulders. With a 23,4 t operating weight, it comes with a thicker blade and plated arms for greater strength and durability. Powered by a Cummins NT855-C280S10 engine delivering 162 kW of power, this model is well suited for heavy mining applications and is said to be one Shantui's top sellers in Africa.

The SD32W is third largest among Shantui's line-up of heavy-duty dozers. It is suited for challenging applications in rocky and frozen environments. It comes with a rock-type blade and tracks to navigate challenging conditions. With its 38 t operating weight, it is said to be one of the best-selling models into the mining segment. Powered by a Cummins NTA855-C360S10 engine delivering 235 kW of power at 2 000 rpm, the SD32W comes with a hydraulic drive system with hydraulic control technology which provides greater performance and flexible operation.

Meanwhile, at this year's CONEX-

PO-CON/AGG, Shantui expanded its dozer range with the launch of five new models – namely the DH08J, DH10J, DH13K, DH17C and SD32-5, ranging between 80 hp and 320 hp. Among the models, there are fully hydraulic bulldozers (J series and K series) which feature increased driving comfort, as well as the hydraulic bulldozers, said to achieve greater horsepower output.

Positive outlook

Looking ahead, Gao is positive that 2017 will be a better year than 2016. Like many, he is upbeat about the prospects of improved unit sales into the mining industry, which is signalling some positive growth on the back of rebounding commodity prices.

Gao is of the view that most fleet operators have run their existing fleets for longer than expected, especially at the height of challenging economic conditions in 2015 and 2016. He is confident that 2017 will be a much better year with several fleet replacements and fleet extension programmes likely to be on the cards, while many machines have also reached the end of their lifecycles, prompting immediate replacements.

Gao is also upbeat about the South African construction industry, where he sees the smaller construction contracting fraternity – which happens to be one of Shantui's key target market – getting more work at the expense of larger contracting concerns. "We are already starting to see sales of our smaller SD16 and SD20 models picking up as a result," says Gao. 🌟

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REAPING PROFICIENT DRIVING RETURNS

Employee training plays an integral part in the overall profitability of an organisation. Most companies are well aware that improvement at an individual level can even prompt organisation-wide advancement. This is especially true when it comes to truck and bus fleet operators and their drivers.

To help its customers achieve commercial success through informed driving, Scania South Africa is pushing boundaries with its detailed Driver Training Programme that comprises an array of courses. Faried Arnold, Connected Services Manager at Scania South

Based on the understanding that the commercial success of transport and logistics, bus and coach, as well as construction vehicle fleet operators is heavily linked to the quality of their drivers, Scania is offering an array of driver training courses to help its customers reap prospective gains associated with positive driver behaviour, writes *Munesu Shoko*.

Africa, says the consequences of poor driver behaviour are well documented and widely recognised. He is of the view that fleet managers are grappling to keep a lid on their expenses as businesses continue to navigate through the tough economic conditions.

Martha Montsho, Driver Training Coordinator at Scania South Africa, adds that road

traffic accidents occur as a result of poor driving and these can be extremely costly to companies that need to find both driver and vehicle replacements, while spiralling insurance premiums add to the woes. Both Arnold and Montsho drive home the point that positive driver behaviour, which can only be achieved through informed driver



The progressive techniques of Scania's driver training courses are aimed at increasing fuel efficiency, road safety and sustainability, while reducing downtime and operating costs related to driving habits.

training programmes, can help fleet owners combat these problems. This is the basis of Scania's driver training courses, seeking to highlight best practice behind the wheel and educate both drivers and their internal trainers about what positive driver behaviour entails.

Detailed training

Both experienced and new drivers can benefit from Scania driver training. The progressive techniques are aimed at increasing fuel efficiency, road safety and sustainability, while reducing downtime and operating costs related to driving habits. "Our one-on-one driver coaching paves the way for greater driving habits. Our techniques help drivers reduce wear and tear, stress, fuel consumption on the vehicles they operate, while increasing road safety," says Arnold.

Scania has several driver training courses on offer. The mother of them all is the two-day Vehicle Introduction Course. When a customer purchases a new Scania vehicle, the deal already includes the costing of this particular course. A single driver is eligible for training per each vehicle purchased. However, if need be, an extra driver can enrol for the course at a separate cost.

The first day of the Vehicle Introduction Course entails both theory and practical sessions. According to Montsho, presentations on how the vehicle looks like in the interior and how it operates, including features and functionalities, form part of the first theory sessions. "Following the presentations, a Scania trainer then goes out on the road with the drivers. The ratio is normally one trainer per four drivers," says Arnold.

Before the vehicle goes out for practical road training, a pre-trip inspection is conducted. This also encourages drivers to always conduct pre-trip inspections every

time before they go out on their trips to make sure that there are no faults on the vehicle that may trigger larger mechanical issues if they are not attended to immediately. "Drivers are encouraged to always conduct pre-trip checks to avoid unnecessary downtime," says Montsho.

When out on the road, the driver trainer will drive the vehicle, demonstrating all the necessary procedures to the drivers. The drivers are then given the chance to drive the vehicle. The trainer rates their driving habits and feedback is given on each driver's performance, highlighting the strong points and areas of improvement.

On the second day of the Vehicle Introduction Course, it's all about recapping all the topics discussed on the first day. Drivers are given a chance to address their shortcomings identified on the first day. They will be given feedback again on areas of improvement before a final assessment is conducted. After the final assessment, the trainer gives an evaluation report before issuing competency certificates valid for one year.

More courses

The second Scania driver training course is the Refresher Course. It is conducted in one day. "New driving habits are as hard to keep up as old ones are as hard to shake. The Refresher Course realigns drivers with proper driving habits," says Arnold. This course is conducted every time before the competence certificate issued to drivers during the Vehicle Introduction Course expires. "To qualify for the Refresher Course, you must have undergone the two-day Vehicle Introduction Course," says Arnold.

The Advanced Product Knowledge is the third course on offer. This is a five-day course targeted at driver trainers at customer level. "Some of the customers have their own in-house trainers that help maintain good driving

habits internally. This is an in-depth course, focusing on issues such as fuel consumption, safety and general driver behaviour," adds Arnold.

Of note is that Scania's driver training programmes fall in the same division as fleet management. Fleet management is crucial when it comes to driver training. The use of fleet management technology provides a ready-made platform to remotely assess the standard of driving across several fleets and set training targets for each individual driver based on areas of improvement picked by the telematics platform.

Instant feedback from Scania's fleet management platform can positively modify behaviour at the earliest point of application, while regular progress reports can show an individual driver how much they have improved in any given time. "With fleet management, we are able to monitor how the driver is driving the vehicle. With the available data we can create a specialised training programme for the particular driver. Instead of going through all the training points, we can focus on areas of improvement to enhance the driver's capabilities," says Arnold.

"Apart from the geo-fencing capabilities, Scania's fleet management platform allows us to see what speed is the driver driving, fuel levels in the tank, odometer readings and when a vehicle is due for service."

This is complemented by a Driver ID button, a tag that the driver uses every time they step into the vehicle. This is used for driver identification. "When the driver boards the vehicle and uses his/her tag, it will load up a bit of driving behavioural history, from fuel consumption, issues such as harsh braking and speeding," says Arnold. "Within the Scania truck, there is also what we call Driver Scoring. This constantly rates the driver through a star-rating system. As they are driving, Driver Scoring gives them tips on how to improve on certain areas." 🌟



Having been present in the local market for about 90 years, CompAir holds a sizeable share of the compressed air market in South Africa.

UPPING DISTRIBUTION STAKES

To better service its customers in South Africa, CompAir South Africa has entered into a distribution partnership with local company Enza Air. The association will strengthen the compressor maker's distribution model in the country, writes *Munesu Shoko*.

To further improve its distribution footprint to grow and better support its population of compressed air solutions in South Africa, CompAir South Africa, a wholly-owned subsidiary of the Gardner Denver Group, has entered into a distributorship agreement with a black-owned specialist supplier of industrial compressors, pumps and other related equipment, Enza Air, part of Enza Equipment, an Asani Group company. Colin Mander, regional director at Gardner Denver CompAir UK, believes the partnership with Enza Air is a great opportunity for the OEM to improve its

aftermarket support and further grow its compressed air business in South Africa.

According to Marc Willmers, Business Director for CompAir SA, the deal between the two companies was set in motion in April 2015 when discussions for a possible OEM-distributor joint venture commenced. "We saw a great opportunity ahead to work with such a professional team of compressed air business professionals," says Willmers, who is of the view that the CompAir product is matured and has proved itself in South Africa, and together with a specialist distributor of compressed air solutions in the mould of Enza Air, there is greater capacity to further drive the potential of the product

through strong sales and support structures.

Despite fierce competition in the compressed air business in South Africa, with over 80 brands vying for a share of the Gauteng market alone, Enza Air believes it still has a role to play in the seemingly overtraded market. Under the guidance of MD Chris Makume, who has 20 years under his belt in the compressed air business in South Africa, the young company believes it has what it takes to drive the CompAir business to new heights and challenge for a sizeable share of the market. The vast experience among its key staff will be complemented by strong support from the OEM. "Our relationship with the Gardner Denver Group is one of a kind and this will form one of the key success pillars of our business," says Makume.

The strong commitment to the success of Enza Air is apparent from the start as the new distributor has been offered a premises to operate from within CompAir SA in Wadeville, Johannesburg. "With support



Chris Makume (left), MD of Enza Air, and Colin Mander, regional director at Gardner Denver CompAir UK, during the official opening of Enza Air's offices.

from the OEM, the Gardner Denver Group, we believe there is great opportunity to build a formidable compressed air business in South Africa. We are aware of the challenge ahead, but we are very determined to take it on," says Zweli Dladla, CEO of the Asani Group.

Changing strategy

The appointment of Enza Air as the official distributor for CompAir SA spells a new era for the compressor maker's distribution model. Mander says the bulk of the company's business was based on a direct OEM supply model, with a few distributors in some of the country's provinces. "Our business in South Africa was previously based on engaging the market directly, and we realised that there is only so much market share you can gain when you go direct to market as an OEM," says Mander.

Mander tells **Capital Equipment News** that CompAir's business will become more distributor-based going forward, and this is an opportunity to upskill local companies in the process. The distributor model already exists in most of CompAir's developed markets. For example, 95% of CompAir's business in the UK is via distributors.

Prior to the appointment of Enza Air, about 80% of CompAir's South African business was direct, while the rest was through distributors. Having been present in the local market for about 90 years, CompAir holds a



Enza Air's team boasts a collective 70 years of experience in the compressed air business.

sizeable share of the compressed air market, which it believes will grow significantly following the new distributor model.

To date, CompAir has 16 regional distributors in South Africa and a further six across borders in countries such as Botswana and Zambia. Enza Air will assume a national distributorship status. A smaller portion of the business will still be done directly by the OEM. This will be supported by CompAir branches in Cape Town, Durban and Port Elizabeth, as well as the company's service facility in the mining region of the North West Province.

CompAir SA recorded a good year in 2016,

despite it being one of the most difficult business years for several industries the company is exposed to. Key to the success in such difficult times is the quality of its product, which is supported by a massive 10-year warranty, said to be an industry first.

Looking ahead, both Makume and Mander believe CompAir is up for a good business year in 2017. The 10-year warranty definitely sets the product apart from the rest of the competition. That, together with strong parts and aftermarket support, there is a strong chance to further gain more market share in South Africa and even north of the country's borders. 🌱

Saltec passenger hoists for Zambian mines

SA French will supply two Saltec T1 half ton passenger hoists to copper mines in Zambia. The two hoists will facilitate the movement of personnel, together with light tools and equipment, up the shaft headgear framework.

Louw Smit, sales manager at SA French, says that the order was secured as a turnkey contract which includes the supply, installation and commissioning of the two hoists at two different mines in the region.

Smit says safety and operational reliability are key for equipment that operates on mines, and even more so when this machinery is responsible for the vertical movement of personnel. "Vertical transport solutions always need to comply with stringent safety parameters and the Saltec passenger hoists incorporate advanced security systems including a speed regulator and an overspeed emergency braking system on an independent pinion," says Smit.

These features ensure that mine personnel are able to undertake maintenance activities safely and efficiently, optimising the productivity on the mines. Smit says that the integral emergency brake on the Saltec hoist will bring the cabin to a gradual stop in the

event of overspeed conditions during descent.

The Saltec hoists will be installed to reach a maximum height of 72 m and will be programmed to stop at five different levels on the headgear frame. Manufactured by Torgar, Saltec passenger and material hoists feature rack and pinion drives ensuring reliable operation. This type of system also requires minimum maintenance and is considered the safest for vertical travel.

Constructed as a heavy duty elevator which is engineered to operate under the worst conditions, the Saltec hoist is manufactured from hot dipped galvanised steel and aluminium. The high strength cabin is equipped with loadcells to avoid overloading, while the sophisticated electronic control system has a functional user-friendly panel.

"SA French has a long association with customers on the African continent, both in the mining and construction sectors, and has a sound understanding of the often harsh operating conditions in which the equipment has to function," Smit says. "This enabled us to recommend the optimum vertical transport solution to the mines." 🌐

Equipment safety paramount for a mining operation's existence

Available statistics show that the number of people killed on South African mines significantly declined from 3 183 in the previous year to 2 662. According to Rand-Air, a key supplier of portable compressed air and power generation rental which has serviced the mining industry for the past 41 years, this is proof that South African mines are committed to improving their safety records. But how does the equipment at mining sites contribute to the overall safety?

Improper equipment operation and the lack of equipment maintenance are still major contributors of injuries at mining sites. In most cases, these injuries are avoidable. That is why it is so important to improve equipment reliability as this is the most effective and direct method of enhancing safety. Regardless of its effectiveness, no safety program can mitigate hazardous maintainability on poorly-designed equipment.

The solution to this is simple – to use equipment that is reliable with improved safety. Advanced steps have been taken at mining sites over the years, such as the

implementation of checklists, motivational talks, heightened emergency response plans and new safety programs, all of which are fundamental in reducing injuries. However, what operations fail to address is the issue of reliable, well-maintained equipment.

Rand-Air understands that a mining operation exists by virtue of its equipment and personnel, which is why the company is invested in taking away the hassles of the maintenance of equipment. "Not only is reliable equipment essential to the enhancement of safety, it is also guaranteed to hold tolerances better, which helps raise consistency and quality," says Bongani Thobela, quality manager at Rand-Air.

"It seems obvious, but the best way to improve maintenance safety is to use safer equipment. It is our mission at Rand-Air to provide the mining industry with equipment that is not only of the highest standards but that is safe and well-maintained at all times to mitigate safety risks. By leasing equipment from Rand-Air, our customers are guaranteed top quality machinery that is reliable and safe." 🌐

Avoiding plant changes when upgrading screens

Under the pressure of low commodity prices, mines will look to improve profitability when replacing or upgrading vibratory equipment. However, if the new equipment demands extensive modifications to plant infrastructure, the financial benefit can be eroded.

There is a way to avoid the need to modify plants, according to Kwatani, previously known as Joest. Kim Schoepflin, CEO of Kwatani, explains that the replacement process often has the best results when it combines the old with the new, by building upon the customer's existing infrastructure with a tailor-made solution.

"It is often not necessary to change everything when replacing ageing or non-functioning vibratory equipment," says Schoepflin. "At Kwatani, we realise that plant modifications can be a major cost for a mine. So, when we retrofit a mine's screens, we look at the bigger picture and develop a design that will be suitable to their specific needs, in some cases retaining aspects of the existing equipment and replacing only certain components."

"The tailor-made approach requires working within the various restrictions that each work site places on the machinery it houses, while at the same time meeting the customer's performance requirements," she says.

"We look at the demands of each case through the eyes of a consultant," says Kenny Mayhew-Ridgers, Kwatani general manager engineering. "By analysing the condition of the existing equipment and infrastructure in detail, we can advise on the most cost effective solution. Our depth of technical know-how allows us then to engineer, construct and install that solution."

The restrictions inherent to the plant include the dimensions and weight of the equipment being replaced, and the footprint of the machinery relative to other mine infrastructure.



A Kwatani single deck sizing screen leaving one of Kwatani's manufacturing facilities.



Sandvik digitalises underground drilling



Sandvik's new intelligent rigs, such as the DD422i development jumbo, will soon include long hole drills and bolters.

Sandvik Mining and Rock Technology is drastically improving the drilling experience with its new Sandvik AutoMine compatible underground offering. Based on proven Sandvik AutoMine technology that has been in use for more than 10 years in numerous underground mines, customers are now able to significantly upgrade their operation's productivity and safety. New intelligent rigs, led by Sandvik DD422i development jumbo, will soon include long hole drills and bolters.

Digitalisation will improve drilling accuracy and cycle times, while reducing operation costs by optimising the drilling and bolting phase. Drilling as planned, with accurate visual information, leads to continuous improvement across the whole mining process.

New 3D scanning technology makes drilling and bolting more efficient by bringing in new tools and methods for continuous quality control. Blasting quality, overbreak and underbreak analyses together with continuous mine mapping increase overall drill and blast process efficiency significantly. Combining this with the Sandvik OptiMine information management platform provides a powerful tool for creating a true transparency

and integration of underground mining operations.

Sandvik has successfully delivered highly automated underground drilling systems for selected customers for many years. The company is now busy finalising the commercialisation of these offerings into global markets. This will bring Sandvik AutoMine-type tele-remote capabilities into new underground mining applications, including long hole and development drilling.

Sandvik underground drilling equipment is also now fully compatible with Sandvik OptiMine monitoring and future data-driven productivity technology. The connectivity comes standard for new equipment but retrofit kits are also available for existing equipment out in the field.

Scalable Sandvik automation solutions allow customers to choose the level of automation they're ready for, starting with tele-remotely controlled operation through to full fleet automated operation. With a wide range of automation options built into Sandvik drill rigs and bolters, customers can rest assured that their equipment is used efficiently and that the results meet the most demanding production requirements. 🌐



"Another key restriction is the available headroom through which components can be moved in and out of a plant," he says. "We have even engineered specialised equipment for lifting and placing our screens, so that the mine does not have to modify its plant building to allow access."

The dynamics of the vibrating equipment is another important consideration, due to the potential impact that the vibrations of the new installation could have on the existing plant building and its infrastructure. The power consumption of the replacement unit must also be matched with the capacity of the plant. 🌐

KSB invests in Zambia

Global pump manufacturer, KSB Pumps and Valves, has established an independent operation in Zambia to ensure that its rapidly expanding customer base has full access to the company's sales and support services.

Having previously been represented by a network of agencies and dealers throughout the country, the growing number of pumps in the field, as well as the increasing demand from the agricultural and mining sectors, has prompted the company to invest in more suitable infrastructure within the region.

According to KSB Pumps and Valves regional sales manager, David Jones, the formal establishment of KSB Zambia is aimed at improving stock holdings, shorten lead times for the procurement of pumps, improve price stability and onsite service and support for customers.

Rand-Air keeps up with mining trends

For the past 41 years, Rand-Air has been servicing the mining industry with portable compressed air and power generation rentals. The company provides long-term rental solutions and over the years has supplied a number of mines with equipment for their emergency shutdowns.

The company notes that, over the past 10 years, the industry has increasingly become safety, energy and cost conscious. Rand-Air is keeping up with these demands with advancements in technology. The company says it is especially important for shutdowns to maintain efficiency and standards as this has a direct impact on productivity.

Rand-Air's long-term rental solutions and expertise within the industry allow mines to outsource the responsibility associated with the supply of air and power. This results in an increase of productivity and enhanced cash flow as it eliminates costs associated with equipment, service, maintenance, cost of technicians, insurance and fluctuating interest rates, to mention a few. The company has an extensive fleet of over 700 Atlas Copco compressors and generators spread across 10 branches and agencies in South Africa.

Rock drill for varied construction jobs



The Furukawa PCR200 is a fully pneumatic crawler drill with a top hammer operation.

Finding a rock drill that is versatile enough to work in all areas, regardless of space constraints and underfoot conditions, is a top requirement of construction fleet owners who additionally require power and reliability to ensure uninterrupted drilling when the pressure is on.

The Furukawa PCR200 rock drill is said to be a perfect companion for this kind of application. It is compact, yet powerful enough to undertake heavy drilling jobs in terrain that would be inaccessible to

larger rigs. Simultaneously, due to its smaller footprint, it is also able to operate in the type of comparatively confined spaces that are often encountered in geotechnical and civils-types of applications.

According to James Linton, national product manager at ELB Equipment, the sole distributors of Furukawa Rock Drill in southern Africa, the reason for the success of the rig is its go-anywhere versatility and simplicity. "Today a contractor might

be drilling for foundations in an urban environment and tomorrow may require drilling to be done on top of a rock outcrop in a rural environment," says Linton.

"The Furukawa PCR200 therefore provides them with an opportunity to tow it behind a vehicle across the roughest terrain where it can be pneumatically driven to the end-location where drilling will take place."

He adds that the rig is a fully pneumatic crawler drill with a top hammer operation. Despite its size, it is a powerful machine that has the ability to drill up to 102 mm (4 inch) holes up to 20 m in depth, which is ideal for smaller-scale blasting. It also has a manual rod feed up to 20 m with the ability to swing the boom horizontally and drill holes for foundations work and for pin bolts in ground stabilisation, to mention a few.

The Furukawa PCR200 also features dual control systems, on the platform and on the mast, which enables the operator to control drilling without an assistant. This makes it ideal for civils, small opencast blasting, pipeline installations, geotechnical, oversize boulder drilling, electric pylons or wherever holes are required. 🌐

New Kubota 8 t excavator digs into SA

Smith Power Equipment (SPE), the authorised distributor of Kubota tractors and construction equipment in South Africa, has announced the arrival of the Kubota KX080-3S Super Series 8 t excavator, said to be an ideal solution for jobs requiring extra power and performance in confined spaces.

"The KX080-3S can do almost anything that larger, more conventional machines can do but it can achieve this level of industrial performance on small, space-restricted construction sites. This makes it a unique proposition for local contractors needing real power in the congested urban environment," says Tom Bloom, GM of SPE's Construction Equipment division.

Due to the contoured tight tail design and shorter rear overhang, the KX080-3S is said to be more stable, can handle a wider range of loads and can work in significantly more restricted space than traditional tail swing excavators.

Auto Idle helps save up to 10% fuel. When the control levers are in neutral for more than four seconds, the engine idles automatically. Move any control lever and the engine immediately engages. This innovative feature reduces noise, exhaust emissions and running costs.

The Three-Pump Hydraulic System is a load-sensing hydraulic system which uses three independent pumps for boom, arm and swivel for more efficient bucket

operation. The system's high capacity control valve and hydraulic variable pumps enable high performance shovelling and loading.

The KX080-3S is powered by a 70 hp (52,2 kW) Kubota diesel engine. Its 3331-cc turbo direct-injection facility contributes to easy starting on cold mornings, low sound levels and energy-saving fuel economy.

Bloom says that serviceability is a crucial aspect of any great machine and the KX080-3S's triple-opening bonnet is one of its strongest features. "Maintaining this machine could not be easier," he says. "All three of its access panels can open simultaneously. This



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Hillary Construction adopts new compaction tech

Polokwane, South Africa-based road construction specialist, Hillary Construction, has adopted the latest smart compaction technology to assist in its efforts to build roads of the highest possible standard.

With the high-tech Ammann AcePro (ASC110D) smart compactor from southern African distributor, ELB Equipment, the company is able to precisely build and compact each layer of a road to specifications without the risk of variances occurring when geological or underfoot conditions change. Precise compaction of under-layers and surface running courses translates into significantly extended lifespans of roads, as well as safer, more comfortable driving surfaces for vehicles.

According to Trevor Freestone, operations director of Hillary Construction, this is as a result of the machine's inbuilt system which relies on an array of sensors to accurately measure ground conditions up to 350 mm deep. On-board software automatically adjusts the frequency of the vibrations and the amplitude (or up-down movement) of the drum to penetrate the ground and provide exactly the right type of compaction required. Because adjustments are done in real time it ensures that compaction is achieved

more quickly and evenly – regardless of underfoot conditions.

"The value of this machine in our operation is the avoidance of risks that are associated with either under or over compaction. Over compaction especially is a big risk on a high-tech road job, where too much compaction can break down the structure of sub bases to such an extent that complete sections could need to be ripped up and reconstructed. In this event, it sets the project back by weeks and can effectively wipe-out any profit to be made on such a project," says Freestone. 🌐

Chicago Pneumatic expands LED light tower offering

Chicago Pneumatic has introduced its new series of electrically-powered light towers. Available in both metal and LED versions, CPLB2 light towers are designed with a choice of high-quality bulbs to enhance visibility, wheels for optimal ease of movement and a robust canopy. They simply plug into a power source, such as an outlet or generator, for instant, reliable site lighting.

The CPLB2 LED is the fourth LED light tower in the Chicago Pneumatic portfolio. Together with three other models: the CPLT V15 LED, CPLB6 LED and CPLT H6, LED is said to provide users the widest choice when it comes to sourcing the safest and most efficient light tower for multiple applications and industries.

The CPLB2 LED light tower is ideal for construction, mining and events, to name a few industries. Featuring heavy duty build up and high protection index (IP 67), its four high-efficiency LED lamps give an average coverage of 3 000 m² with a diameter of 61 m, allowing 10 luxes. The 7 m long mast requires height to achieve maximum light coverage, the light tower's manual lifting system is ideal for this.

"The newest addition to Chicago Pneumatic's portfolio of light towers offers improved luminosity and transportability, both essential for operators working in the dark hours. We have a firm commitment to offer our customers choice when it comes to light towers, ensuring efficiency for multiple applications," says Ignacio Picatoste, spokesperson for light towers at Chicago Pneumatic. Easy service and transportability have also been factored into the design of the new light tower. Its compact frame allows up to 32 units to be transported on a single truck and offers simple access points for maintenance work. 🌐



The KX080-3S's triple-opening bonnet offers greater ease of serviceability.

enables easy inspection and access to the hydraulic components under the centre hood or the battery, oil filter and tool box under the right hood." 🌐

New Avant compact loaders at ConExpo

Avant Tecno, Finnish manufacturer of articulated compact loaders, debuted its full line of multi-functional loaders at ConExpo-Con/Agg in Las Vegas, Nevada, March 7-11, 2017. Avant showcased its 200, 400, 500, 600, and 700 series loaders along with various attachments suited for construction, demolition, landscaping, and mining markets.

The Avant articulated compact loaders are multi-functional machines. With hundreds of attachments to choose from, there is a solution for every market segment from landscaping and property maintenance to material handling and farming. The loaders are said to be especially popular among municipalities and many tree care specialists.

Mark Hughes appointed Bell's head of sales

Bell Equipment Sales Africa has announced the appointment of Mark Hughes to its senior management team. Hughes is to be based at the company's Jet Park head office and his sales and marketing responsibilities stretch across the BESA region, which includes South Africa, Namibia, Mozambique, Zambia, Zimbabwe and the Democratic Republic of Congo.

The appointment is a return to Bell for Hughes, who previously worked with the Richards Bay-based heavy equipment manufacturer in the 1990s through his involvement with its excavator supplier at that time.

Simplifying collaboration, data transfer for construction

Leica Geosystems, global manufacturer of measurement technology, has launched its new Leica ConX, a cloud solution and web interface to seamlessly integrate, manage and analyse surveying and machine control workflows for heavy construction projects.

Personnel and machines on the jobsite need to share the same data and stay in sync with changes, so work can be carried out effectively, on time and within budget. ConX allows users to share and visualise positioning, reference model and constructed data. Field and machine control solutions connected to ConX can remotely receive and share information, and the web interface for visualising the data is available anywhere with internet access.

At the lifting edge with Potain's new MDT 389

Potain's new MDT 389 topless crane follows the company's decades-long design heritage of building tower cranes that are easy to assembly, flexible in configuration and simple to use.

The largest in the new line of topless cranes from Potain, the MDT 389 is ideal for crowded construction sites where space is tight and multiple cranes are needed. Like other topless cranes, it has been designed to allow more cranes to over swing in a smaller area.

Quentin van Breda, MD of SA French, the sub-Saharan distributor for Potain tower cranes, says there are a host of features which make the Potain MDT cranes stand out from the competition.

The complete range, including the MDT 249, MDT 259, MDT 269, MDT 319 and the MDT 389, is equipped with Manitowoc's CraneSTAR, a GSM data transfer system that provides information on crane location and operation to support fleet management.

There are two versions of the Potain MDT 389, one with a 12 t maximum capacity and the other with a 16 t maximum capacity. Both versions have up to 75 m of jib available. The 12 t version can lift 3,4 t at its jib end, while the 16 t version can handle 3,3 t. 🌐

on investment for Potain crane owners," says van Breda.

In addition to having a fresh and modern design that allows for ultra-fast ground preparation and assembly, the Potain MDT range is said to easily beat the competition when it comes to transportation. "For example, the turnable, cab mast and Ultra View cab travel in a single compact package, while the counter jib can be folded and the winch platform can be sized to take up less space," explains van Breda. Another advantage is that the mechanisms are grouped in a central technical zone for easier access and maintenance.

As part of its standard features, the Potain MDT 389 is equipped with Manitowoc's CraneSTAR, a GSM data transfer system that provides information on crane location and operation to support fleet management.

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The MDT 389 is well suited to crowded construction sites where space is tight and multiple cranes are needed.

New LCL700 luffing-jib crane from Linden Comansa

The new Linden Comansa LCL700 comes in two versions of 50 and 64 t maximum load capacity.



With its new LCL700 luffing-jib crane with maximum load capacity of 64 t, Linden Comansa says it is responding to the growing demand for high-tonnage luffers.

The use of high-tonnage, prefabricated components and extremely large steel beams in construction is a growing trend, based on the fact that it reduces project completion times. In construction projects involving space constraints, which are becoming increasingly common in the world's largest cities, there is often a need to use large cranes with luffing jibs that enable them to lift extremely heavy loads while avoiding other cranes and nearby buildings.

Linden Comansa has responded to that need with the launch of the LCL700, the largest in its range of luffing-jib tower cranes to date. Two versions of the LCL700 are now available globally, with maximum load capacities of 64 and 50 t. By means of simple manual modifications, the maximum load capacity of the cranes can be reduced to 32 and 25 t respectively, resulting in increased hoist speed and productivity. This change on the hoist system from double line to single pull line is one of the many improvements that have been implemented into this model based on recommendations from customers.

The maximum radius of the LCL700 is 65 m and can be reduced in increments of 5 m to 30 m. The 64 t LCL700 can lift a maximum load of 7,2 t at maximum reach, while the 50 t LCL700 can lift 7,5 t. The minimum reach of both models is just 4 m, allowing maximum use of the space at the construction site. The LCL700 also boasts an excellent 'out-of-service' jib radius of between 20,4 and 16 m, depending on the maximum reach, providing a greater level of safety on the construction site when the crane is not in use.

The radius of the counter-jib is also extremely short, measuring just 9,5 m, with the potential to be reduced to 8,7 m by assembling the crane with steel counterweights rather than the standard concrete counterweights. Despite its size, the counter-jib is spaciouly distributed, enabling the operator to work and perform maintenance tasks with great ease. 🌐

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Toyota Dyna moves into LCV category

The Toyota Dyna has been reclassified as a light commercial vehicle (LCV) instead of being in the medium commercial category as has been the case since its introduction to the South African market in 1965. The chassis has been redesigned and is now 50 kg lighter. The vehicle now has a GVM of 3 500 kg, which means it is now classified as an LCV.

Ernie Trautmann, vice president of Hino South Africa, says the change in category for the Dyna is because its normally-aspirated three-litre diesel engine is not electronically-controlled and cannot be fitted with a tamperproof speed limiter as is the case with the Hino 300-, 500- and 700-Series trucks.

Government regulations now require all medium, heavy and extra-heavy commercial vehicles to be fitted with speed limiters. MCVs are limited to a top speed of 100 km/h while heavy and extra-heavy trucks will only be able to travel at a maximum of 80 km/h.

"The alternative to changing the Dyna's category would have been to withdraw it from our range, which we did not want to do as it is a popular model for a wide variety of operations," says Trautmann.

"We have taken this opportunity to



The vehicle now has a GVM of 3 500 kg, which means it is now classified as an LCV.

upgrade the Dyna in several important aspects. The revised Dyna is equipped with anti-lock braking system (ABS) as well as being fitted with the narrow cab used for certain Hino 300-Series models. The front panel is now one piece instead of three and incorporates new designs for the grille and bumper, while

the headlamps are halogen with multi reflectors," adds Trautmann.

Being categorised as a light commercial vehicle means the Dyna will require only a Code B drivers' licence. The truck will no longer have to undergo annual certificate of fitness testing, which is a further benefit for operators. 🚛

Innovation powers Serco through headwinds

Aided by innovations, leading South African truck and trailer building company, Serco, achieved year-on-year growth in tough trading conditions in 2016.

This is according to Serco's MD, Clinton Holcroft, who says one of his company's new high profile initiatives in 2016 was a supply partnership with Loadlok, based in the Netherlands. Serco has been appointed official southern African distributor for Loadlok products which include a wide range of load securing accessories and multi-temp dividers.

"The local economy continues to experience low growth which is creating a headwind for transporters. There are, however, pockets of positive growth in specialised segments. Fortunately retailers are achieving reasonably stable volumes but overall there are no fireworks," says Holcroft.

"The rand has deteriorated by about 15 % against the Euro over the past year, resulting in some cost push pressure on imported components. We expect a similar situation this year, so we can't rest on our laurels if we want to maintain our



leading market position in our specialist vehicle body segment."

Serco's focus is on extracting improvements in efficiencies with the company expanding its facility in Phoenix Industrial Park near Durban earlier in 2016 to accommodate new state-of-the-art machinery for injection panel manufacturing – said to be a first for locally manufactured refrigerated trailers in South Africa.

"Transporters are looking to maximise the use of their vehicle fleets and with that in mind Serco manufactured a number of demountable type truck bodies which have already assisted a leading transporter in their business. Serco has

also worked with leading local retailers to extend the life of older trailers through rebuild and refurbishment programmes, making full use of its national manufacturing and repair facilities in the roll out of the initiatives."

Holcroft says 2016 was an eventful year, highlighting the introduction of injected polyurethane (PUR) foam panel manufacturing technology. "With this new technology, we have achieved noticeable improvements in thermal performance and panel strength, which reflect our ongoing quest for innovation and our commitment to industry-leading standards of product quality." 🚛

Ctrack Fleet Monitoring Services to the rescue



Ctrack has been tracking Massyn Vervoer's fleet for the past 15 years.

Vehicle tracking and fleet management specialist Ctrack by Inseego recently enabled long haulage company Massyn Vervoer to identify diesel theft and fraud within its company shortly after subscribing to Ctrack's new Fleet Monitoring Services.

Ctrack has been tracking Massyn Vervoer's fleet for the past 15 years. However, after identifying the need for an advanced telematics information and fleet management service, Ctrack introduced its Fleet Monitoring Services, a full outsource of fleet control room activities, to the company. Dedicated fleet controllers support Massyn Vervoer's entire fleet from Ctrack's national Support Centre, with 24/7 eyes-on-screen fleet and route monitoring and response services to incident alerts and alarms. The services also include highly proficient hindsight, insight and foresight data analytics and reporting for streamlining fleet operations.

Using Ctrack's Fleet Analytics, Massyn Vervoer was able to validate toll road transactions, which identified a driver who was regularly abusing a fuel card for non-

work purposes. On another occasion, the reports backed by real-time fleet and route monitoring was able to pinpoint a driver who was illegally offloading fuel.

The Ctrack solution has enabled Massyn Vervoer to monitor its fleet's speeding events. As a result, the haulage company virtually eliminated speed limit violations, bringing incidents down from 200 per month to just two.

"Fuel can account for as much as 25% for a long haulage trucking company and the rise in fuel theft and fraud poses a serious threat to transporters' operating profits. With regards to this, it undeniably benefitted Massyn Vervoer to invest in our Fleet Monitoring Services to help eliminate these types of risks," says Hein Jordt, MD of Ctrack Fleet Management Solutions.

"Our newest division helps customers use the vast amounts of data generated from their fleet management systems. It provides information for critical decision making, from cost savings to future investments. Our developers are constantly growing and improving the model to best suit our client needs." 🌟

Digitisation and the rise of Generation C

With the rapid evolution of digitisation, and Cisco's predictions that 40% of businesses will die in the next 10 years, digital transformation is critical to survival in the new world order. Cassie Lessing, managing director, Strato IT Group, developer of StratoPOD, a mobile business application for delivery documentation, says 2017 has seen a wave of new interest in digitisation.

"While 2016 showed marginal interest in implementing and featured discussions around the concepts, 2017 has seen companies from a broad range of industries requesting Proof of Concepts. There is a sense of urgency, possibly proof that industry has realised that those businesses that are not digitising will start to fail," says Lessing.

Strato IT Group's digital proof of delivery app StratoPOD, has been implemented with great success in the building, manufacturing and logistics industries, most notably, Toyota South Africa's National Parts Distribution Centre.

"Partnering with our customers and working together as a team has enabled us to meet the industriousness necessary to transform our client's business into a digital one. This evolution of digital technology has in most parts already happened in our personal lives, and is now starting to underpin almost every facet of business."

Gartner predicts that by 2017, 60% of Global 1 000 organisations will execute on at least one revolutionary and currently unimaginable business transformation effort and that by 2023, superior digital business capabilities will lead four out of five industry leaders to reposition their brand promise or build new brands. 🌟

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Continental signs collaborative agreement with Caterpillar



As part of the agreement, Caterpillar will equip Cat Off-Highway-Trucks with Continental RDT-Master tyres.

Continental and Caterpillar Inc. have signed an agreement to equip Cat Off-Highway-Trucks (model series 770 to 775) with Continental RDT-Master tyres in sizes 18.00R33, 21.00R33 and 24.00R35. The agreement also calls for the two companies to collaborate on designing new tyres for two other Cat products: medium wheel loaders and articulated dump trucks.

"We are happy to announce the cooperation with Caterpillar on top of the launch of our new tyre lines in the mining and construction segments. This cooperation underlines the significance

that Caterpillar places in innovative technology, the customised solution approach and leading edge technology that Continental now offers in this new industry segment," says Jan Skaletz, key account manager for OTR Tyres.

Continental's RDT-Master tyres feature all-steel radial casings and belt packages for cut and impact resistance that provides outstanding traction in all directions. They will be listed on Caterpillar price lists starting in 2017 and can be specified by Caterpillar dealers and end users as first fit tyres on new equipment orders. 🌟

New lab instruments generate faster sample results

Condition monitoring specialists WearCheck recently invested in excess of R1,7 million in new high-tech equipment in both the transformer and fuel sections of its Johannesburg-based Speciality laboratory.

The Kruss K11 tensiometer, an ADU 5 distillation unit, an SVM3001 stabinger viscometer, as well as the PMA 5 Pensky-Martens closed-cup flash point tester are among the new pieces gracing the countertops in WearCheck's laboratory. These highly accurate, sophisticated instruments – which have boosted lab productivity by offering new tests and saving time on existing ones – have also reduced the turnaround time to generate customers' sample results.

The ADU 5, a fully-automated distillation unit operated by a touch screen interface, performs distillation tests according to ASTM D86. It is recognised as one of the most reliable methods to determine the boiling range characteristics of petroleum products,

A given volume of sample is placed in a distillation flask and distilled according to strict guidelines as specified in the standard. The sample is heated and vapourised. The vapour is then cooled in the condenser line and the condensate is collected in a graduated cylinder. The temperature of the recovered volume of condensate is recorded precisely during the test. 🌟

Clear strategies fundamental to effective maintenance

The correct implementation of SKF's Asset Efficiency Optimisation (AEO) plan, combined with Proactive Reliability Maintenance (PRM) hardware and software, will assist companies in realising a return on their investment by reducing Mean Time Between Failures (MTBF), extending equipment life, improving uptime, plant availability, production and profitability.

It is essential for companies to identify key business goals and set associated performance targets to remain competitive and profitable. "The overall objective in this effort should be to create a strategy aligned to business goals and then follow a well-defined process to drive down Total cost of ownership, while maintaining or even increasing production time," reasons Greg Sassen, Asset Reliability Consultant at SKF.

"Maintenance is usually seen as a necessary cost of doing business. No maintenance results in equipment failure, unplanned downtime and a drop

in production levels," adds Sassen. "However, one train of thought suggests that manufacturers could make a return on their investment in maintenance and even that maintenance should be seen as a profit centre."

Implementing maintenance as a key part of overall strategy can improve profits by reducing the scourge of machine downtime. For maximum effect, maintenance should work in partnership with other elements of the business including engineering and production, to pinpoint how a reliability-focused maintenance process can deliver specific business goals.

Sassen recommends an integrated strategy and technology approach. "A strategy will ensure these programmes are implemented cohesively throughout a plant. SKF offers a new generation of integrated approaches that take the needs of the entire organisation into account. Once implemented, these strategies enable maintenance requirements to be analysed, assessed and managed simultaneously,

raising uptime and productivity and improving the bottom line."

"Investigation of maintenance procedures is a good starting point," recommends Sassen. "Factory maintenance has historically been done reactively, linked to set time intervals, and machine or component failure, giving little control of production assets (people and machines) and drags productivity down".

A more proactive, holistic approach offers better asset control, minimised unexpected downtime and boosted productivity. This is the basis of SKF's AEO plan, a work management process structure that delivers maximum efficiency and effectiveness from activities focused on the overall business aim of the plant. The plan takes account of top-level business forecasting and system-wide analysis. It is a shift away from the reactive approach, to a selective mix of scheduled, proactive, predictive and reactive maintenance. It has in-built sustainability and provides rapid results and payback on investment. 🌟

New control system for Kleemann's cone crusher

At CONEXPO CON/AGG 2017, the MOBICONE MCO 11i PRO cone crusher with the brand new SPECTIVE control concept was one of four advanced-design mobile crushing plants shown at the Wirtgen stand.

Designed for tough and demanding quarry applications, the high-performance cone crusher is powered by a diesel-electric drive and achieves an output of up to 470 t per hour. The plant can also be equipped with an external power supply for even more efficient operation. As the hydraulics are installed in the lower part of the plant, the MCO 11i PRO has a low centre of gravity, and thus more stability, reducing noise and vibrations to a minimum. All plant components can be easily reached from the ground or via spacious work platforms for maintenance work and refueling the plant.

With SPECTIVE, Kleemann presented its new, intuitive control concept for the first time at ConExpo. SPECTIVE is simple to understand and supports the operator in his or her work. The use of clear symbols makes all plant functions recognisable at a glance. Only the information relevant for



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the machine operation is displayed. Similar in presentation to a smart phone, the operator is guided by the control system, reducing the potential for operating errors. In addition, data relating to the machine operation can be retrieved via the control

system, and the levels of diesel and lube oil, for example, can be viewed in the plant cockpit. SPECTIVE is available initially for the MOBICONE MCO 11i PRO and the latest impact crushers in the MOBIREX MR EVO2 series. 🌐

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New SP 60 series from Wirtgen

When it comes to the precision and cost-efficient construction of concrete pavements and monolithic profiles, Wirtgen's slipform pavers are right for the job. With their modular design, the machines can be configured as needed, and virtually all conceivable structures are possible, including special shapes. The SP 64i represented the new generation of slipform pavers at CONEXPO CON/AGG 2017 in Las Vegas.

The SP 60 series replaces the successful SP 500 – and is said to open up new possibilities for contractors. More features than ever operate hydraulically in the SP 60 series. Thanks to a new hydraulic concept, energy is now used much more efficiently, making it available for new equipment options, for example, trimmers and a large delivery screw for offset applications, or the four swivel arms used to switch the machine from transport to working mode faster. The system starts as a basic version, and grows along with the number of modular equipment options selected. Customers save by choosing only the options they want.

Likewise, the intelligent machine control systems in Wirtgen's slipform pavers are state-of-the-art. Interfaces for the Wirtgen Group's WIDIAG service diagnosis and



The SP 60 series, launched at ConExpo 2017, replaces the successful SP 500.

WITOS FleetView systems support users, as does the optional Paving Plus package. Combined with this package, the swivel arms can actively circumnavigate obstacles during the concrete paving process.

The option of hydraulic rotational drives, available for all SP 60 series models, provides even better manoeuvrability. With hydraulic rotational drives, the 90° or 120° steering angle of the crawler tracks becomes a major advantage, for example when setting up the machine at a job site.

Another new development is the option of choosing between two undercarriage sizes. Why is such an option necessary? For professional concrete paving at job sites with unpaved ground, the lanes for the pavers must be stabilised ahead of time. However, the larger crawler tracks exert less contact pressure per unit area, reducing the pressure on the ground, thus giving the slipform paver the stability it needs. This in turn has a positive impact on the quality of the paving results. 🌟

Debut for Volvo CE's new oscillatory compactor at CONEXPO 2017

Complete with new oscillation technology, the DD105 OSC double drum compactor from Volvo Construction Equipment has the ability to effectively compact in delicate areas, such as bridges, over pipes and close to residential areas.

Fitted with the flexibility of Volvo's oscillation technology, which eliminates vertical vibrations, the DD105 OSC offers high compaction performance while producing a non-damaging oscillation movement. Featuring a 1 680 mm wide drum with hardened, abrasion-resistant alloy steel drum shell, the DD105 OSC is powered by a D3.8 Volvo engine.

In addition to the oscillation technology, adapting to different jobsites is easy. With the option of using a drum with eight amplitude settings or two, changes can be made according to the surroundings and material depth, adding further to the machine's versatility. Selecting the amplitude most suitable for the mix conditions and thickness enables the operator to reach a higher quality of work in fewer passes.

The DD105 OSC offers features that are

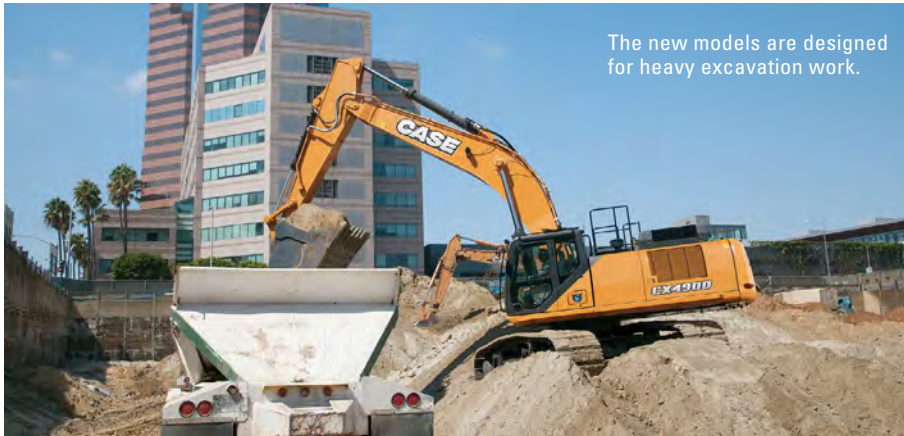


The new DD105 OSC is ideal for working in delicate areas, such as bridges, over pipes and close to residential areas.

designed with the operator in mind. The open ROPS/FOPS canopy and the optional enclosed cab combine comfort, control and visibility, ensuring a productive operator environment. From the air suspension seat, the operator has a commanding view of the jobsite, as well as clear sightlines down to the drum and spray bars, enhancing

safety and rolling precision. The view of curbs and obstructions is enhanced with off-set steering, aiding precise compaction. With ergonomically-positioned controls and joystick, manoeuvrability is improved for the operator, who can rely on the Anti-Slip Control to easily load and unload the machine without damaging the pavement. 🌟

CASE beefs up D Series with two larger models



The new models are designed for heavy excavation work.

CASE Construction Equipment used CONEXPO CON/AGG 2017 to introduce two new larger excavators that replace the previous 47 t.

The two new crawler excavators, the CX490D and CX500D, join the company's D Series lineup. The new models are designed for heavy excavation work and replace the company's previous 47 t excavator, the CX470C. Each model is built to provide significant operational gains, including cycle times up to 10% faster, improved responsiveness and multifunctional controls, as well as greater fuel efficiency. An electronically controlled hydraulic pump and larger control and solenoid valves boost breakout forces, increase lifting strength and responsiveness.

D Series models offer more standard features than previous CASE excavators, simplifying the buying process and making them extremely versatile and operator friendly. All CASE D Series excavators provide peace of mind and lower total cost of ownership through CASE ProCare, a suite of product assurances that includes a three-year Advanced CASE SiteWatch telematics subscription, a

three-year/3 000-hour full-machine factory warranty, and a three-year/3 000-hour planned maintenance contract.

Both models are available with an optional hydraulic counterweight removal device for improved on-site safety and efficiency during transportation.

Faster cycle times are achieved through a new electronically controlled pump, a larger control valve and multiple sensors. These features combine with the CASE Intelligent Hydraulic System and its four integrated control systems to make the best use of the machine's hydraulic power and momentum, resulting in added strength and fuel efficiency.

The four systems that make up the CASE Intelligent Hydraulic System are: Boom Economy Control (BEC), which reduces RPMs by using gravity during boom down and swing; Auto Economy Control (AEC), which lowers RPMs during idle and automatically shuts down the engine after a preset idle time; Swing Relief Control (SWC), which reduces hydraulic power at the swing start; and Spool Stroke Control (SSC), which adjusts hydraulic pressure during digs. ⚙️

Grove unveils TMS9000-2 truck crane at CONEXPO 2017

The new 100 t capacity truck crane features a number of improvements over previous models that will enable owners to increase their utilisation and lifting capabilities. The new crane is lighter, increasing roadability and helping customers meet gross vehicle weight requirements. It has a longer boom, which increases reach and enables lifting contractors to complete a wider variety of applications.

"The Grove TMS9000-2 is a clear example of The Manitowoc Way in action," says Harrison Hipple, product manager for truck-mounted cranes at Manitowoc. "We brought our customers in at the earliest

stages of designing this crane to ensure we made a product that fits their lifting needs. It was engineered with one goal in mind: to increase utilisation rates for customers and increase their return on investment in a truck crane."

The TMS9000-2 is approximately 363 kg lighter than its predecessor, the TMS9000E. Though the TMS9000-2 is lighter, its boom length and capacity have both increased. The crane features a new, 51,6 m, six-section MEGAFORM boom that utilises Grove's Twin-Lock pinning system. It's a greaseless boom, which reduces maintenance for owners. ⚙️



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Dressta launches new S-Series hydrostatic compact crawler dozers

Dressta used CONEXPO CON/AGG 2017 to launch its line of hydrostatic compact crawler dozers – the TD-8S and TD-9S.

The Dressta S-Series compact dozers are equipped with full dual path hydrostatic drive systems that transmit full power to both tracks in all conditions to ensure full loads are handled easily with smooth pivot turns and counter rotation. The result is improved productivity and ease of operation, even when working on confined job sites.

S-Series compact dozers are said to offer the perfect balance for ripping, dozing and precise final grade control. They are well suited for landscaping, residential

construction and forestry applications.

The new compact dozers inherit a number of Dressta's established design features. A 6-WAY C-Frame is complemented by an undercarriage that is available in two options: the standard LT (Long Track) version for better stability and the LGP (Low Ground Pressure) version for use in swampy and muddy terrain.

Undercarriages feature a standard lubricated track system and split link track chains to reduce removal and installation time. Both models feature pivot shaft installed suspension for final drive protection and hydraulic track adjusters for extending track chain life. 🌟



Dressta S-Series compact dozers are ideal for landscaping, residential construction and forestry applications.

New Firestone off-the-road radial tyre for better dependability

Bridgestone showcased its new Firestone VersaBuilt tyre line for the first time at the 2017 CONEXPO-CON/AGG conference in Las Vegas. The first full line of off-the-road radial tyres from Firestone, VersaBuilt are designed to work across a wide variety of environments, applications and equipment to keep jobsites operating efficiently.

"With more radial tyres entering the off-the-road market, we saw a need to introduce a dependable product at an affordable price that is backed by a trusted brand," says Taylor Cole, president, off-the-road, Bridgestone. "Our construction customers are looking for a versatile line of tyres that they can rely on to get the job done, and that's exactly what they get with Firestone VersaBuilt."

Firestone VersaBuilt tyres are said to provide solid traction for loaders, graders and earthmovers, ensuring these machines perform at their best in a variety of conditions, ranging from muddy to rocky surfaces.

Some of the key features include steel casing and SideArmor sidewalls to protect against cuts and punctures by deflecting stones and debris; a non-directional, self-cleaning tread for added traction and a tough tread compound to promote wear life; three different tread patterns optimised for general use across environments; and eleven different size offerings to meet the demands of different applications. 🌟

JLG redesigns 600 Series telescopic boom lifts

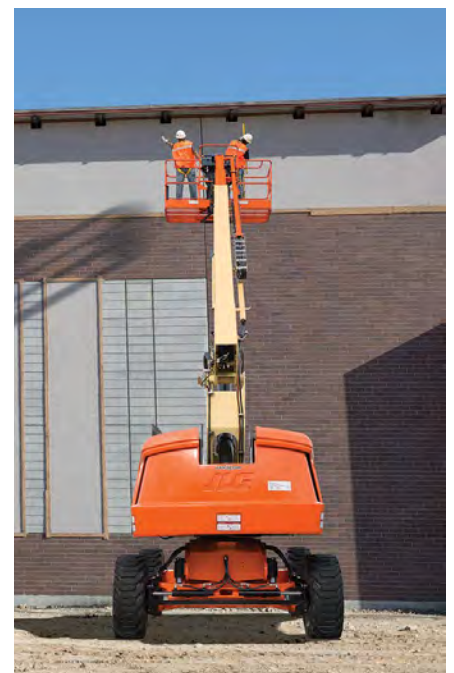
JLG Industries, a leading global manufacturer of aerial work platforms and telehandlers, has completely redesigned its 600 series telescopic boom lifts. Two new machines – the 600S and 660SJ – were launched at CONEXPO 2017.

"Both machines offer class-leading platform capacity, allowing operators to bring more tools and material to the work area," says Paul Kreutzweiser, JLG Industries global category director, aerial work platforms. "The new 600S has an unrestricted capacity of 272 kg, which represents a 20% increase over its prior model, with a restricted capacity of 453,5 kg. The unrestricted capacity of the 660SJ has increased by 50% percent to 340 kg, with a restricted capacity of 249,4 kg."

Lift speeds on the new booms are faster with the ability to operate multiple functions at once significantly improved,

enabling them to reach full height quickly for increased productivity. In addition, the machines are easier to transport. Their lighter-weight telescopic booms allow for multiple transport configurations. With a properly equipped truck, two of these units can be moved at one time without an overweight permit.

The new 600S and 660SJ include the JLG SkyGuard enhanced control panel protection system as standard equipment. The SkyGuard sensor, when activated by approximately 23 kg of force, stops all functions in use, temporarily reversing the unit for enhanced operator safety. The two new booms also benefit from extended wire rope and sheave replacement intervals – from eight to 12 years – up to 7 000 hours. Longer replacement cycles reduce maintenance costs, increase uptime, and deliver a lower total cost of ownership. 🌟



Two new JLG machines – the 600S and 660SJ – were launched at CONEXPO 2017.

ROAD TRANSPORT – THE BACKBONE OF OUR ECONOMY



David Kruyer, MD and founder of Concargo

Economic growth in South Africa, expected to remain sluggish in 2017, could be stimulated if the South African government fast-tracked its expenditure on strategic infrastructure projects, especially those in the transport sector. This is the view of David Kruyer, MD and founder of Concargo, a Cape Town-based supply chain and road freight logistics company.

In March 2015, government announced plans to spend R813 billion on infrastructure over a period of three years. However, spend to date has been lower than anticipated. But, if government is serious about keeping to its expenditure plan – and stimulating economic growth – it needs to fast-track infrastructural spend and focus on projects in the transportation industry.

South Africa's transport infrastructure has a direct impact on the growth of the economy, contributing 48% to GDP, and determines the efficiency with which our country does business. Upgrading our transport infrastructure will go a long way to improving South Africa's growth prospects.

I believe better days lie ahead provided we, as a country, make the necessary infrastructural investments as soon as possible. No matter what business people are in, they need to get things from A to B in order to set up a business or trade goods, and that requires an efficient and reliable transport sector. Road, at 86%, carries the majority share of freight compared to other modes, followed by shipping and then rail.

Road is currently regarded as being the most reliable, predictable and cost effective mode of inland transportation and the development of transport corridors – such as the Trans-Kalahari Corridor – have gone a long way to growing trade with neighbouring countries.

2016 was a tough year for business and consumers alike, exacerbated by the increase in fuel costs, the weakening of the Rand, political instability and a slow growing economy. It not only impacted South Africa but other African countries too with a number of projects being put on hold and mining production lower than expected. However, we are starting to see positive cross border movement, we are transporting sugar into Mozambique and are negotiating the logistics of getting steel to Tanzania.

To the future

I expect demand for effective, economically viable transport services to increase in the years ahead. Increasingly, truck and rail services will be required at short notice to transport large volumes

of cargo from seaports to their destinations, both in South Africa and into the hinterland. Getting goods or equipment to customers in an efficient and economically viable way is paramount to business success.

Whether we are required to supply 1 to 100 trucks, or more, at short notice when a ship docks and cargo needs to be discharged, planning the move of massive pieces of equipment across the country to implement strategic infrastructure projects, or out-of-gauge cargo on a long haul, the focus is meticulous planning and delivering on time and within budget.

Key challenges

Even though South Africa currently permits some of the largest vehicle combinations in the world for general freight haulage, at a maximum general vehicle mass of 56 t, moving heavy-lift cargo remains a challenge as each province requires different permits and a police escort. Because time is money, a more efficient and streamlined national permit system would certainly help to speed up delivery and boost efficiency.

Moving goods over borders into neighbouring countries is even more complex but is 40% of Concargo's business which is why we have developed strategic business partnerships with companies in the SADC region. These local companies keep in close communication with statutory officials and other authorities to ensure a seamless and coordinated customs process.

One of the positive developments taking place in the freight industry is the use of sophisticated IT systems and tracking in order to monitor the status of the shipment anywhere in southern Africa. An innovative tracking and tracing system ensures transparency in the entire supply chain and our Proof of Delivery Image System (PODIS) allows customers to track shipments 24/7, 365 days a year.

In a country greatly in need of job creation and skills development, I believe it will also become increasingly important to showcase transport logistics as a career. Transport logistics in Africa is a vibrant and exciting industry to be part of. 🌟

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Bobcat launches new forestry cutter attachments



The new Bobcat high torque forestry cutter attachments have been enhanced with a new variable torque motor providing 40% more power.

Bobcat has launched the new FRC150HT and FRC200HT high torque forestry cutter attachments for use with the company's compact tracked, skid-steer and all-wheel steer loaders. The new forestry cutters are compatible with the Bobcat T770H and T870H compact tracked loaders, S770H and S850H skid-steer loaders and the A770H all-wheel steer loader.

Designed for continuous use in shredding and mulching bushes, shrubs and small trees, the forestry cutters are ideal for fast removal of thick undergrowth. Providing cutting widths of 1,5 and 2 m, respectively, the FRC150HT and FRC200HT forestry cutters are designed for continuous work on bushes and trees 100 to 120 mm in diameter, intermittent use for trees with a diameter from 180 to 220 mm and occasional use on trees 250 to 300 mm in diameter.

Applications are varied and range from those in agriculture including vineyards, orchards, nurseries and tree care; forestry including cutting fire breaks in woods and forests, clearing work and removing unwanted undergrowth trees; wildlife, national park and country estate management; perimeter maintenance of facilities such as schools and military bases; to site development in construction; land clearing for landscaping and recreation projects; maintenance work on vegetation next to pathways and other right-of-ways, utilities, railway lines and roads, as well as clean-up work after storms and floods.

The FRC150HT and FRC200HT replace the previous models in the range and, based on customer feedback, they have been enhanced with a new variable torque motor providing 40% more power and several other updates to improve performance. The latter include a new drum design, new routing for the hoses, a reduction in weight, improved visibility and much more, increasing efficiency and improving manoeuvrability.

The forestry cutters are part of the comprehensive Bobcat range of attachments for forestry, estate management, amenity and landscaping work, which includes stump grinders, wood chippers, brushcutters, flail cutters, augers and tree transplanters.

Powered by the new M-BOOST high performance motor with variable torque, the 1,5 m drum on the FRC150HT forestry cutter is equipped with 30 fixed carbide teeth, while the drum on the FRC200HT has 36 cutting teeth. Other new features include five rows of counter cutters; a new adjustable push bar configuration; a new reinforced chain protection system at the back; a new HD belt cover; a new forestry applications Kit rear window; new adjustable skid shoes; an automatic drum brake system; an ACD Control system and a patented fixed knife rotor with tungsten carbide tips. ⚙️



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