

AT THE LOADING

**EDGE**



WHEEL LOADERS: Hitting desired production goals

CRUSHING: Best of both worlds

TRANSPORT: Laying solid growth foundations



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# EVERDIGM



AT THE LOADING EDGE

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# CHANGING MATTERS OF IMPORTANCE

I recently had a conversation with a senior representative of a big international original equipment manufacturer (OEM) who reflected on the changing matters of importance for capital equipment fleet owners.

Gone are the days when so-called established brand names meant more sales and reinforced market shares. We are way past the era where proven quality of a product did much to influence buying decisions of equipment owners. In today's operating environment, quality and fame alone are not enough to influence buying decisions.

As you will see in the Aftermarket Feature in this edition of **Capital Equipment News**, we have reached a golden age of services, and to survive and prosper, the capital equipment supply chain is transforming into a service-centric sector, moving away from just supplying products to offering end-to-end solutions. Although companies still push products, there is now a bigger focus on delivering the value that customers get out of using those products.

In my recent conversation with a big fleet operator who runs in excess of 300 machines, he concurs that, for him, aftermarket support comes before the product. He reasons that 90% of his buying decisions are solely influenced by aftermarket support, and the remaining 10% revolve around all other conventional considerations such as fuel efficiency and product quality, to mention a few. For him, a so-called quality product is only as good as its service. There is no point in having an expensive piece of machine that spends 50% of the time standing in the yard because the dealer cannot replace a filter on time, for example.

Moreover, aftermarket has since

evolved. It's no longer just about parts availability and fulfilling maintenance obligations. Customisation is one key buzzword currently doing the rounds in today's equipment business. Customisation means understanding what the end user's needs are, and being able to modify the product or solution to meet the particular requirements.

What forward thinking OEMs and their dealers are doing right is placing a strong focus on identifying different tiers in different market segments. For example, in rental, the market starts from fleet owners of two machines through to those who operate as many as 2 000 units. It is ideal to segment these tiers accordingly because the needs of a big plant hire company are very different from the essentials of an owner of two machines. Equally, the needs of a company that rents out equipment to mining clients are different from those of a company that hires its equipment to a general construction contractor.

The changing face of the market has also transformed the way in which OEMs and their dealers interact today. Dealers have since ceased to be just selling agents for OEMs. They have become valued business partners, trusted advisors to the OEM in all matters relating to aftermarket service, as well as crucial research and development projects.

In a nutshell, fleet operators of today are concerned about the equipment supplier's ability to maximise their uptime and production efficiency. Equipment sales are no longer just about the product, they are about the total value proposition, ranging from preventative maintenance and service agreements to uptime, fuel efficiency, financing and training. 🌐



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# AT THE LOADING

# EDGE

**The latest addition to Babcock's SDLG wheel loader line-up available for southern Africa is the L958F, part of the new four-model F-Series which benefits from a radical feature upgrade over the previous L-Series, including a new transmission, writes *Munesu Shoko*.**

**B**abcock has introduced the new SDLG L958F, a 5,4 t wheel loader that ticks all the right boxes for fleet owners seeking a reliable, yet affordable machine that gets the better of re-handling duties in diverse applications, including quarries, agriculture and ports, to mention a few.

The L958F forms part of the four new SDLG wheel loaders launched earlier this year for Middle Eastern and African markets. Three other models – L953F, L956F and the L968F – complete the new F-Series family, which benefits from a modern design and a host of technical enhancements.

The first to arrive in southern Africa is the L958F, with Babcock bringing in the first four units at the start of July. "We have launched the L958F at this stage. The first four units have already been sold and delivered. We have seen a great deal of interest in the new L958F. The next batch, set to arrive later this year, has already been sold out as well," says Grant Sheppard, SDLG brand ambassador at Babcock's Equipment division.

Notably, the new wheel loader benefits from a radical feature upgrade over the previous L-Series, but with no substantial price hike. Sheppard says the machine is designed to meet the demands for customers looking for a high-performing, reliable, easily operable and cost-effective wheel loader. "It's a vastly improved machine compared with the previous L-Series, with an array of new features," says Sheppard.

## New features abound

Behind the new design of the L958F are several new features and technical improvements for enhanced productivity, reliability and uptime. A key feature upgrade is the new SDLG VRT200 transmission, which offers an 8% increase in comprehensive efficiency over the older ZF 4WG200.

With four forward and four reverse gears as well as a large adjustment range of speed ratio, the new transmission gives full play to the engine power for improved fuel economy. The VRT200 transmission also benefits from

an electro-hydraulic shift with functions of kick-down, power cut-off and shift interlock, making the gearshift stable. A ladder buffering design for the clutch improves shift stability. Maintenance is also convenient on the VRT200 compared with the 4WG200; not only can the transmission and transfer case be separated, but also contains an external pump for easy access.

The new machine also features an improved axle design for added support. Whereas the rear drive axle on the L-Series is mounted to the auxiliary frame, the F-Series' rear drive axles are mounted on the swing frame, offering larger oscillation and better stability and traction.

The 6-cylinder, direct injection Weichai engine delivering 162 kW @ 2 200 rpm, is matched to the new SDLG transmission to deliver maximum torque from the engine to the wheels for greater fuel economy.

A high breakout force of up to 175 kN, a rated load of 5 400 kg and a new 3,2 m<sup>3</sup> bucket design work in tandem to deliver improved efficiency and productivity.

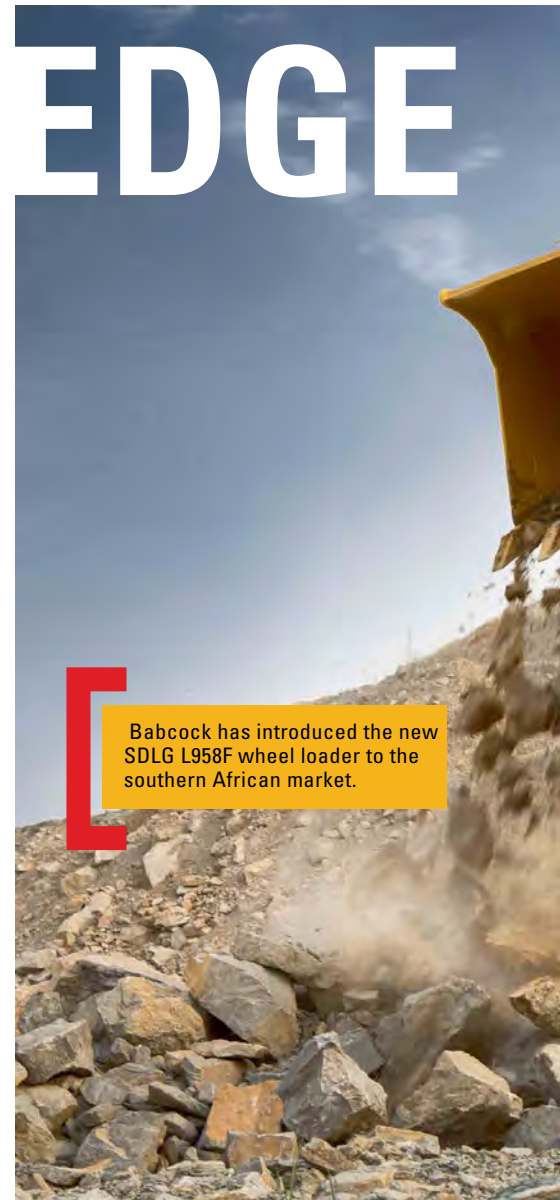
With SDLG's understanding that a comfortable operator is a productive one, the L958F benefits from a new larger cab with greater comfort and ergonomics. The larger cab design adds 20% more glazing for improved visibility, safety and operator efficiency. Improved air conditioning has also been added for greater operator comfort, while the single joystick guarantees precise, easy and comfortable operation of the loader arm and bucket, reducing operator fatigue.

## Growth pillars

A good brand is one thing, and being able to offer proper aftermarket support once the product is operational in the field, is quite another, says Magnus Rieger, marketing & communication manager at SDLG – Sales Region EMEA, reiterating how SDLG has benefitted from Babcock's representation over the years.

"We have seen more and more customers

Babcock has introduced the new SDLG L958F wheel loader to the southern African market.



in the region doing repurchases, which is a clear sign that they have initially liked the product, but more importantly, because they are satisfied with the dealer's great work in terms of aftermarket support," says Rieger. "SDLG is a product of good quality, but its success in the region comes down to Babcock's exceptional support capabilities, premised on its 'trusted to deliver' mantra."

The growing population of SDLG machines in southern Africa is a key indicator of the brand's continued growth. Since 2012, Babcock now has a sizeable complement of machines operating in the field. The population is a combination of mostly wheel loaders, as well as TLBs and graders.

From a product quality perspective, the benefits of being part of a larger and technologically advanced Volvo Group are apparent. For example, several feature upgrades on the new L958F are a glimpse of the Volvo influence.

From a support point of view, SDLG has also benefitted from the existing Volvo dealer



**“SDLG is a product of good quality, but its success in the region comes down to Babcock’s exceptional support capabilities, premised on its ‘trusted to deliver’ mantra.”**

network in most African markets. “I believe we have the best service network among Chinese OEMs,” says Rieger, noting that about 99% of existing Volvo CE dealers across the continent have taken SDLG into their stables.

“We see that even some blue chip companies are starting to realise the benefits of purchasing a value brand from a reputable supplier,” adds Grant. “We are doing business with some of the big companies which, historically, have only purchased premium gear.”

Grant is encouraged by the future prospects of SDLG’s continued growth in southern Africa, especially on the back of a continuously improving product. “There is a marked improvement in the quality of products, and it is encouraging to see that the OEM is also listening to market requirements. New products, such as the new F-Series wheel loader range, are proof that the feedback from the ground is being incorporated into new machine designs,” concludes Grant. 🌱

**Key specs**

<b>Model</b>	L958F
<b>Rated load</b>	5 400 kg
<b>Operating weight</b>	17 130 kg
<b>Standard bucket capacity</b>	3,2 m³
<b>Maximum breakout force</b>	175 kN
<b>Engine</b>	Weichai WD10G220E21
<b>Rated engine power</b>	162 kw @ 2 200 rpm
<b>Maximum torque</b>	980 Nm



Grant Sheppard, SDLG brand ambassador at Babcock’s Equipment division (left), and Magnus Rieger, marketing & communication manager at SDLG – Sales Region EMEA.



# LAYING SOLID GROWTH FOUNDATIONS

Developing a brand in a new market can mark the beginning of an extremely difficult process for any business, especially in a cutthroat trading environment such as in the South African commercial vehicle market. But, through a well-established countywide dealer network and a substantial investment in a sizeable parts inventory, among other initiatives, VE Commercial Vehicles (VECV), which has just launched its Eicher truck range in South Africa, has laid solid foundations for long-term growth, writes *Munesu Shoko*.

## EICHER'S VALUE PROPOSITION



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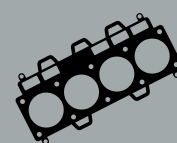
200 000 km of testing in South African conditions



Countrywide dealership network



3-Year warranty



Ample parts availability in SA – 2 600 line items already available



Introductory offer of free service plan (100 000 km / 2 Years)





VE Commercial Vehicles (VECV), a joint venture of the Volvo Group and Eicher Motors Ltd, has launched its Eicher range of trucks in South Africa.



VECV won the prestigious Tipper of the Year award in India in 2012.



Three of the Pro series models for South Africa are the Pro 6025T, a 10 m<sup>3</sup> tipper; the Pro 6016, a 16 t GVM freight carrier; and the Pro 3000, an 8,5 t heavy duty offering for haulage.

**V**E Commercial Vehicles (VECV), a decade-old joint venture between the Volvo Group and Indian headquartered Eicher Motors Ltd, used the recently-ended TruckX 2017 to officially introduce its Eicher range of trucks to the South African commercial vehicle market. To set the ball rolling, the joint venture has already set up its South African base in the form of a 100% wholly-owned subsidiary, VECV South Africa.

Despite a cutthroat trading environment in the South African commercial vehicle market with several existing players already jostling for a share of the market, which is already notably in rough waters, Surender Singh Rajpurohit, vice president and country head at VECV South Africa, believes that there is still space for a new brand in the local commercial vehicle market, especially a good product which is competitively priced and comes with no extra frills.

It is significant to note that VECV South

Africa launches its local ventures at a time when the truck market has just experienced a 2,8% decline in sales during June to record a total of 1 652 units during the month. The result brought the total for the first half of 2017 to 8 888 units, a decrease of 2,8% compared with the first half results of the previous year, according to joint results published by the National Association of Automobile Manufacturers of South Africa, Associated Motor Holdings and Amalgamated Automobile Distributors.

In the first phase of its introduction, Eicher has its eyes on the Heavy Commercial Vehicle (HCV) segment with a three-model line-up of its Pro Series range. The HCV segment is regarded as the "bread and butter" of the local truck market, but is not enjoying the best of times at present on the back of a 2,3% decline to 2 628 unit sales in the first half of 2017, compared with the same period in 2016.



Surender Singh Rajpurohit, vice president and country head at VECV South Africa.



VECV SA used the recently ended TruckX 2017 to launch its Eicher range of trucks in South Africa.

However, Rajpurohit tells **Capital Equipment News** that Eicher is in the South African market for the long term, and short-term ups and downs are just part of the journey. "For any brand launching a footprint in a new market, you don't necessarily need to time your entry based on sales figures of few months or a particular quarter. We are well aware that the commercial vehicle market is a cyclical industry the world over, and I believe that this is an opportune time to launch our brand to be able to offer a different solution to what is already available in the market," he says.

### Into SA

Leveraging the synergistic strengths of Volvo Group's global expertise and world class technology, coupled with Eicher's proven DNA of fuel efficiency, the VECV joint venture has seen exponential growth since its establishment some 10 years ago. Sales rocketed from just over 20 000 in 2008 to over 58 000 last year.

"The establishment of the joint venture with the Volvo Group has been a very rewarding era for the Eicher brand. We have seen an injection of sophisticated processes into our manufacturing processes, and the results manifest themselves in the form of excellent product quality and resultant sales growth," says Rajpurohit. For example, VECV won the prestigious CV Maker of the Year and Tipper of the Year awards in India in 2012.

VECV has set itself an ambitious target to grow its sales volumes to 100 000 units per annum in the next three to four years, and envisages to generate 10% of the targeted sales volumes from export markets.

As part of the strategy to grow export volumes, South Africa is deemed to be the next big step in VECV's quest to grow its export network that already spreads across 30 countries. Rajpurohit says South Africa is a "very special marketplace" that will

play a critical role in the future growth of VECV's international business. The journey into the market was set in motion with the incorporation and establishment of VECV South Africa in January 2016.

### Growth pillars

To challenge for a share of the market in new terrain, VECV South Africa has identified several pillars of envisaged growth in the local market. Soon after the establishment of the company early last year, the next step was to appoint and establish a local dealer network by April 2016, along with Essential Operating Requirements (EOR) norms, well ahead of debuting the product in the local market.

VECV SA has already established a dealer network comprising some well-established truck dealerships in the country such as the Imperial Group, BB Motor Group, CMH Group, AAD Group, Bilson Trucks, Fleet Dynamics Group and Premier Truck and Bus. This will allow the Eicher range to be sold and supported across 12 strategic locations across South Africa.

Rajpurohit tells **Capital Equipment News** that aftermarket is one of VECV South Africa's key focus areas. The company has a 360° view to its aftermarket, all the way from a strong dealership network, to parts availability and training.

"The local team has been proactively busy ensuring parts availability and technical training to technicians before the start of sales as its primary focus area. Parts availability and aftersales support are the key investment areas," he says.

To further enhance a high level of professionalism and quality of support for Eicher trucks, VECV SA has joined hands with Bidvest Panalpina Logistics (BPL) as its 3PL partner. A multimillion Rand investment has already been made to complement of over 2 600 line items.

"It's not only the stocking of parts we

have prioritised, but also the training of all our dealers, who have already gone through our EOR processes. This includes training for technicians, stocking of parts, as well as sales training. We have a 360° approach when it comes to our aftermarket."

VECV SA already has its eye on local manufacturing and plans to assemble its trucks at UD Trucks Southern Africa's Rosslyn, Pretoria plant. However, Rajpurohit says this is a long-term proposal, and the timelines of implementation will be determined by the business case.

"When you are a new brand in a market, you are just concerned about establishing first and gradually grow the numbers. Initially we are not targeting any big numbers; our main focus is to offer the right product for the right application, as well as unparalleled aftermarket service," says Rajpurohit.

### 'Pro League of trucking'

Initially VECV SA will offer three models from its Eicher Pro Series, a range of next generation trucks, said to be designed to deliver high uptime, greater fuel efficiency, higher loading capacity as well as enhanced driver efficiency and safety. At the time of writing, the first lot of Eicher trucks was expected to arrive in the country by mid-July.

The Pro Series range has already been tested for more than 500 000 km across Africa and Asia, and specifically subjected to rigorous endurance and performance testing for over 200 000 km in South Africa. The range was also subjected to endurance testing at the Gerotek Test Facility in Pretoria in September last year.

The trucks have also been put into actual applications of few well renowned fleet operators in all applications and operations. "Testing results turned out extremely positive especially in terms of fuel efficiency, comfort and the durability of the trucks," says Rajpurohit.

Three of the Pro series models for South Africa are the Pro 6025T, a 10 m<sup>3</sup> tipper; the Pro 6016, a 16 t GVM freight carrier; and the Pro 3000, an 8,5 t heavy duty offering for haulage.

The Pro 3000 is said to be the jewel in the crown of this range, offering greater fuel efficiency in its class size, thanks to its E494 common rail engine delivering 147 hp of power and 400 Nm of torque. Class leading fuel efficiency is enhanced by Volvo's Engine Management System 3.0 and Engine Protection System. The Pro 3000 is also developed with low maintenance in mind. Its LFL Monotron Propeller Shaft is lubricated for life, while its durable Domex frame offers high tensile strength and pressure bearing capacity of 650 Mpa. 🌟

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# HITTING DESIRED PRODUCTION GOALS

**For speedy and economic execution of projects, proper choice of equipment is of primary importance. A wheel loader is one such crucial piece of equipment on any earthmoving site, and spec'ing the right unit for the right job is of principal significance. There are various issues to consider when looking at acquiring a wheel loader for a jobsite, ranging from suitability for job conditions, size of matching units, all the way to driveline options, bucket selection, electronic features, payload systems and more, writes *Munesu Shoko*.**

The economics of equipment is one of the most important considerations in the selection of equipment. When selecting the most efficient wheel loader for the job at hand, the key is to hit your desired production goals for the lowest total cost of ownership. But, how best is this achievable? A panel of experts unpacks the fundamentals.

Todd Tuntland, Product Application Specialist – Large Wheel Loaders at Caterpillar, tells *Capital Equipment News* that this achievable by “right sizing” the wheel loader. “A loader is most efficient at its maximum productivity, not too big, not too small, but just right,” he says.

Frank Schmitt, GPPE Wheel Loader Product Manager at Volvo CE, Sales Region EMEA, says to strike the desired production goals with a wheel loader, one needs to know their production targets and the bottlenecks in their current production process. “Experience, along with tools such as Volvo SiteSimulation, will help you to match the right loader to the hauling units or your production process. The right machine size with the proper specification will help you keep your costs under control,” he says. Schmitt, however, cautions that the initial purchasing price will not automatically lead to the lowest cost per tonne. “Factors such as machine availability

(uptime), fuel efficiency and productivity will have a big influence on your cost per tonne as well,” he says.

Dominik Brandauer, area sales manager at Liebherr Construction GmbH, shares the same view with Schmitt, saying that one can only reach the lowest cost of ownership when they know all their workflows in their production process. “The important thing is to know where your bottlenecks are through an informed job site analysis. After the job site analysis there are few more key facts that you have to observe. These include, low downtime – coordinated size of equipment; regular and organised service and maintenance; as well as your project timeline on the job site,” says Brandauer.

Stephen McNeill, product marketing manager at Bell Equipment, says key to hitting production goals for the lowest total ownership cost is correctly determining the smallest machine capable of doing the job without overloading it, and this effectively maximises efficiency. “It is also key to use the correct linkage system and a bucket that has been correctly designed for the application as this reduces the vehicle power and traction needed to get into the material pile, which results in less tyre wear and less fuel consumption,” says McNeill. “This also



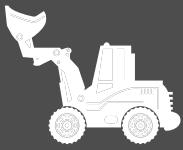
reduces unnecessary exertion on the wheel loader in general, which has a positive knock-on impact in terms of maintenance and vehicle longevity.”

Miguel Angel Torres, business director at CASE Construction Equipment Africa, says either for feeding a plant or for loading trucks, wheel loader uptime on site is the key to controlling costs. “Optimising productivity at lower total cost of ownership is best achieved through a combination of factors such as dealer backup, proper sizing, configuration of the machine, fuel efficiency and maintenance cost optimisation,” says Torres.

## Job conditions

Job conditions play a big role in the choice

## QUICK TAKE



Payload is a key metric that dictates the value of a wheel loader



A good understanding of the job conditions is key to specifying the right machine for the job



Most common reason for high costs per ton oversized machines versus the required production output



The choice of the driveline is very important for fuel efficiency



Increasing operator knowledge and skills is another way of increasing fuel efficiency



Understanding material density and the composition of the material are important for bucket selection



The Cat Production Measurement system provides an integrated payload measurement with accurate on-the-go weighing.

of a wheel loader for the job at hand. Tuntland agrees, saying that this is very significant. He is even of the view that loading tool selection is critical and should take place before "right sizing". "Factors such as underfoot conditions, face height, mobility requirements and blast fragmentation are all important factors when selecting a tool," he says.

Schmitt says if the wheel loader doesn't match the application, it is difficult to reach the required production targets, or one may not even be able to get the job done at all, for example, when undertaking block handling or log handling. "Furthermore, if the machine size doesn't match the application, you have the risk of destroying the unit or reducing the

lifetime of the wheel loader significantly," he says. "Volvo provides special application packages as ready-to-select options, making a Volvo machine perfectly ideal for specific applications, such as waste handling, block handling, rock, quarry, hot slag and long handling, among others."

According to Brandauer, job conditions are very important for the choice of the right wheel loader, because they inform several other decisions such as tyre choice, dumping height, angle of articulation, maximum height and bucket width, to mention a few. "If you know your working conditions you can also calculate service intervals or even spare parts you need for a particular project," says Brandauer.

Torres shares the same view with Brandauer, saying a good understanding of the job conditions is key to specifying the right machine to achieve the best results. He adds that underfoot conditions largely determine tyre choice, which is another significant element of ownership costs, as well as the configuration of the axle components to match either hard standing surfaces or very challenging, muddy or slippery conditions.

### Machine sizing

Not sizing the machine to meet production targets is a frequent gaffe on many sites. How best can one determine the ideal size of the wheel loader they need on site? According to Torres, a good understanding

## WHEEL LOADERS

Bell wheel loaders are direct drive vehicles with an automatic transmission and torque converter.

of job conditions includes the assessment of desired productivity, material densities, working hours, type of ground, dump heights and ramps, among other things. "It gives you the needed info for a proper machine sizing, which always starts with the key metric of a wheel loader: its payload. A proper payload choice guarantees the desired productivity and optimised costs," says Torres.

McNeil says to know the right sized machine, one needs to calculate what size of wheel loader is going to deliver the most productivity with the least idling time for a particular operation. But, how best do you get this right? Brandauer says a number of factors need to be considered. These include required capacity per day/shift/month; material filling factor of the bucket; loading cycle (distance/time); working hours per day/shift/month; idle time/breaks per day/shift/month; material density; and average speed of the wheel loader. "With these figures you can calculate the right size of the bucket, which in turn allows you to choose the right sized wheel loader," says Brandauer.

According to Tuntland, one of the most effective ways of sizing a wheel loader or any loading tool is through a site assessment. "Caterpillar and its dealers are equipped with system application specialists that can perform this assessment. For existing sites, it is very important to measure the 'as is' production capabilities. This is done by capturing various parameters from the site: cycle times, payloads, fuel burn, production per hour, haul road profiles, among others," he says. "Once this is complete, data can be compared with production targets." Additionally Caterpillar has the capability to run "to be" scenarios in its own software tool by changing parameters: loading tools, hauling units and even haul roads.

Schmitt also believes sizing the machine plays a big role. He says there is need to consider the conditions on site. "For sure, the productivity requirements for bucket size and cycle time play a major role. However, you also need to consider matching the equipment to avoid any losses in the production process, for example, due to a long loading time or



CASE's wheel loader technology has five effective electronic systems to increase machine efficiency.

idling of the hauling units in the supply chain," he says. He also believes that the daily schedule also plays a role. "Often you see during rush hours a queue of customer trucks waiting to be loaded – if it takes too long you may disturb the job site."

Schmitt adds that the most common reason for high costs per tonne are oversized machines versus the required production output. Oversized machines have a higher initial purchase price, higher running costs and usually also higher idling times. "The Volvo SiteSimulation software helps to select and define the right machine for the production targets and or hauling units. Volvo SiteSimulation makes it possible to provide different scenarios and makes efficiency gains immediately visible," says Schmitt.

### Fuel efficiency

Fuel efficiency is always one of the key considerations when choosing any piece of equipment for the job at hand. While fuel efficiency is achieved through a number of initiatives, the choice of a wheel loader's driveline plays a bigger role in the overall efficiency. "The choice of the driveline is very important for fuel efficiency. With Liebherr's hydrostatic driveline you need

less rpm to get the same output on torque as on a wheel loader with torque converter. Less rpm means less fuel consumption," says Brandauer.

McNeill says hydrostatically driven machines are generally deemed to provide better fuel efficiency advantages, but the customer pays for this with the higher capital cost, as well as repair and maintenance costs associated with the machines. "Bell wheel loaders are direct drive vehicles with an automatic transmission and torque converter. They deliver similar fuel efficiency, because it is not only the drive that impacts this, but are less complex and less costly to maintain, while being suited to all applications," says Brandauer.

According to Tuntland, overall configuration is very important when it comes to efficiency. "Just to name a few: ride control, axle oil cooler, standard lift or high lift, bucket, tyres, all have a significant impact on fuel efficiency. As you can imagine anything that slows down production will in turn decrease efficiency. Factors such as ride quality, reach, dump clearance and stability, can all have an impact on production. It's very important that the machine is configured correctly for the application," he says.



Volvo CE provides special application packages as ready-to-select options, making a Volvo machine perfectly ideal for specific applications.

Recognising the importance of the driveline to the overall efficiency of the wheel loader, Volvo is one of the few OEMs that designs and produces its driveline components in house. Schmitt says the ideally-matched, all-Volvo powertrain has been built to work with minimal power loss, adding that the OEM's design has been rigorously tested to deliver optimised performance, high productivity, low fuel consumption and reliability. "The established and proven technology has been built by Volvo for 40 years, including all in-house components and parts," he says.

Schmitt is of the view that apart from the driveline, other machine components, such as the hydraulics, have a significant impact

on fuel efficiency. "Volvo's load-sensing hydraulics, combined with the fuel-efficient Volvo engine, supply power to the hydraulic functions according to demand, to boost efficiency and lower fuel consumption. The system ensures fast response for shorter cycle times while delivering smooth operation through superior control of both the load and the attachment," says Schmitt.

Increasing operator knowledge and skills is another way of increasing fuel efficiency. "Operator training is not just an efficient way to reduce fuel consumption but also the risk of injuries and loss of production," says Schmitt.

Torres is of the view that the driveline is key, and there are many factors related to it

that affect the overall machine efficiency and uptime. "Payload is the key metric that dictates the value of a wheel loader. CASE wheel loaders have perfected the art of reducing deadweight, optimising payload versus weight. This translates into outstanding fuel efficiency and reduced maintenance costs," says Torres.

CASE's patented cooling system is also said to deliver maximum cooling effectiveness through its cube design. The technology ensures long-life for the driveline and brakes. "The heavy-duty axles of our wheel loaders are big and tough. Open differentials and multiple-disc brakes, cooled in an oil bath, reduce tyre wear by 20-30% versus limited slip differentials and decrease operating costs even further. Moreover, 100% diff-locks provide maximum traction in any condition," says Torres.

#### Bucket selection

Bucket selection also has a major impact on overall loading efficiency. According

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## WHEEL LOADERS

Operation Type	Material Fragmentation	Material Type	Impact	Bucket type							
				Abrasion							
Digging	Bank	Topsoil, Silt, Clay, Loam, Conglomerate, Coal Seam	Moderate to high	Low							
				L to M							
				Moderate							
				M to H							
				High							
Rehandling	Shot/Broken	Limestone, Dolostone, Basalt, Sandstone, Granite	Low to moderate	Low							
				L to M							
				Moderate							
				M to H							
				High							
	Crushed/Piled			Crushed/Piled	Limestone, Dolostone, Basalt, Sandstone, Granite	Low to moderate	Low				
							L to M				
							Moderate				
							M to H				
							High				
							Loose	Loose	Sand, Gypsum, Gravel, Coal, Woodchip, Waste	Low	Low
											L to M
											Moderate
											M to H
											High

Achieving the right bucket selection the Caterpillar way.

to Brandauer, several factors such as penetration of the material, length of the bucket floor, material of the bucket, filling factor, weight of the bucket or breakout performance, are very important to choosing the right bucket.

Torres says understanding material density and the composition of the material are important for bucket selection. Dense, wet or heavy material has a very different characteristic to dry, loose and light material. Therefore, knowing the material to be handled will assist in specifying the correct bucket for material volume. "Both the material to be handled and its characteristics will also help determine bucket composition in terms of the need for heavy duty, strengthened buckets used when handling very dense and/or abrasive material or larger buckets used for applications such as coal handling," says Torres.

Schmitt agrees, saying that the two major factors are the material to be loaded, for example, abrasive, blasted rocks from the face, loose, floating wood chips, among others, as well as the required dump height, for example, the side wall height of the truck or the height of a feeding hopper. "How easy or difficult it is to penetrate the material influences the bucket design and ground engaging tools, while the material density influences the bucket volume for the different machine sizes. Volvo CE offers a large range of different bucket designs to suit all applications," says Schmitt.

Volvo CE has developed a freely available app for customers and the sales force – the Volvo Attachment Selector App. The app helps to find the right bucket and also gives important information about the allowed material density for specific buckets and also the measurements of the whole machine with the selected bucket. "Choosing the right bucket is essential and has, together with the right tyre selection, a huge influence on the wheel loader performance and fuel efficiency," adds Schmitt.

According to Tuntland, key considerations when it comes to bucket selection include material density, abrasiveness, fragmentation, bucket fill factor, as well as pass match target. Caterpillar offers a broad range of bucket sizes to accommodate for densities that allow its customers to hit target payload. "We also provide additional wear packages to handle abrasive materials. The key is selecting a bucket that will meet production requirements while still providing adequate life; it's all about finding the right balance," says Tuntland.

Dave Worth, engineering project leader, Work Tools at Caterpillar, adds that the key considerations when it comes to bucket selection are operation type, material fragmentation, material type, material density, impact and abrasion properties. "These factors enable the correct bucket choice to maximise loader performance and efficiency, while minimising machine downtime and operating costs," says Worth.

Due to its understanding of the importance

of a bucket in the overall performance of a wheel loader, Caterpillar has introduced a number of innovative designs on its bucket offerings. Performance series buckets have really changed the design. "By adding floor length, opening the throat and improving set back angle, our buckets now have very efficient loading and higher fill factors. The benefit is increased tonnes/litre or tonnes/gallon," says Tuntland.

McNeill says when considering bucket choices, it's important to take into account the material being loaded and the type of surface that the loader will be loading on. "Loading on concrete, for example, requires a straight edge for cleaning up. If you are going to load materials of differing densities, it is advisable to spec the bucket according to the heaviest material it will be required to handle," he says. The bucket cutting edge design should also match the material being loaded, looking at the angle of penetration of the side cutters and the radius of the bucket to ensure the best penetration into the pile and efficient rolling of the material to get a consistently full load."

Bell Equipment understands the importance of a bucket to a machine's overall efficiency in a particular application. "We have been manufacturing buckets at our factory in Richards Bay since the 1980s and offer a wide range of seven different bucket choices for each machine in our range, to suit material densities, abrasiveness and unique customer applications. A properly matched bucket, coupled with adequate lift capacity and dump height, could mean fewer passes to fill a truck or build a stockpile," says McNeill.

### Key innovations

Many OEMs have invested in several electronic features on their wheel loaders to optimise efficiency, such as auto-shutdown, selectable power modes and on-board load scales, among others. Mark Robinson, Engineering Specialist – Large Wheel Loaders at Caterpillar, says the Cat Production Measurement (CPM) system provides an integrated payload measurement with accurate on-the-go weighing. "CPM enables operators to eliminate underloading and overloading, optimising both production and fuel consumption for a more efficient load cycle. Recorded payload weight and cycle count data can be used to generate production and efficiency records for tracking machine utilisation and maximising site efficiency," says Robinson.

Bryan Vogt, Product Application Specialist – Medium Wheel Loaders at Caterpillar, adds that Economy mode combines the fuel efficiency of manual throttle with the ergonomics of the OEM's traditional throttle lock feature. The engine is automatically controlled to the optimal speed by the machine



using the operator inputs, delivering fuel efficiency improvements of over 20% in certain applications. "Configurable idle management strategies reduce fuel consumption when the machine is idle. Engine idle shutdown saves fuel by stopping the engine to avoid unnecessary idling, while automatic idle kickdown will reduce the engine speed during pauses in the work cycle and automatically increase the engine speed when the operator resumes operation," says Vogt.

According to McNeill, Bell loaders have a programmable clutch cut-off that increases productivity in all kinds of conditions. Engaging the brakes disconnects the transmission while maintaining high engine speed for smooth dumps, fast cycles and no machine rollback. "Boom-height kick-out sets maximum desired dump height, while return-to-carry determines lowered boom position. Using these features speeds up production in repetitive loading applications," says McNeill.

To maximise uptime, Bell loaders have an automatic park brake and bypass-start protection, while the sealed switch module in the cab keeps out dust, moisture and debris. This marine-grade touchpad eliminates rocker switches and nearly 100 wires and unsealed connections.

Volvo CE's Optishift technology combines the company's patented Reverse-By-Braking (RBB) technology, with lock-up available from first to fourth gear, to boost productivity and efficiency in all applications. "Lock-up creates a direct drive between the engine and transmission – eliminating power losses in the torque converter and reducing fuel consumption by up to 18%," says Schmitt.

Volvo's RBB is ideal for short cycle or truck loading applications. When the operator



Liebherr develops electronics and software for its wheel loader range in-house, resulting in an efficient operation of all hydraulic functions.

changes direction, the RBB function senses the loader's direction and slows the machine by applying the service brakes automatically. This increases fuel efficiency, improves operator comfort and increases machine lifetime. "From this autumn onwards, we will implement an updated Optishift on our larger wheel loaders with a new gear shifting strategy for further fuel efficiency improvements," says Schmitt.

CASE's wheel loader technology has five effective electronic systems to increase machine efficiency, says Torres. Power modes include Eco, Standard, Heavy and Auto. The correct mode selection in each application will provide optimal efficiency. Automatic low idle: when the machine is idling for more than 60 seconds, the engine drops its rpm and saves fuel. Automatic shut-off: when the machine is idling for more than five minutes the engine automatically shuts down and provides additional saving

on fuel and maintenance costs. Ride control: when the machine travels with a full bucket over bumps and holes, the ride control system suspends the bucket and optimises material retention throughout the whole working cycle. It also results in additional operating comfort. "Our automatic variable speed reversible fan system allows for automatic self-cleaning of the radiators, reinforcing cooling effectiveness and reliability," says Torres.

Liebherr develops electronics and software for its wheel loader range in-house, resulting in an efficient operation of all hydraulic functions. "With the inching pedal, the power of travel hydraulics is reduced, which prevents the wheels from spinning, increasing the power on the working hydraulic. The inching pedal makes it possible to control the tractive and thrust forces effortlessly at full engine speed," concludes Brandauer. ☺

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Fuel consumption was carefully monitored by HPE Africa's technical staff and was **verified by the client**. At the end of the 14 day period the R200LC-9S achieved an average fuel consumption significantly below the expected **nine litres per hour**.



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At the launch of the new Hyster® XT series in Johannesburg. BHBW deputy CEO Boikanyo Mazibuko congratulates Paul Kruger from United National Breweries on the purchase of 30 XT LPG forklift trucks. With them is Rory Lord, BHBW sales director.



New Cape Town XT owner Muneeb Ahmed from Build it Eerste River clinches the deal with Boikanyo Mazibuko from BHBW, with Adnaan Wise, BHBW regional sales manager (Cape Region), looking on.

# HYSTER® XT SERIES HAS WIDE APPEAL

**The Hyster® H2.0-3.0XT series of counterbalance forklift trucks has received a thumbs up from customers looking for more choice to match their operational needs and budget. Competitively priced, tough and durable, the XT series is delivering new value in the two to three tonne segment of the local lift truck market.**

**S**outhern African Hyster® and UTILEV® dealer BHBW (previously Barloworld Handling) introduced the Hyster® XT series to the market at launches held in Johannesburg, Cape Town and Durban earlier this year. Judging from the warm welcome it received, the new series will have a wide appeal, says Boikanyo Mazibuko, deputy CEO of BHBW.

The Hyster® H2.0-3.0XT is a back-to-basics lift truck reminiscent of the hugely popular Hyster® XM series and manufactured to the highest quality standards. "Designed to suit the majority of everyday applications in logistics, distribution and manufacturing, it adds new depth to BHBW's lift truck offering," says Mazibuko.

"With the XT series, we now offer our customers a three-tier choice in the two to three tonne capacity segment, which we believe is unique in the local market. The XT slots in perfectly between our flagship Hyster Fortens® series, aimed at customers running long or multiple shifts or intense operations, and the UTILEV® range, designed for simple, everyday materials handling and lighter-duty applications.

"This gives customers an even greater opportunity to specify the forklift that best meets their application and bottom line, while being able to rely on high levels of aftersales support from one trusted supplier."

The XT series is available in three models with diesel, LPG or dual fuel (LPG/petrol) engines. Designed for maximum uptime while offering a continued low cost of ownership, it is productive, fuel efficient, easy to service and reliable. With Hyster® and BHBW support in the aftermarket, it will give long life and good residual values.

## Greater performance

Built using proven, high-quality Hyster® components,

the XT series offers reliable performance. Featuring industrial engines, power is delivered efficiently over a 10 000-hour design life, helping to reduce lifetime costs. Servicing the XT series is simple, and with all Hyster® parts readily available, this helps to drive efficiency and keep costs low, says Mazibuko.

Loads are moved quickly thanks to powerful tractive and hydraulic systems. With excellent rigidity and low settling times at elevation, the Hyster® masts give precise and confident operation with lift heights up to 6 m.

Operator comfort is enhanced by reduced noise and vibration due to the isolated drive train. Full suspension seats and well-placed controls further aid comfort and productivity.

To assist in fleet management, the XT series comes standard with a factory fitted telemetry system. Customisation options include 4<sup>th</sup> function hydraulics where attachments are needed, traction speed control, light kits and a side-shifting fork positioner.

The XT series is manufactured in the Hyster factory in Craigavon, Northern Ireland. The Craigavon factory has produced many innovative Hyster® products, including the world-renowned Hyster® FT range, over the past 35 years and the XT series builds on this legacy, says Mazibuko.

"Hyster focuses on providing application-specific lift truck solutions so that customers can derive the best value from choosing exactly the right truck for their environment. The XT series takes our ability to provide solutions tailored to different operational requirements to the next level."

**For more information, please contact your nearest BHBW branch, call 0860 HYSTER (497837) toll-free or visit [www.hyster.co.za](http://www.hyster.co.za).**



BHBW training manager Jakes Kruger illustrates the lift height (up to 6 m) of the Hyster® XT series at the Durban launch.

In 2015, Bell Equipment introduced the first Terex Finlay dual power crushing and screening train to the African market.



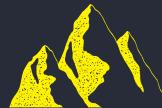
KEY BENEFITS OF DUAL-POWERED SOLUTIONS



Less maintenance on electric drive components



Rapid set up time



Offer superior performance in dusty applications and in high altitude environments



Savings of up to 50% when powered via an onboard generator



Savings of up to 75% when connected to mains electricity

# BEST OF BOTH WORLDS

Primarily due to its mobile and versatile nature, mobile crushing equipment has taken a very important place in operators' portfolios, especially crushing contractors. But, with challenging operational conditions driving changes in priorities, fuel savings and energy efficiency have also become major factors in influencing buying decisions. To meet the growing demand for flexibility in power source configurations, several leading OEMs have introduced dual-powered crushing solutions, writes *Munesu Shoko*.

There is considerable rise in popularity of mobile crushing solutions in the African marketplace, primarily due to the versatility and mobility many users of this gear require, notably crushing contractors. But, as mobility and versatility

alone may not be sufficient to offer profitable solutions, fuel savings and energy efficiency have also become major factors in influencing buying decisions.

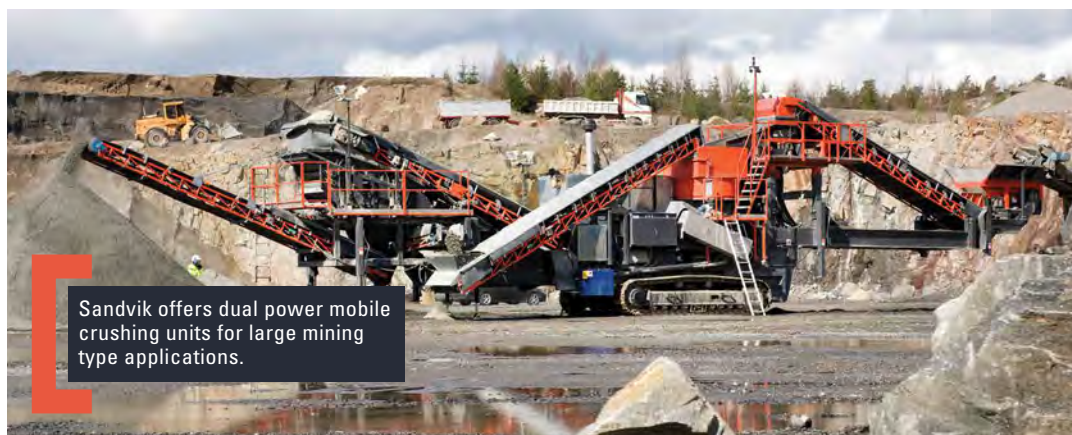
To offer customers the flexibility to operate fully mobile crushing equipment that can be powered from mains electricity or run self-powered where needed, several original equipment manufacturers (OEMs) have introduced a range of dual-powered solutions to meet customer's demand for various power-source configurations.

Dual-powered crushers are both electrically and hydraulically driven, giving customers an alternative energy source to operate their range of equipment. Dual power crushers are fitted with an electric/ hydraulic drive system that can be connected to an external electricity supply once the machine has been set up on site. These machines can also be fitted with an onboard generator, allowing the operator to electrically power the machine, even where there is no mains electricity supply.

The dual power system provides flexibility



Kleemann's dual power offerings can be refined to any country's specific requirements.



Sandvik offers dual power mobile crushing units for large mining type applications.

to address a number of challenges and opportunities. Once positioned onsite and connected to an external electric power source, the unit can be switched to operate on electricity, meaning it will have zero emissions, while retaining all the benefits of a mobile machine.

Some of the names that come to mind as far as this technology is concerned include Sandvik Mining and Rock Technology, Terex Finlay, Metso, Kleemann, Powerscreen and Keestrack, to mention a few. In 2015, Terex Finlay launched dual powered variants of its existing J-1175 jaw crusher and C-1540 cone crusher. The two machines joined the Terex Finlay 694+ dual powered inclined screener that was launched early in 2014. Introduced locally by local dealer, Bell Equipment, the product launches meant that Terex Finlay could now offer operators a full mobile crushing and screening train that can be powered from mains electricity and had the flexibility to run self-powered if required.

According to Sandro Scherf, CEO of Pilot Crushtec International, the exclusive dealer of Metso in southern Africa, Metso was the originator of dual-powered machines and these are offered across its range.

Kleemann has, over the past decades, refined its technology behind its dual-powered offerings on both mobile crushers

and screens. According to Mike Newby, sales engineer – Mineral Technologies at Wirtgen South Africa, Kleemann's dual power offering can be refined to any country's specific requirements in terms of voltage and hertz.

Keestrack started with its electrically-driven screening gear in 2012, followed in 2013 by the introduction of its R6e hybrid impact crusher and electrically-powered tracked mobile stackers. Marcel Kerkhofs, marketing manager at Keestrack, says the company has since continued its innovation by launching the H4e full hybrid cone crusher with optional pre-screen and 3-deck afterscreen with return conveyor at Bauma 2016. Today, Keestrack has 75% of its tracked mobile equipment available in hybrid drive, and Kerkhofs says more will follow in the near future.

### Slow uptake

Despite the apparent advantages offered by dual-powered crushing solutions, there has been a very slow uptake of this technology locally. Bell Equipment launched the first Terex Finlay dual-powered train in 2015, and product marketing manager, Stephen McNeill, tells **Capital Equipment News** that the response to the technology has been slower, mainly because shortly after launching in 2015, the oil price decreased.

"The initial capital cost of the dual power units is much more than their regular counterparts, so the decrease in oil price, which affects fuel prices, essentially means that it takes longer for the dual power units to pay for themselves," says McNeill.

That being said, McNeill believes that there is opportunity in the local market, especially considering that the option offered by dual power units to run machines on electricity significantly lowers production costs and delivers a lower cost per tonne. "The two demo units we brought into the country have been sold into Zambia, where the customer is impressed with the production rate and the efficiency in terms of running costs," says McNeill. "The customer reports that the Finlay Dual Power units burn half the diesel of a competitor's unit."

Kerkhofs agrees with McNeill, adding that most people are reluctant to change, and initially want to stick with the technology they know. "But, when the benefits have been explained enough and the productivity has been proven, they eventually change. Our customers who have experienced the benefits of this technology don't want to change back to conventional machines as the new technology gives them more profit and increased flexibility," he says. To date, Keestrack has over 120 hybrid machines operating in the



Metso offers dual-powered variants across its wide product range.



Keestrack has over 120 hybrid machines operating in the field globally.

field globally. “Our hybrid sales have rocketed from 3% to 18% in few years.”

Glenn Schoeman, Sandvik Mining and Rock Technology BLM – Central & Southern Africa, says there hasn’t been a major shift towards dual power mobile crushing units, despite the flexibility promise of this technology. Sandvik offers dual power mobile crushing units for large mining type applications. Sandvik manufactures a small but specific range of dual power mobile crushing units, and these comprise the UJ640, UJ540 and UJ440 primary jaw crushers, as well as UH640, UH540 and UH440 secondary/ tertiary cone crushers.

Scherf says due to many factors, including the power shortages in recent years, the uptake of dual-powered machines has been very slow, adding that there are less than 10 Metso dual-powered machines operational in the local southern African market.

**Understanding dual power**

According to Newby, when a machine is fitted with a dual power option, it means you can stop the engine and connect to an external power source (grid power or generator). “This means you are burning no fuel to run the machines. It is much cheaper,

and of course, more environmentally-friendly with zero exhaust emissions,” says Newby. “There is also no need to stop the machines for refilling purposes, ensuring uninterrupted production. There are no fuel trucks required, thus making the area safer because of less traffic running around the site.”

The benefits of the electrical drive function are also reiterated by McNeill, who says dual-powered crushers are electrically driven, allowing users to run from an external electrical supply with the aim of giving significant savings on energy costs.

McNeill says the Terex Finlay dual power range is fitted with an onboard gen-set, which allows the operator to move and power the machine electrically where there is no mains electricity supply, offering more flexibility and versatility over standard models. “Either power option presents operators with significant power, servicing and maintenance cost savings in direct comparison to diesel/hydraulic powered plants,” says McNeill. In applications where a full Finlay train is powered by the onboard gen-sets, the J-1175 jaw crusher can generate sufficient energy to run the +694 dual power inclined screen “for free”.

According to Kerkhofs, the most obvious

benefit of using an electrically-driven crusher is the fuel savings and energy efficiency, which can pay for the complete machine investment. This view is shared by Newby, who says, for example, if you are running four machines in a complete crushing train, you are utilising four engines – one for each crusher or screen. “You could be burning between an estimated 80-150 l of diesel fuel per hour. Compare that to the power used via electricity that is required for the same machines, and it is a significant saving at the end of the day,” says Newby.

Speaking of efficiency, Kerkhofs adds that electric drives offer 98% efficiency compared to their hydraulic counterparts. “However, at Keestrack we have always used load sensing hydraulics and we already had 25% fuel savings in our diesel/hydraulic drives compared with some of the competition. But, when comparing our own diesel/hydraulic with diesel/electric drive, we have realistic fuel savings of 20-25%,” says Kerkhofs. “When comparing to competition, who do not use load sensing hydraulics systems, the savings are around 30%.” Kerkhofs says electrically driven machines provide even greater scope for savings of up to 50% when powered via the onboard generator and 70% when connected to the mains.

**Different view**

While Schoeman agrees that the savings of running dual powered crushers can be quantified through diesel costs, maintenance costs, reliability versus diesel powered crushing plants, he argues that these machines are still not competitive versus electrical static crushing units. “The capital outlay of dual-powered mobile units is more expensive than diesel-powered crushing units and electric static crushers,” he says.

Kerkhofs shares a different view, arguing that calculations have proved that despite the bigger initial investment, return on investment on electrically-driven machines is earned back faster, mainly due to the huge fuel savings.

Scherf is of the view that if electric power is available during operation, then there are substantial diesel cost reductions. However, he argues that when running an onboard generator there isn’t much fuel efficiency benefits, particularly if machine components are still driven by hydraulics. “However, if the machine has an onboard gen-set and all sub components are driven electrically, then some 10-15% efficiency can be gained,” says Scherf. “If external power from an electrical source is available, then the operating costs for the diesel engine could be eliminated, which could result in savings of about 15-20%,” concludes Scherf. 🌱



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Our solutions offering is based on an essential understanding of the global construction industry. This has enabled us to develop a thorough understanding of the business, which allows us to provide you with the equipment you need to achieve your goals. Helping you to maximize your profitability all our equipment is backed by a world-wide network delivering on-site service, project simulation, training and round-the-clock support.



Barlworld Equipment recently announced an agreement with Caterpillar to establish a retail parts operation in the newly-built Caterpillar Parts Distribution Centre in Kempton Park.

## FROM PRODUCTS TO SOLUTIONS

**This is the golden age of services, and to survive and prosper, the capital equipment supply chain is transforming into a service-centric sector, moving away from just supplying products to offering end-to-end solutions. Although companies still push products, there is now a bigger focus on delivering the value that customers get out of using those products, writes Munesu Shoko.**

### KEY TALKING POINTS

- Equipment suppliers making big investments into aftermarket structures
- Babcock invested R100 million in an ultramodern sales, parts and service dealership in Middelburg, Mpumalanga
- Volvo Group Southern Africa inaugurated an upgraded R60 million integrated regional parts distribution centre in Boksburg
- Caterpillar, its independent dealers and the Caterpillar Foundation to invest more than \$1 billion in countries throughout Africa over five years
- Wirtgen Group invested in excess of R50 million into a new facility for its Wirtgen South Africa subsidiary in Pomona, Gauteng

With demand slowing, competition intensifying and profit margins imploding, the capital equipment supply chain is changing its approach, placing more focus on offering solutions instead of just products. It is evident that selling spare parts and aftersales services such as conducting repairs; installing upgrades; reconditioning equipment; carrying out inspections and day-to-day maintenance; offering technical support, consulting, and training; are becoming a munificent source of revenues and profits.

In several industries such as commercial vehicles, industrial machinery, and 'yellow' and 'white' metal equipment sectors, to mention a few, suppliers have sold so many units over the years that their aftermarkets have become up to 10 times larger than their current original equipment businesses. As a result, OEMs and their dealers realise that ignoring the promise of aftersales services is imprudent, to say the least.

Investments into local support structures by several OEMs and their dealers are testimony that services, especially parts and maintenance, are the future of the industry as end users are also now forced to keep their current equipment and vehicles longer, which means they also require added maintenance and service support.

### Investments abound

Offering a quality product is one thing, and being able to offer crucial backup support once it is operational in the field, is quite another.





Servicing is a very important aspect of equipment lifecycle. A well-maintained piece of equipment means less downtime, higher productivity and lower costs for the equipment owner.

Based on the continued understanding of these fundamental principles, several OEMs and their local dealers have recently invested substantial amounts of money into their local support structures.

Babcock, the exclusive southern African dealer for Volvo Construction Equipment; Wirtgen South Africa, a subsidiary of the Wirtgen Group; Burgers Equipment & Spares, LiuGong's dealer for South Africa and Namibia; the Volvo Group Southern Africa; as well as Caterpillar and its southern Africa dealer, Barloworld, are some of the companies that have recently ploughed astronomic investments into new local facilities that significantly improve their capabilities to support their customers.

As a service-centric company that continues to invest in improving its service delivery, Babcock recently made a mammoth R100 million investment in an ultramodern sales, parts and service dealership in Middelburg, Mpumalanga. This is to offer improved regional support and service across Babcock's construction and mining equipment customers operating in the coalfields of Mpumalanga, according to Ben Buys, technical director at Babcock's Equipment division.

Meanwhile, the Wirtgen Group also

recently invested in excess of R50 million into a new facility for its Wirtgen South Africa subsidiary in Pomona, Gauteng. At the time of the official launch, Heinrich Schulenburg, MD of Wirtgen SA, reiterated that the investment gives the company the much needed infrastructure to support its southern African customers. "We now have a facility that suits the needs of this market and gives us the opportunity to address those demands in a professional and competitive way," said Schulenburg.

Burgers Equipment & Spares' recent move to a larger, own facility in Pomona, Gauteng, is part of its overall strategy to elevate customer service through off-the-shelf spare parts availability, according to Nico Thompson, branch manager of the company's recently opened Rustenburg branch. Burgers Equipment & Spares' Pomona facility is further complemented by a recent footprint expansion with new branches in Cape Town, Rustenburg and Polokwane.

Meanwhile, the Volvo Group Southern Africa also inaugurated an upgraded R60 million integrated regional parts distribution centre in Boksburg, Johannesburg, South Africa in recent years. The 13 000 m<sup>2</sup> facility, formerly a 4 500 m<sup>2</sup> warehouse, now serves Volvo's African markets south of the equator, including the whole of southern Africa, excluding Angola, as well as countries such as Tanzania, the Democratic Republic of Congo and Kenya.

Elsewhere, Barloworld Equipment recently announced an agreement with its principal, Caterpillar, to establish a Barloworld Equipment Cat retail parts operation in the newly-built Caterpillar Parts Distribution Centre in Kempton Park near Johannesburg. Barloworld Equipment, the official dealer of Caterpillar products and services in 11 southern African countries, will consolidate over-the-counter aftermarket parts activities from Linbro Park and Isando into the new location. The pioneering collaboration is said to be a demonstration of Caterpillar's and Barloworld Equipment's combined commitment to provide unmatched aftermarket service to customers in the region.

#### Trusted to deliver

According to Buys, aftermarket is conceivably the most important part of Babcock's business. "We believe that we have to earn the right to sell the machine by offering a high standard of support, hence our 'trusted to deliver' strapline," says Buys.

Babcock was crowned Volvo CE's Dealer of the Year 2016 in Region EMEA Hub South (Continental Africa and Middle East & Turkey). The accolade is reflective of Babcock's capabilities as a force to be reckoned with among Volvo CE's global dealers. The award is based on 2016 achievements in market share growth; parts sales growth; and Customer Support



The Wirtgen Group recently invested in excess of R50 million into a new facility for its Wirtgen South Africa subsidiary in Pomona, Gauteng.



Burgers Equipment & Spares' recent move to a larger, own facility in Pomona, Gauteng, is part of its overall strategy to elevate customer service through off-the-shelf spare parts availability.

Agreement growth. Dealers' overall commitment, willingness to invest and use of Volvo CE tools and participation in other programmes were also taken into account.

"Our Dealer of the Year award did not come easily. Criteria used includes aftermarket growth, sales market share, customer satisfaction and loyalty, dealer network strategic positioning, staff training and a host of other considerations, all focused on delivering a better experience for our customers," says Buys.

Some of the notable initiatives by the company during the period included bulk purchasing of parts in order to drive costs down; no increase in some of the labour charge categories; and the development of a comprehensive service exchange component offering, again with a view to drive costs down.

Highly regarded by its customer base across southern Africa, Babcock offers a full menu of support services to a wide range

of customer applications. Services can also be tailored to suit customer requirements. "These range from 'power by the hour' contracts to man on site, parts consignment on site, lube supply on site to full RMC contracts. The duration of these contracts is also tailored to customer requirements and location," says Buys.

Buys sees aftermarket as a growth sector as the skills shortage and rapid advancement in machine technology all but makes it impossible for customers not to use the specialist skill and information available at the dealer. The use of newer technologies is also helping ease maintenance issues, and Babcock is among one of the technologically advanced dealers in the local market. "Rapid development in machine technology, particularly the use of electronic controls and remote monitoring systems have opened up new avenues of fleet monitoring and remote troubleshooting," says Buys.

"In order to make use of the technology

available, we have invested in people and created a department focused on monitoring fleet activity and to produce instructions to a support centre closest to the machine. This is to ensure a rapid response to fault detection or service requirements. This often happens prior to the machine owner becoming aware of an impending issue. Technology is thus used to aid productivity and reduce the owning and operating costs," adds Buys.

Willingness to invest is one of Babcock's key strengths in its quest to strengthen its aftermarket capabilities. Buys says recent investments include the new high tech Middelburg facility, an increase in component inventory and the continued investment in people and their training.

The recent R100 million investment in a state-of-the-art facility in Middelburg, Mpumalanga is one of the mega money investments the company has made in recent years. "From this flagship branch we can deliver improved service to our customers in the Middelburg region and achieve faster turnaround times," says David Vaughan, MD of Babcock's Equipment division. "We are proud to have created an environment conducive to productivity from where we can continue building good relationships with our customers based on trust and excellent aftersales support."

### End-to-end aftermarket

Caterpillar and its southern African dealer, Barloworld Equipment recently took a big step forward towards further improving aftermarket support for customers in the region. As part of the previously announced plan of Caterpillar, its independent dealers and the Caterpillar Foundation to invest more than \$1 billion in countries throughout Africa over five years, the OEM has invested in a new Parts Distribution Centre in Kempton Park, near Johannesburg, from where its dealer, Barloworld has also established its Cat retail parts operation.

Caterpillar and Barloworld Equipment conducted a joint supply chain study uncovering multiple benefits of co-locating operations at a new site. The pioneering collaboration is a demonstration of Caterpillar's and Barloworld Equipment's combined commitment to provide unmatched aftermarket service to customers in southern Africa. "Together we continue to deliver on the long standing commitment to support our products through the aftermarket supply chain while building on Barloworld Equipment's 90-year history of serving customers in southern Africa," says Emmy Leeka, CEO of Barloworld Equipment.

"The arrangement is the first of its kind in the Caterpillar network and further

improves our industry-leading aftermarket parts distribution network across the region. The initiative is another example of our close collaboration and partnership with Barloworld Equipment by leveraging our parts inventory data to significantly improve the Caterpillar customer experience," says Chris Monge, manager of Caterpillar's southern African office in Johannesburg, South Africa.

According to Bonnie Fetch, Cat Parts Distribution director, the increased collaboration between Barloworld Equipment and Caterpillar gets replacement parts to customers in the region as quickly as possible. "This is extremely important as it allows our customers to reduce idle time and save money. When our customers win, we all win."

Caterpillar's operations were planned to open doors in the second quarter of 2017. At the time of writing, Barloworld Equipment's operations were due to commence early in the third quarter of 2017. Barloworld Equipment will occupy a surface of 3 500 m<sup>2</sup> of the 60 000 m<sup>2</sup> Caterpillar Distribution facility.

#### Further investments

Officially opened in February last year, Wirtgen SA's R50 million new facility in Pomona was part of the Wirtgen Group's

on-going investments into several capital projects in the global market, driven by the group's "Closer to our customers" motto. Speaking at the official opening, Jürgen Wirtgen, president of the Wirtgen Group, said the group recently invested billions of Euros into the expansion of its various facilities and factories internationally to improve service to customers. "For us, it's not only important to sell machines, but to be able to provide first-class service and training as well."

Wirtgen SA previously occupied a 2 500 m<sup>2</sup> piece of land and the new facility occupies a massive 20 000 m<sup>2</sup>. Office space has been increased from 860 m<sup>2</sup> to 2 500 m<sup>2</sup>. Overall, the new facility represents a massive 300% increase in space.

"It's a step forward for us. It's a new chapter in our history. We have essentially tripled warehousing and storage space and dramatically increased the maintenance workshop capacity. That allows us to better service our customers," says Schulenburg.

"We have also created more space in the yard to be able to stock more relevant products and maybe even products that have never been available for this market before. We have set ourselves some ambitious targets. Even though the market is in a declining phase, we believe we can

increase our market share."

Meanwhile, the Volvo Group Southern Africa's investment into an upgraded R60 million integrated regional parts distribution centre in Boksburg, Johannesburg, South Africa in 2015 was meant to facilitate speedy parts deliveries, more streamlined and efficient operations, as well as increased warehousing capacity for Volvo's brands, according to Torbjörn Christensson, president of the Volvo Group SA.

"As Volvo Group SA, we believe that the merger of our warehouse facilities under one roof will enable us to better support the company's future growth within southern and East Africa," said Christensson, at the time of the launch. "It is therefore a strategic investment in our future and will enable us to support our customers more efficiently and timely, especially in light of the significant volume growth our brands have experienced over the last couple of years."

The integrated parts centre is an upgrade of the old facility. Storage area was increased from 4 500 m<sup>2</sup> to 13 000 m<sup>2</sup>. Height of the building was also increased from 7 m to 8,5 m. The Volvo Group SA's new regional parts centre consolidates previously three different facilities, and has significantly reduced logistical costs. 🌐

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# BACK TO BASICS



**In a recent key structural change, Osborn Engineered Products SA has discontinued the dealership of non-core asphalt, paving and drilling products. At the centre of the new development is the company's decision to refocus on its core Aggregate and Mining business. This is part of the local manufacturer's new customer-centric approach that seeks to offer an upgraded and technologically-advanced product range to improve productivity, safety and, more importantly, profitability for its core aggregate and mining customers, writes *Munesu Shoko*.**

Osborn Engineered Products SA, part of the Astec Group, recently announced its decision to discontinue the representation of Astec Inc. and Roadtec's asphalt and paving products in southern Africa, effective June 2017. In an exclusive interview with **Capital Equipment News**, Noel Bassler, sales director at Osborn Engineered Products SA, explained that the decision will allow the company to focus on its core Aggregate and Mining products.

"Strategically, a decision to remain focused on the core products for the Aggregate and Mining industries has necessitated us to discontinue certain non-core product dealerships," says Bassler.

"The reason we have ended the representation of the non-core products is that we want to concentrate on our core Aggregate and Mining markets, which

we have been servicing for almost 100 years now," says Martin Botha, product development director at Osborn.

### **Understanding the background**

Osborn has been providing crushing, screening and related products to the mining and quarrying industries since 1919. In the past 10 years, the company took on board a range of asphalt and paving products from its sister companies that form part of the Astec Group. Astec had hoped to leverage Osborn's existing footprint on the continent to develop these products in the local market.

Osborn initially brought in Canadian-based Breaker Technology Industries' (BTI) range of rock breakers, before taking on board Astec's US-based KPI-JCI and AMS products, more crushing and screening oriented. The company later marketed Roadtec's mobile

paving product range, and recorded most success with the Shuttle Buggy, a groundbreaking material transfer vehicle concept that revolutionised the road construction sector.

In future, both Bassler and Botha reiterate that the respective principals will deal directly with customers when it comes to new equipment sales, but Osborn will continue to support all the products from an aftermarket point of view. "Osborn will take full responsibility of spare parts and aftersales service to ensure full customer satisfaction, but will forward any new equipment and plant enquiries received to the appropriate company representatives," says Bassler.

Meanwhile, Osborn will keep some of the Astec Inc. products that are in line with its aggregates and mining business. "We will continue distributing aggregate and mining-



Osborn has been providing crushing, screening and related products to the mining and quarrying industries for almost 100 years.

related products from BTI, KPI-JCI and AMS. We will only bring special products from their ranges that we don't make locally. These include high frequency screens, as well as horizontal and vertical shaft impactors," says Botha.

Osborn will continue with the TelSmith product range, which is its main principal. "This is our main product licence which we have had for the past 60 years. We will continue to manufacture their product range in our local factory," adds Bessler.

### Change in focus

The change in focus – which has been seeded by Osborn's new managing director, Johan Goosen, who joined the company earlier this year, will be led by Botha, who boasts over 30 years of experience in the business. The main driver behind it is helping Osborn's core aggregate



Martin Botha, product development director at Osborn (left), and Noel Bessler, sales director at Osborn Engineered Products SA.

and mining customers improve their productivity, safety and profitability. This will be achieved through an enhanced in-house engineering process that will result in an improved product range with all the "bells and whistles" of modern equipment that gets the job done efficiently, safely and cost effectively.

Due to a carefully investigated improvement process of the in-house engineering procedures, the product upgrades will be implemented in a manner that will not compel major price increases, says Botha.

"The whole idea is to better our product range. We felt that by not concentrating on a diverse range of products, we can put more focus on our core offerings, and be able to modernise and upgrade them in line with customer expectations," says Botha, adding that the new venture is actually about surpassing customer expectations.

"Our new focus will allow us to develop machines that will exceed what our customers envisage out of our products, all the way from productivity, reliability, to serviceability and safety," says Bessler.

At the heart of the new era is also a big focus on safety. "We have a very big safety drive. It's not just safety within our company, but also across the products that we offer. We want our products to be operator-friendly, maintenance and service-friendly, which enhances safety on sites," says Botha.

Bessler sums up the thinking behind the new approach. "The focus is on safety, serviceability, quality and modernisation. It's about cost effective manufacture of technically advanced machines that are still competitively priced," he says. "We have always been renowned for producing robust and reliable equipment. We won't be losing that attribute, but we want to make it more efficient. We will produce the same quality and reliable machines, but with a whole lot of features aimed at further improving productivity and safety," adds Botha.

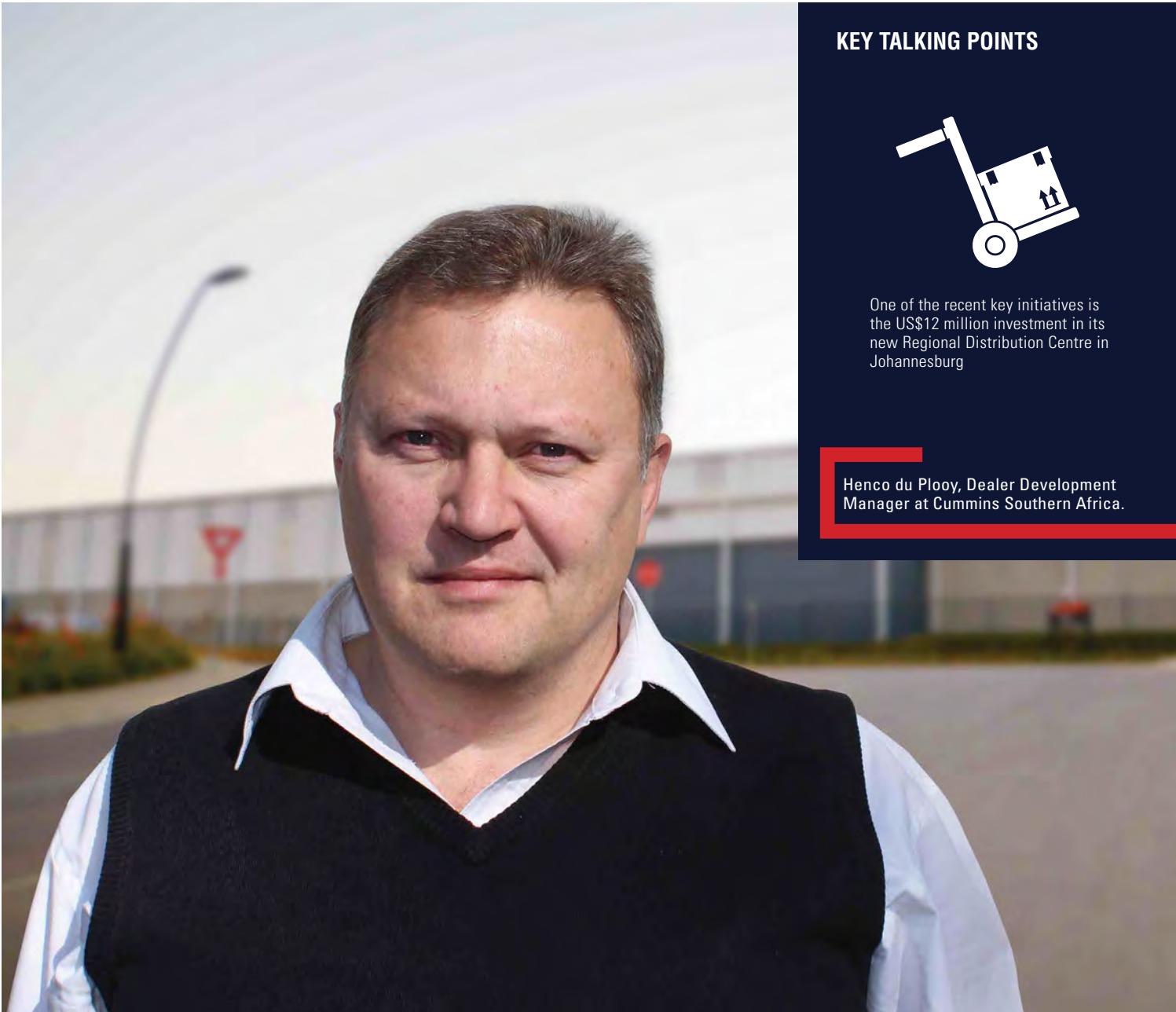
### Aftermarket is key

Bessler says the new engineering approach will also focus on driving parts commonality across Osborn's diverse product range. This will allow the company to provide fewer line items across its diverse range of products that includes jaw crushers, cone crushers, vibrating and grizzly feeders, screens, washing equipment, horizontal and vertical shaft impactors, as well as modular plants.

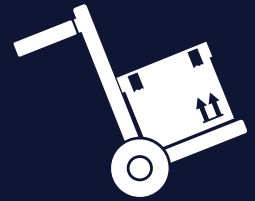
Already, Osborn keeps a very large stockholding of parts, because aftermarket is such a big venture for the company, especially considering that it has a very large installed base of machines that have operated in the region over the past 60 years. "We have some very old machines, with some hitting the 40-50 year mark, and still operational in the field. While we have stopped manufacturing some of these machines 30 years ago, for example, we still keep parts for these machines to support our customers who still stick to these products," says Botha.

A big parts stockholding is also complemented by Osborn's widespread representation across the continent, as well as internationally where it leverages the Astec Group footprint. In South Africa, the company has representation in all major provinces. This allows it to support major customers in all the key mining destinations.

Mining, which accounts for 50% of its business, represents a big chunk of Osborn's installed base in the country. According to Bessler, Osborn has machines operating across all commodities, including coal, kimberlite, gold, diamonds, platinum, iron ore, manganese, as well as ferrochrome, where Osborn holds a leading share of the very specialised application. "The other new market we have managed to penetrate in the past five years is the industrial minerals segment," concludes Bessler. 🌟



KEY TALKING POINTS



One of the recent key initiatives is the US\$12 million investment in its new Regional Distribution Centre in Johannesburg

Henco du Plooy, Dealer Development Manager at Cummins Southern Africa.

## REITERATING THE POWER OF AFTERMARKET

**In the face of a ferociously volatile global economy, Cummins' 98-year old engine business continues to fire from all cylinders, not solely on account of a tried and tested product, but more importantly due its solid focus on its aftermarket structures. This, according to Henco du Plooy, Dealer Development Manager at Cummins Southern Africa, is heralded by the company's US\$100+ million investments into growth and support projects in Africa in the past seven years, writes *Munesu Shoko***

**Munesu Shoko (MS):** You are the force behind Cummins' aftermarket business in southern Africa. Tell me more about your mandate in your dealer development role.

**Henco du Plooy (HdP):** My mandate is basically to identify suitable aftermarket support and sales channels into the region. I then develop them to adhere to the Cummins global service provider

standards. Cummins is a global entity operating in 190 countries worldwide and we believe it is important that aftermarket adheres to one common standard.

I look after 11 countries in the region, all the way from Namibia, Botswana, Zimbabwe, Zambia to Madagascar and Mauritius. We view South Africa as probably the most stable economy for Cummins in the region at this stage and is therefore used as our springboard into the rest of the southern African territory.

**MS: How important is aftermarket to Cummins?**

**HdP:** Currently we have 5 200 points of service across our 190-country footprint globally. All of our Cummins products have a



Cummins is a global entity operating in 190 countries worldwide



Du Plooy is in charge of aftermarket support in 11 SADC countries



Cummins has invested US\$100+ million into growth and support projects in Africa in the past seven years

Since 2010 Cummins SA has seen an increase in demand for high-horsepower engine rebuilds



global warranty that we honour, irrespective of where the engine was manufactured, was bought or where it is being operated.

Through our network of company-owned branches in the region, dealers and regional response teams, we are able to offer world-class aftermarket service, irrespective of the location of the product in the region. You don't become a 98-year old business by just selling superior products; you have to invest and create an effective support network that gives customers peace of mind. We continue to invest in the strength of our distribution network and the development of our aftermarket capabilities.

**MS: What sort of investments have you made in recent years to boost your aftermarket support structures?**

**HdP:** One of the recent key initiatives

was the US\$12 million investment in our new Regional Distribution Centre (RDC) in Johannesburg, officially launched in 2015. We have also recently expanded the Master Rebuild Centre to support the growing population of our high-horsepower engines in the marine, rail and mining sectors in the region.

We have also invested heavily in our Training Centre in Johannesburg. It's not just limited to South Africa, but caters for the region at large, offering training in customers' local languages, because we appreciate the diversity of our territory. We appreciate the importance of training, whether to upskill our own employees, or as part of our social responsibility programmes. We also invest in the future of our company through our apprenticeship and graduate training initiatives, where we identify individuals from our communities to partake in these programmes.

**MS: You mentioned the RDC. Just how important is the facility to your aftermarket in addressing the previous logistical challenges?**

**HdP:** One of the biggest challenges we had was to keep track of the growing engine population register in the region. Cummins engines are used in 30+ applications and it's not always viable for a branch and a dealer to stock all the aftermarket parts applicable to its area of jurisdiction and the applications we serve. That's where the RDC comes into play, allowing us to distribute the necessary parts overnight across our southern Africa territory, ensuring minimal downtime to our customers. In the past we were very much dependent on branches and dealers stocking parts in their local premises, which was not sustainable because it compelled them to commit to a lot of inventory capital.

**MS: You also mentioned the expansion of the Master Rebuild Centre. What necessitated this project?**

**HdP:** The expansion was necessitated by the need to accommodate the bigger 78-litre capacity engines, especially considering the big population of these large engines in the mining industry. We saw the need to capacitate the facility to be able to help local customers optimise the lifecycles of their equipment, through overhauling of their engines, which has become a popular norm globally.

Previously, we experienced high demand to rebuild our mid-range and heavy duty diesel engines only. Since 2010 we have seen an increase in demand for high-horsepower engine rebuilds, spanning from the QSK 19 to QSK 78. In a nutshell, the expansion of the facility was to increase high-horsepower engine remanufacturing capacity to meet demand for a rapidly expanding population of mining equipment powered by our popular QSK and K-Series engines.

**MS: You mentioned that southern Africa is probably the most stable business area for Cummins at this stage. What are some of the key growth markets at this stage?**

**HdP:** Our major growth sector in southern Africa remains the mining sector, despite the recent commodity crunch. But, as the world's largest independent diesel engine manufacturer, we have a very diverse portfolio. Although mining might be the bulk of the portfolio, we are just as involved in other sectors including agriculture, oil & gas, marine, construction, road and rail transport. We have also taken it further to include natural gas, with current projects in countries such as Mozambique and Ivory Coast.

Mining and Power Generation remain the biggest growth sectors at this stage. It is, however, mining that currently represents the largest market opportunity, despite the uncertainty of whether the mining downturn is over or not.

**MS: What is your outlook of the business?**

**HdP:** Capital investments are usually taken on a long-term view and Cummins is committed to supporting our customers in the region. Although stable macro-economic factors are very important in our investment decisions, we believe it is also important to identify potential, not just for today, but also well into the future. It is that view that allows Cummins to invest in the future success of its customers and its business. As a result, we have invested more than US\$100+ million in the last seven years on the continent. That is a key indicator of our optimism in the long-term potential of our business on the continent. 🌍

## SA truck market in rough waters

The truck market experienced a 2,8% decline in sales during June to reach a total of 1 652 units for the month. The result brings the total for the first six months of 2017 to 8 888 units, a decrease of 2,8% on the half-year results from 2016.

This is according to the latest results released by the National Association of Automobile Manufacturers of South Africa, Associated Motor Holdings and Amalgamated Automobile Distributors.

Analysing some of the categories' year-on-year results more specifically, sales in the Medium Commercial Vehicle (MCV) segment remained unchanged at 800 units. The Heavy Commercial Vehicle (HCV) segment declined by 2,3% to 2 628 units, while sales in the Extra Heavy Commercial Vehicle (EHCV) segment decreased by a slight 1,5% to a total of 5 767 units. Bus sales continued the

downward trend with a significant 17,1% decline in sales to only 493 units sold.

"Continued resilience by business to overcome some of the larger hurdles currently present in the market, is contributing to some positive sales results in some of the market segments," says Gert Swanepoel, MD of UD Trucks Southern Africa. He says that Stats SA recently released some interesting data on the local transport sector for the first quarter of 2017. "It showed that the industry's total turnover reduced by 2,9% versus the fourth quarter of 2016, while inventories reduced by 9,6%, and capital expenditure declined



The Medium Commercial Vehicle recorded a total of 800 units in H1 2017.

by 13,1%. If one compares that to the stats from the first quarter of 2016, the transport sector's turnover increased by 12,8%, thus a clear indication of rough waters ahead," explains Swanepoel. 🌪️

## Bracing for radical digital transformation

A new era has dawned in South Africa where digitalisation is rapidly transforming the trucking industry, and it is a business imperative to start embracing this concept as soon as possible – or fleet owners will not be able to compete in the near future.

Speaking at the recently ended TruckX, executive head of IoT Solutions at Vodacom SA, Tony Smallwood, stressed that digitalisation will undoubtedly happen across all industries soon.

"Competitiveness will have a direct correlation to digitalisation, and traditional industries will need to transform to compete in 2020. Data, platforms and innovation will disrupt your norm. The Uber, AirBNB and Kindle of your industry will happen, and you need to be in a position to either be the change agent or be ready to adapt," he said.

The transformation is already being evidenced in the next-generation supply chains. Based on the materials handling, logistics and supply chain association MHI's annual industry report, the next-generation

supply chain is defined as digital, on-demand and Always-On. 80% of executives polled for this report said that the digital supply chain will be the predominant global supply chain model within five years, while 16% stressed that it is already digital.

"Today, trucks have already become a mobile node in the Internet of Things, with trucking companies and drivers benefitting from IoT logistics data that's now available to them from mobile devices in the cab. Drivers can use linked devices to help them do their jobs faster and safer. Think mobile apps for task management, training on the go, and trend reporting to business intelligence dashboards," said Morne Janse van Rensburg, CEO of VSc Solutions.

"The cost of hardware and connectivity has dropped significantly in recent years, while cloud processing has become affordable and accessible to all sizes of businesses. All this is driving IoT and opens up the possibility of connecting just about anything," he added.

Hein Jordt, MD of Ctrack South Africa,



The fast development in technology is increasingly changing the way fleet owners do business.

agreed that the fast development in technology is increasingly changing the way fleet owners do business. "There are global evolutionary concepts out there that are quickly transforming the logistics and trucking industry. Now more than ever, fleet owners should embrace the advancements in telematics technology in order to be fully prepared when the wave of digitalisation fully hits," he concluded. 🌪️

## The case of fleet insurance

With careful management and attention to detail, fleet insurance can both reduce insurance costs and enhance the safety of employees and still benefit the fleet operator with as much coverage as is required. It can also make a significant contribution towards road safety.

Fleet insurance covers a group of cars, commercial vehicles and trucks under one policy. It is designed to distribute the risk

across the board so that a fleet operator pays only once for each peril, rather than insuring each vehicle individually, thereby paying for each vehicle's risk. It assesses the risk and evaluates the premiums based on the challenges for the entire fleet.

"Fleet operators have unique needs," says Murray Price, MD of Eqstra Fleet Management. "The insurance must take into account the complexities of insuring business

vehicles, such as insuring for multiple drivers and making sure vehicles can be used for as many applications as necessary.

"It is important to consult with the right insurer to ensure the business gets the optimum level of vehicle cover. The insurer must understand the operational demands of the fleet, particularly if it is operating a number of heavy-duty trucks and commercial vehicles." 🌪️





## New Iveco Afriway for Kingsmead College



Kingsmead College recently took delivery of its Iveco Afriway bus.

Kingsmead College, a leading girls' school situated in the heart of Rosebank, Johannesburg, has purchased a new Iveco Afriway bus that is set to help with mobility of learners.

Over the years the school has established a reputation for producing notable achievers in a broad spectrum of fields. Academic excellence, although a prerequisite for learners, requires to be supported by achievements in sport, cultural activities and community service.

"We have 920 learners at the school that participate in the various pursuits, so mobility is the key factor as not all activities are conducted on the school premises. Up until now the school has relied on its own 22 seater bus and other contracted forms of transport to enable learners to participate in the various activities. The unreliability of certain transport operators prompted the decision to invest in our own additional vehicle," says Lisa Kaplan, headmistress at Kingsmead College.

"The 'Bus Project' was initiated in 2015 and with the enthusiastic assistance of the learners and parents, fund raising activities began to take shape. This year we were able to research the market and find the most suitable vehicle that will transport our girls to any event, reliably and safely," she adds.

After due deliberation, the Iveco Afriway was selected among competitive makes and was recently handed over to the management and staff of Kingsmead College.

The Afriway, built locally at the Iveco plant in Rosslyn, is fully equipped to meet the requirements of the college. The Afriway has a total of 65 seats, trimmed in cloth, and fitted with lap type safety belts on all seats. The comfort of the learners in the passenger compartment is enhanced by the fitment of two roof mounted Citi vent forced draft ventilation air flow units. Provision is made to accommodate the large amount of luggage required for away sporting trips with the inclusion of underfloor through-type luggage lockers within the wheel base of the bus as well as in the passenger saloon interior parcel racks.

Reliability of the Afriway is assured with the proven Iveco Tector F4AE0681A – 6 cylinder Euro III diesel engine and a ZF model 9S1110T0 manual transmission. 🌟

## Improving SA's logistics and supply chain management

Transport makes up 57% of South Africa's logistics costs, while the global average is 40%. Part of the reason for this is the long distances between Durban and Johannesburg; and Cape Town and Johannesburg. This was recently discussed at the 36<sup>th</sup> Southern Transport Conference in Tshwane.

"We also have too much rail-friendly cargo on road," says logistics expert, Gerard de Villiers, who presented 'Improving Competitiveness of Companies in South Africa through Logistics and Supply Chain Management', during the conference.

"One glaring example of this is the copper transported 2 500 km from the Democratic Republic of Congo by road, to Durban." De Villiers believes the real challenge in the Durban port has to do with the port precinct. "If we want to solve the congestion challenges at the Durban port, we need to move and extend the gate to places like Cato Ridge – or further away – where a shuttle could take containers in and out of the port," he said.

De Villiers further stated that the country must be careful as to how it plans the Natal Corridor (Natcor) to accommodate future freight volumes. "I believe we need to look at Coega, which could service Gauteng. We could park bigger vessels in Ngqura and double-stack containers to Gauteng. Maybe we need to start thinking about Walvis Bay, with two 12 m containers (road trains) serving Gauteng, rather than putting everything through Durban."

He pointed out that BMW South Africa used the Cape Town port for its Rosslyn-bound containers, instead of Durban, despite the elongated distance. "We can also do so much better as southern Africa if we start bringing in Maputo and other regional ports. That is the type of thinking we need and where we should be going." 🌟

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#### LION ALCOLMETER® 600

The LION ALCOLMETER® 600 has a touch screen display, for entering names, surnames and ID number of test subjects for printing and record keeping.



### Jernberg in charge

Melker Jernberg has been appointed President of Volvo Construction Equipment and member of the Volvo Group Executive Board.

Jernberg replaces Martin Weissburg, who, due to family reasons, has decided to move back to the United States and will take up a position as senior advisor to Volvo's President and CEO Martin Lundstedt. Weissburg, who will be stationed in Greensboro, will remain in his position until year end 2017 and take up his new senior advisor position during the course of Q1 2018.

### New line of safety booklets from ALCO-Safe

Despite ongoing on-site drug and alcohol testing, as well as rehabilitative measures undertaken by many organisations in a bid to reduce alcohol and drug related accidents and incidents at the workplace, many businesses are still struggling with ongoing problems.

To assist such organisations, ALCO-Safe has introduced a line of educational handbooks, providing a wealth of educational information, assisting to reduce the incidents of positive drug and alcohol testing in the workplace. "Many organisations have far more success by educating their staff with these booklets, either to supplement an educational talk, or as a standalone campaign," says Rhys Evans, director at ALCO-Safe.

### Leica introduces imagery, live video stream to monitoring

Leica Geosystems, industry leader in measurement technology, has launched its Leica GeoMoS Imaging, a monitoring technology that provides visual information for site documentation, inspection and detection from remote access.

With GeoMoS Imaging, an image based extension to the existing GeoMoS monitoring solution, users can continuously stay up-to-date on their monitoring project and make the best decision quickly and easily. The remote monitoring of a site can now become simpler; the live view enables users to observe and record areas of interest, and the joystick functionality allows direct access to the total station and remote operation from the convenience of the desk.

## SDLG's first asphalt compactor for MEA region

SDLG has launched its first asphalt compactor for the Middle Eastern and African markets. The introduction comes on the back of increased infrastructure projects and investments in the region, particularly in Africa. For example, Kenya just unveiled its largest infrastructure project in 50 years – a railway funded and built by the Chinese.

SDLG's new compactor is meant to further satiate this demand. It's a double drum model that places emphasis on durability and solid technology. The SDLG RD730, a 3 t capacity double drum asphalt compactor, is the flagship model of a new generation of hydraulic, double-drum vibratory rollers from SDLG.

Shahir El Essawy, SDLG's business director in the region, points to a high level of infrastructure work in Africa and the Middle East as reasons for why it's crucial that SDLG offers a new double drum asphalt compactor.

"In Africa, wherever one travels, it seems they will find road-building crews these days," he explains. "And in the Middle East, recent projects, such as the opening of a 62-km highway from Abu Dhabi to Dubai, show that demand is increasing for reliable construction equipment that can maintain uptime on the job site and return on investment for owners."

The RD730 features a Kubota D1803-M-E3B engine that boasts a net power of 24,8 kW at 2 400 rpm, enabling it to travel



The RD730 is a 3 t capacity double drum asphalt compactor.

up to speeds of 10,5 km/h.

The launch of the RD730 comes on the heels of several other product launches from SDLG in the MEA region this year, including the G9190 and G9220 VHP motor graders in May, and the F-series wheel loaders in April.

"We hope the recent influx of new machines to the region demonstrates our unwavering commitment to our Middle Eastern and African customers," says El Essawy. "Our focus will always be on providing reliable construction machinery at affordable prices, backed up by first-rate parts availability from our extensive dealership network." 🌐

## Liebherr's new rig for deep foundation applications

Liebherr has introduced its new LRB 16 piling and drilling rig suitable for the diverse requirements of deep foundation work. It convinces with its compact design as well as a range of available assistance systems, which ease the work on the jobsite.


The machine gets its name from the sledge's travel distance, which is approximately 16 m. Special emphasis is on the compact design of the LRB 16 with an operating weight of barely 48 t, which results in low ground pressure.

The robust undercarriage offers excellent stability, which can be further increased with the optional rear supports. Economic fuel consumption is more than just a theory with the LRB 16. Innovative hydraulic concepts play a decisive role and, despite reduced engine power, the machine achieves high performance but at the same time keeps fuel consumption low.

The new piling and drilling rig is powered by a Liebherr diesel engine delivering 390 kW/523 hp of power. In comparison to earlier models, the LRB 16 has a reduced engine speed of about 1 700 rpm.

The proven parallel kinematics, which have been installed in many piling and drilling rigs from Liebherr, have a large working area and enable the leader to be folded back. The rigid leader of about 12,5 m absorbs high torque and is fitted with a rope crowd system for high pull forces of up to 200 kN. Furthermore, the quick connection system allows for the rapid fitting or exchange of working tools.

The LRB 16 can be easily transported in one piece. Including mounted counterweight, it has a transport weight of only 43,5 t. This ensures quick set-up on site as well as flexibility in transferring the machine between different jobsites. As an option the complete loading and set-up processes can be carried out via remote control, which means only one person is required. 🌐



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## Volvo CE's LX1 prototype delivers around 50% fuel efficiency



Volvo CE's LX1 prototype hybrid wheel loader performed hundreds of hours of real work in two applications at Waste Management facilities in California.

Volvo Construction Equipment's LX1 prototype electric hybrid wheel loader has excelled during hundreds of hours of real-world testing, achieving around a 50% improvement in fuel efficiency compared to its conventional counterparts.

Volvo Construction Equipment (Volvo CE) recently presented field test results for its LX1 prototype electric hybrid wheel loader in California, United States. The company organised the event alongside its customer,

Waste Management, which carried out the field tests, CALSTART, which conducted emission tests on the machine, and the California Energy Commission, which helped fund the LX1 project.

Since the end of last year, the LX1 has performed hundreds of hours of real work in two applications at Waste Management facilities in California.

Testing began at the Redwood Landfill and Recycling Centre, a green waste

composting site in the northern part of the state. Both fuel efficiency and greenhouse gas emission tests were conducted at the facility and, although the data is still being analysed, the results so far show an average improvement of 50% in fuel efficiency, equating to a reduction of 35% in fuel consumption and greenhouse gas emissions.

The second test site was the Moreno Valley Transfer Station, a waste transfer site in southern California. Here, the LX1 achieved an average fuel efficiency improvement of around 45%. Both sets of results exceed the 35% fuel efficiency improvement target set for the project. "We are pleased with the results from the field testing," says Scott Young, electromobility director at Volvo CE. "Although we had already seen the LX1 reach up to a 50% improvement in fuel efficiency in our internal tests, every application and operator are different. Because of this, we were aiming for a 35% improvement in fuel efficiency in this project. But we are happy to say that we've significantly exceeded this figure and achieved similar results to those recorded at our test site in Sweden." 🌱

# URGENTLY REQUIRED



## Yellow metal equipment sales guru



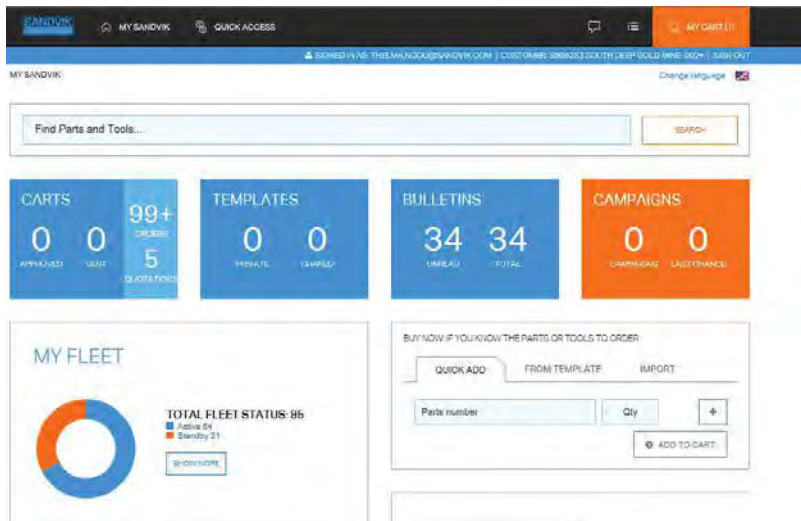
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Interested candidates can apply with a detailed CV to [simon.zhu@sanygroup.com](mailto:simon.zhu@sanygroup.com)

## My Sandvik portal for around-the-clock operations



A view of the My Sandvik dash board.

Sandvik Mining and Rock Technology has developed an advanced eCommerce platform that places comprehensive fleet information at the fingertips of customers to facilitate quicker access to aftermarket services including parts ordering.

The My Sandvik customer portal provides an always available solution for fleet managers or procurement staff to gather machine specific information for everyday fleet maintenance. It provides a completely customised interface that only reflects information that is relevant to individual customers with their own specific fleet information.

Online catalogues and part identification tools provide a streamlined framework and gives users the opportunity to cut time spent looking for service items or locating parts. It even gives them the opportunity to cross reference their own parts manuals to find out if other Sandvik machines in their fleet share similar parts if an urgent need arises.

"It is like having a permanent Sandvik service agent on call any time of the day, every day of the year," says Thelma Ndou, Sandvik eCommerce coordinator – Africa. "It is easy-to-use and guides users through carefully developed menus to locate information or to order parts as required. Instruction videos are also available to guide users to gain the most out of the system's rich features."

My Sandvik is all about speed with customers able to get instantaneous stock availability and generate quotations in minutes with confirmations and reference numbers. It may also suggest options for bundled kits on certain repair or maintenance procedures that ensure all the required items are at hand when the work is being carried out. It gives full track and traceability of any items ordered, delivered or outstanding, and can even create schedules of service items that may be required for the fleet at certain intervals, while also creating user reports based on the type of user, from management level to order clerk. 🌐

## Digital innovation driving growth in DRC mining sector

Digital innovation is driving transformation within the local mining sector. The shift, according to leading converged ICT solutions provider, iWayAfrica, is driving growth and becoming a key differentiator within the Democratic Republic of the Congo (DRC). With over 25 international mining groups active in the region, the mining sector has become significant as it is also widely known for the world's production of cobalt, copper, diamond, tantalum, tin and gold.

Ali Bofulo, MD of iWayAfrica, says mining accounts for the DRC's largest source of export income and is an important and growing sector. "While the region is ripe with opportunity, reliable, adaptable and

ubiquitous connectivity is a critical enabler for a digital innovation roadmap. This is especially relevant to the mining sector, where connectivity requirements are more than just linking a remote site to a regional or global head office."

If the DRC is to evolve, embrace digital innovation and increase its mining production, technology issues such as connectivity need to be addressed. This is becoming more relevant, according to Bofulo, as organisations look to technology as a means to differentiate. "Internet of Things, among other digital technologies, have started driving increased automation and system reporting for performance and

## Ntsimbintle Mining celebrates transformation

The calls for radical economic transformation in South Africa's mining sector, particularly transformation that favours the country's communities, are rising in their urgency, frustration and exasperation.

So it was with no small measure of pride that dignitaries, shareholders, business luminaries, and VIP guests gathered on 22 June 2017 at the Kalahari Country Club in Kathu, Northern Cape to celebrate the success of a truly transformed South African mining investment company, Ntsimbintle Mining.

Saki Macozoma, Ntsimbintle Chairman, says arguably, the biggest cause for celebration, particularly among Ntsimbintle's grassroots level shareholders, was the company's latest dividend payment of R300 million in April.

## Deck maps get the most out of screens

Screening media specialist Multotec is using its 'deck map' methodology to constantly raise the bar in optimising screen output and lifespan, according to Shawn Faba, Multotec Manufacturing product manager screening.

"Multotec has built on its concept of the composite deck for over a decade, and differentiated ourselves by developing the deck map to design specific screening solutions for a wide range of material with various characteristics," says Faba.

The panels are easily interchangeable on composite screen decks due to the modular format of Multotec's two common panel sizes – 1' x 1' or 2' x 1'. The modular design allows for different types of panels to be placed in specific areas of the screen as part of the overall goal of achieving metallurgical efficiency on the screening media surface.

yield management, all of which require real connectivity in remote areas to succeed."

He says the quest for improved productivity is driving the mining industry to implement more automated systems and seek greater IT integration. "Real-time monitoring, health and safety systems, security services, online customs clearance and access to ERP applications are among the key mining issues being addressed through digital innovation." 🌐

## Eaton Partners with BMG to extend product range

Eaton, global leader in power management solutions, has announced the signing of a distribution partnership agreement with The Bearing Man Group, commonly known as BMG, Africa's leading distributor of quality engineering consumables and components. BMG will be responsible for the distribution of Eaton's range of conveyor solutions across sub-Saharan Africa.

The agreement is said to demonstrate Eaton's continued commitment to providing access for its customers across the continent, while simultaneously investing in its partner ecosystem. Under the terms of the agreement, BMG will now distribute Eaton's Conveyor Safety Switches along with all corresponding accessories to provide complete conveyor solutions.

"BMG has a large distribution network with over 130 branches across Africa and a strong reputation for delivering quality engineering products for over 40 years. This, together with its local market knowledge, makes BMG the perfect choice in a strategic partner," explains Malvin Naicker, director of Sales for the Africa Region at Eaton. "As a leader in the power management space, we recognise that these partnerships are vital to



The deal was signed on July 18, 2017 at BMG's head office in Denver Johannesburg.

extend Eaton's product offerings into new, vertical industries."

Eaton enjoys a long-standing relationship with BMG through its hydraulics business, and the new agreement will allow customers access to Eaton's electrical solutions as well, thereby offering a complete conveyor solution.

"The additional range of Eaton's conveyor

solutions adds to BMG's line and completes a basket of solution providing products that is supplied through our extensive distribution network. This fits with our Bolt-On strategy to offer our customers the full basket of solution providing products, keeping to our commitment of adding value and being part of every process," says Gavin Pelser, MD of BMG. ☀

## Enabling communication at mines

Communication within a mining operation is critical to the safety of the people and underpins the mining operation. However, in underground mining this is seldom a case of one-system-fits-all.

Don du Plessis, GM of Booyco Ya Batho, says that, for this type of communications network to be effective and reliable, it has to be configured to the site specific requirements.

Historically, complete imported communications systems have not met all the legislated requirements and, in many instances, while not performing as anticipated, these were also expensive.

Du Plessis says that an in-depth understanding of how communications systems can be configured in challenging operating environment is what sets Booyco Ya Batho apart in the mining industry.

"We believe that for the local mining industry it is a major advantage to be able to leverage off local expertise and have access to communications systems and products that are capable of meeting the challenges within the underground mining environment," he says.

"It can be confusing when confronted with the technology and jargon used by communications network configuration



An 802.11n access point is typically used in backbone applications to provide the network layer for underground communications networks.

companies, and it is not always easy to make an informed decision. We work very closely with our customers to assist them in understanding what technology is available and what exactly it can do for an operation."

The first step would be for Booyco Ya Batho to conduct an in-depth survey of the area in which the communications system would need to function. This, according to Du Plessis, would allow for the network to be configured in such a manner so as to eliminate those areas where communication is not necessary, such as mined out areas.

"When a one-size-fits-all communications solution is applied, this type of in-depth assessment is not done and these types of communications solutions could weaken and create unnecessary interference," cautions Du Plessis. "By doing an in-depth survey of the communications requirements it is possible to optimise the RF propagation without sacrificing on the reliability or performance of the network. And this will eliminate the situation where the communications network has been over-engineered for the need at hand," he says. ☀

## Johnson lifts for world's largest air separation plant

Contracted by Stefanutti Stocks Oil & Gas Division in the construction of the largest air separation train ever built, Johnson Crane Hire has been providing heavy lift services as well as a range of smaller lifts at Sasol's Secunda complex.

The milestone plant under construction for Air Liquide, which is the 17<sup>th</sup> train to be built at this site, will have a total capacity 5 000 t of oxygen per day.

The contract for the project's heavy lift scope was won by Johnson Crane Hire's Heavy Lifts Project Division on a fixed value basis, according to Peter Yaman, executive – sales, while the smaller crane work was serviced through the company's Trichardt branch near the Sasol Secunda site.

At the heart of the plant is the argon column, which presented Johnson Crane Hire with its heaviest lifts. According to Grant Parker, project manager – Heavy Lifts Projects Division, the lower section of the column weighed 287 t, and was lifted by the company's main lift crane, a Liebherr LR1750. The 750 t lattice boom crawler crane was configured initially with 84 m boom length, which was later in the project extended and re-configured at 112 m.

"An interesting aspect of the contract was that most of the large components – such as the columns – were lifted in an almost fully assembled state," says Parker. "The upper sections would then have to be accurately positioned on the lower sections, with tolerances less than 1 mm per metre. For the large argon column, this



Close attention to planning and safety procedures were key to the smooth implementation of the lifting project.

meant a tolerance of less than 10 mm." The tall structures meant that verticality had to be carefully addressed in the lift planning, with the use of tailing cranes – mainly the Liebherr LTM1500-8.1, a 550 t telescopic mobile unit.

Close attention to planning and safety procedures is always key to the smooth implementation of lifting projects undertaken by the company, says Yaman, so Johnson Crane Hire placed a CAD technician permanently on site to create two-dimensional and three-dimensional plans for all lifts over 5 t – which the

customer would also sign off before execution.

"The planning allows us to position the cranes in exactly the right locations to facilitate the coordination between the main crane and the tailing crane, and to ensure the cranes don't work against each other," says Parker. "As the column nears the vertical, for instance, the weight transfer between the one crane and the other can occur very quickly. With the HP/LP column, another of our heavier loads, this transfer took place over an angle of just two degrees." 🌀

## Demag launches new AC 300-6 all-terrain crane

The new six axle Demag AC 300-6 all-terrain crane, boasting a 300 t classification, features an 80 m main boom and is the first crane of its size in the Demag range equipped with a luffing jib.

The new six-axle crane is said to deliver strength, reach and versatility needed for demanding jobs at lower operational and transporting costs than similar models in its class.

The Demag AC 300-6 all-terrain crane combines long reach with a strong load chart to give operators the perfect fit for efficient work at height or on reach. The 80 m main boom can perform jobs at heights up to 78 m or 74 m radius without rigging a jib. It is ideal for tower crane erection, with a class leading lifting capacity of 15 t on fully telescoped 80 m main boom.

The Demag AC 300-6 is the smallest in the Demag range that can be outfitted with a luffing jib for superior reach and fly-over

capabilities, bringing the maximum system length to 118 m. The proven luffing jib rigging system is the same as that on the AC 350-6 and AC 1000-9 cranes and provides safe and quick rigging.

Packed with the latest Demag innovations such as the IC-1 Plus control system and a single engine concept with an intelligent motor management system, the Demag AC 300-6 enhances productivity to help reduce operating costs. The IC-1 Plus control system provides real time calculation of the lifting capacities and supports operators in safe crane operation. It also allows asymmetric outrigger positioning. This also allows the crane to perform jobs usually reserved for larger machines.

The Demag AC 300-6 is fitted with a single engine, with start and stop function to reduce idle times and total engine hours, contributing to the reduction of fuel costs and preserving the crane's residual value.



The Demag AC 300-6 is the smallest in the Demag range that can be outfitted with a luffing jib.

The Demag AC 300-6 helps maintain a lower stock of spare parts because it uses a high number of interchangeable parts with the Demag five-axle family all-terrain cranes. Furthermore the 21m double folding main boom extension of the five-axle Demag cranes is compatible with the AC 300-6. 🌀

## Costs down the drain with HFT's customised service kits

Hytec Fluid Technology (HFT) recently introduced customised service kits tailored for use with heavy-duty equipment and vehicles. The service kits, HFT's latest innovation, provide clients with a choice of OEM or customer-specific consumables for equipment or vehicles in their range.

Customised service kits are tailored specifically to individual clients' requirements and the kits' traceability, a standard feature which allows HFT to monitor the kits' locations and the date it was used. This enables HFT to notify clients when their equipment or vehicle requires a service or service kit replacement.

The service kit contents allow for extended service intervals and vastly reduced filter and oil changes. This makes them an ideal solution to help fleet and equipment owners to reduce their cost of ownership.

Using extended service interval (ESI) filters from Fleetguard and engine oil with extended life means the lifespan of all service kit components are suitable to extend service life – in some cases 1 000 hours service intervals have already been achieved. "Essentially, this means that operators use half the air filters and one quarter of the oil and fuel filters compared to most OEM recommendations," says



HYT's service kit contents allow for extended service intervals and vastly reduced filter and oil changes.

Sandor Bottyan, GM at HFT.

The consumables contained in the customised service kits vary per customer. They can include basic filters for every component of the machine or vehicle, such as air, fuel, oil and hydraulic filters. More specific and specialised filters such as cabin air filters, crank case ventilators and air oil separators for compressors are

included on request.

Other OEM-recommended components that can be included are belt ranges like alternator V-belts and aircon belts, to mention a few. Fleetguard's organic acid technology (OAT) coolant, a lifelong coolant that, technically, is not required to be drained from the engine or refilled, can also be included. 🌱

## Understanding correlation between lubrication and safety

According to Rainer Lange, ExxonMobil SHC brand advisor – EAME, when it comes to the safety of your operation, lubrication can have a bigger impact than expected. "Reason being that operational safety risks to an operation are typically greater during equipment servicing and maintenance," says Lange.

Prior to inspecting equipment, to determine if any additional servicing is required before filing components with the new oil, a routine oil change which can be a fairly straightforward process for ground-based equipment, becomes much more complex for wind turbine equipment as maintenance teams must ascend the tower, at times to elevations as high as 121.92 m.

This is not easily achieved, which is why one of the most effective opportunities to enhance the safety of a wind turbine operation is by reducing human-machine interaction (HMI), or the frequency which maintenance personnel interact with wind turbine equipment.

Reducing HMIs requires having a robust lubrication programme that prevents unnecessary downtime and extends the service intervals of wind turbine equipment.

There is no better way to monitor the health of your equipment than through used oil analysis. This service helps you better understand how your equipment is performing and identify potential pain points. Armed with that information, you can then tailor your maintenance programme to get more out of your equipment and prevent unplanned downtime.

Advanced oil analysis platforms can provide even more helpful insights. They can help identify high-level trends not typically seen when viewing individual sample reports, including, and they can also provide documentation to validate used oil analysis results.

Your lubricant supplier can help you make the right decisions to ensure your programme works for you, as it can leverage decades of experience working with equipment builders and developing new technologies to help you identify the best solutions to fit the needs of your specific equipment.

Improper storage and handling of lubricants is another important consideration, as it can significantly reduce a lubricant's effectiveness and even turn safe lubricants into potentially hazardous waste. Optimising

your lubrication programme is typically used to drive productivity, it can also meaningfully enhance the safety of the operation.

ExxonMobil South Africa has introduced Mobil SHC Grease 102WT, a synthetic wind turbine grease that can protect pitch, yaw and generator bearings from extreme temperature conditions as high as 120°C to as low as minus 50°C.

Some important lubricant properties include:

- **Viscosity** – This is the most important characteristic of an oil, particularly for wind turbine lubricants. A lubricant's viscosity indicates its resistance to flow – or the thickness of the film layer it produces to prevent contact between surface metals.
- **Viscosity Index** – A lubricant's viscosity index measures the change in that lubricant's viscosity due to alterations in temperature. Synthetic lubricants possess better viscosity indexes than their mineral-based counterparts, meaning their viscosity remains more stable and continues to function properly when exposed to extreme ranges of hot and cold temperatures. 🌱



## Redefining aggregates production

Rather than sourcing expensive sand and aggregates on building sites, a start-up company on the West Rand, Gauteng, South Africa, has begun a ground breaking new operation that turns spoils and site rubble into valuable building materials for re-use on site.

The aptly named Ground Breakers operation makes use of a portable scalping and screening machine to separate excavated materials into different sizes or streams such as building sand, building stone, fill, bedding or a range of different sized aggregates as specified by an engineer.

Rather than excavate a site and pay for spoils to be dumped, the dynamic duo of JC Janse van Vuuren and Johan Meintjes have turned this traditional method around and are successfully marketing the concept of processing the spoils on site. In addition to saving on dumping costs, builders have the added benefit of reusing the materials on site and reducing the need for additional aggregates to be procured.

"The newly available Powerscreen Warrior 800 scalping screen from ELB Equipment is easily transportable and can begin operation in hours of delivery. The aggressive nature of the screening process allows large quantities of materials to be processed quickly and the addition of a scalping deck ensures that oversized rocks, rebar or mesh from the building site are seamlessly separated without impacting



The Powerscreen Warrior 800 scalping screen is performing beyond Ground Breakers' expectations.

production," says Van Vuuren.

Partner and technical expert, Meintjes explains that once the concept of the business was finalised, the process of selecting the right machine was a long one. The focus shifted from the original plan of using second-hand machines, after studies had showed that actual running costs of a new, supported machine would be roughly on par with the new one. In addition, the added flexibility of the new type of machine was preferable as it opened new avenues of business being easy-to-transport machine,

scalping capabilities.

"We have long-term goals and needed a machine that can last as long as these plans and adapt to our changing requirements. The Warrior 800 gives us versatility to operate in a quarry on a 24/7 basis and build up stockpiles and later get transported to a construction site to process other materials. On site, it is easy to set up and operate with hydraulic folding tail and side conveyors, rigid feed hopper sides and two speed tracks that can be used to separate up to three streams and stockpile them. 🌟

## Weir's process-focused solution ups CNC Crushers' output

Stilfontein-based sand and aggregate supplier CNC Crushers raised throughput at its Roadstone Shaft 5 crushing plant by 45% while cutting back on maintenance and simultaneously increasing production, after implementing a full process-focused solution from Weir Minerals Africa.

According to JD Singleton, Weir Minerals GM for Trio and Enduron equipment, the customer was experiencing high wear on the installed conventional cyclone, as well as on the older technology pump, having to replace liners every 120 hours of operation.

"Our brief was to increase solids to the cyclone underflow and increase the wear life on the cyclone feed pump," says Singleton. "The continuous breakdowns experienced with the older-technology crushing equipment, and the excessive oil usage was also causing high downtime for the plant. CNC Crushers needed a solution that would utilise the existing footprint and infrastructure."

As a solution, Weir Minerals Africa installed a new technology Warman WBH

100 slurry pump and a Cavex 400CVX10 hydrocyclone; it also replaced the existing cone crushers with Trio TC51S and TC36SH cone crushers to increase uptime and reduce maintenance costs.

"After 1 900 operating hours, the slurry pump was still running without needing any replacement parts, a vast improvement on the previous mean time between liner replacements of 120 hours," he says.

According to CNC owner Carl Crous, this meant that the company could take pumps off the critical maintenance list. "Pump problems are something of the past," says Crous.

With regard to the hydrocyclones, these proved to be more efficient than the conventional cyclones, highlighting the benefits of the Cavex hydrocyclone's

laminar spiral inlet geometry.

"The Cavex hydrocyclone increased the mass pull to the underflow, which resulted in increased production and reduced slimes to the tailings dam," he says. "Using new technology equipment pays." 🌟



CNC Crushers' owner, Carl Crous next to a Cavex 400CVX10 hydrocyclone.

## DEUTZ unveils natural gas engine for tractors

In a joint research project with the University of Rostock and the Thünen Institute, DEUTZ, an independent manufacturer of diesel and gas engines, has developed a natural gas engine for tractors.

The project involved DEUTZ engineers converting a diesel engine to run on natural gas and then successfully installing it in a tractor made by Same-Deutz-Fahr, another project partner.

The aim was to reduce pollutants and carbon emissions without any loss of performance. The advantage of natural gas is that it burns much more cleanly than petrol or diesel. It produces less CO<sub>2</sub> emissions, and emissions of nitrogen oxides and particulates are also substantially lower. While the last two can be contained relatively easily with modern exhaust aftertreatment systems, CO<sub>2</sub> emissions are primarily dependent on

the type and quantity of fuel used.

The use of natural gas can lower CO<sub>2</sub> emissions by up to 24%. A DEUTZ TCD 3.6, a compact 4-cylinder inline engine with an output of 50 to 90 kW and a maximum torque of 480 Nm, was used for the project. Converting the engine to run on natural gas required several major component adaptations. The self-igniting diesel injectors first had to be replaced with a spark ignition system, and the pistons and cylinder head had to undergo mechanical adjustments.

The crucial element, however, was analysing and completely understanding the combustion process in the gas engine. The result is a fully functional experimental tractor that has already clocked up well over 500 operating hours in the fields of the Thünen Institute of Organic Farming in Trenthorst, Westerau, Germany. 🌱



The use of natural gas can lower CO<sub>2</sub> emissions by up to 24%.

## FAW gains traction in agriculture



FAW used NAMPO 2017 to showcase its range of vehicles ideal for the agricultural sector.

FAW reports that its vehicle numbers in the local agriculture sector are growing exponentially year-on-year.

Testimony to this was FAW's exhibition stand at NAMPO 2017 which maintained its big size, vehicle representation and engagement with the public. "The interest in our stand and our vehicles was astounding. Visitors to the stand remarked on the exceptional finish of our cabs, our reasonable pricing and the transformation towards the modern design of our trucks," says Jianyu

Hao, CEO of FAW Vehicle Manufacturers South Africa.

Two of FAW's best sellers – the FAW 8.140FL and the FAW 15.180FL – drew lots of attention at the show, demonstrating why the models have gained such high acceptance levels in their respective market segments, including the agricultural community.

This was the 16<sup>th</sup> time FAW participated at NAMPO. "This certainly demonstrates our commitment to the farming community. We have recognised the patronage and

loyal support of the multitude of agricultural customers, who have, over the past 22 years that FAW has been present in SA, remained committed to our brand," says Hao.

The number of FAW trucks sold in the sub-Saharan region has grown exponentially since the opening of the Coega-based plant in 2014. Many southern African customers are buying locally produced vehicles because of the obvious cost benefits and the opportunity to purchase some modified units that meet the specific regional conditions. 🌱



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