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ELECTRIC TRUCKS: Brewing sustainability

MATERIALS HANDLING: Bolstering the offering



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CHANGING PRIORITIES



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recently had a conversation with a senior executive of an established international original equipment manufacturer (OEM) at Mining Indaba, who reflected on changing matters of importance for capital equipment owners. She is of the view that – above all other factors – aftermarket service has become a key parameter in influencing customers' buying decisions.

As you will see in various Materials Handling articles in this edition of **Capital Equipment News**, the market has reached a golden age of services, transforming into a servicecentric sector, moving away from just supplying products to offering end-toend solutions. Although companies still push products, there is a bigger focus on delivering the value that customers get out of using the products.

In my recent conversation with a fleet operator who runs in excess of 300 machines, he told me that aftermarket support is his prime consideration, well ahead of the product itself. About 90% of his buying decisions are influenced by aftermarket support, and only 10% based on other conventional considerations such as fuel efficiency and product quality, among others. For him, a product is as good as its service. There is no point in having an expensive piece of machinery that spends 50% of the time standing in the yard due to the dealer's failure to replace a filter on time, for example.

In fact, aftermarket has evolved. It's no longer just about parts availability and fulfilling maintenance obligations. Customisation is one of the top trends in today's capital 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.

Forward thinking OEMs and their dealers are 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 customers accordingly because the needs of a big plant hire company are completely different from the fundamentals of a small company that operates two machines. On the other hand, 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. Dealers are no longer 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 MATERIALS HANDLING EDGE

With a wide range of materials handling equipment and technologies – all the way from telescopic handlers and wheel loaders to log handlers and reach stackers, Liebherr Africa has a solution for every materials handling job, positioning the company as a one-stop supplier across industries and applications, writes *Munesu Shoko*.

or materials handling, Liebherr offers a variety of machines and technologies that are custom-engineered for an array of applications, including recycling, timber handling, stockpiling, material rehandling and waste handling, among others. These include material handlers (mobile, crawler and electric); reach stackers; wheel loaders; telescopic handlers; crawler tractors and crawler loaders.

According to Tendayi Kudumba, GM: Earthmoving Equipment at Liebherr Africa, this is complemented by a wide range of attachments, which further transform various Liebherr machines into specialised materials handling solutions. Liebherr develops numerous materials handling attachments, including buckets, pallet forks, stick extensions, grapples, tiltrotators and quick couplers, among others.

Into new territory

A major talking point in Liebherr-Africa's materials handling journey is its recent entry into the telescopic handler market. For the very first time, Liebherr Africa now offers a range of telescopic handlers following the introduction of Liebherr's new generation line in the local market.

Initially rolled out to the global markets at the start of 2018, the first units arrived in South Africa in September the same year, and several units are already working at various sites. Kudumba explains that the extensive line of telescopic handlers addresses the needs of several customer groups. The two model lines comprise the top-of-the range models for materials handling or production applications (identified by the suffix S), as well as the simple, cost-optimised (standard) models for stacking and lifting applications.

Each model line has eight new models, available in 26 different versions. The range's load bearing capacity spans from 3,2 t to 6 t, with a lift height from 6 m to 10 m. The standard range comprises the T 35-6; T 32-7; T 36-7; T 41-7; T 33-10, T 46-7; T 55-7 and T 60-9. The premium range comprises the T 35-6s; T 32-7s; T 36-7s; T 41-7s; T 33-10s, T 46-7s; T 55-7s and T 60-9s.

"The standard range is targeted at construction markets, including civil engineering,



"The great depth of Liebherr's in-house manufacturing capability guarantees maximum quality and ensures that components are optimally configured to each other."

Tendayi Kudumba, GM: Earthmoving Equipment at Liebherr-Africa

Liebherr Africa recently launched the LH 60 M log handler in South Africa.



road construction, demolition and building. The premium range fits the bill for industrial applications, including timber, sawmill, waste recycling and compost plants, among others," explains Kudumba.

The major difference between the standard and premium range is that the standard range's working movements are hydraulically driven, while those of the premium range are electronically driven, offering faster and more responsive operation. "The standard range is a cost-optimised line with a standard drivetrain and standard cabin, offering a standard performance. The premium range is a high-performance line with a comfort cabin," adds Kudumba.

The standard model line is designed to work between 500 and 1 200 hours per annum, while the premium range, because of its high-performance nature, is an 800 to 2 000-hour per annum model line. Meanwhile, Liebherr Africa offers the T 32-7s and its base model – with a 3,2 t lift capacity and a 7 m lift height – as a stock unit due to the popularity of this size range in the local market. Another model of interest is the T 33-10s, together with its base model, due to the 10 m lifting capacity. However, the latter is available on order, as with the rest of the models in the range.



Materials handling range for the local market Dozers • LH40

- PR734-4
- PR744
- PR754
- PR764
- PR776
- 111//0

Loaders

- L524
- L538
- L550
- L566
- L580
- L586 X-Power

Material Handlers Industrial

- LH22Mobile and Crawler
- LH26 Mobile and Crawler
- LH30 Mobile and Crawler
- LH35 Mobile only

Waste and recycling solutions

The recycling industry is growing rapidly in South Africa and neighbouring countries. In fact, this is a global phenomenon as the world seeks for answers to the global waste challenge.

- narket
- LH40 Mobile and Crawler
- LH50 Mobile and Crawler
- LH60 Mobile and Crawler
- LH80 Mobile and Crawler

Timber

- LH35 Mobile only
- LH50 Mobile only
- LH60 Mobile only

Port

- LH40 Mobile and Crawler
- LH50 Mobile and Crawler
- LH60 Mobile and Crawler
- LH80 Mobile and Crawler

Electrical Machines

- EP / ER 934C
- EP / ER 944C
- EP / ER 954C

In recent years, many waste disposal companies have developed from generalists to highly specialised recycling operations. This has brought with it a whole new set of challenges to be met by the machines deployed in the recycling industry.

Kudumba acknowledges that the recycling industry is highly varied. However, the new generation of Liebherr material handlers are adept at a wide range of tasks, including feeding a conditioner or crusher, loading and unloading trucks and containers, sorting materials and waste products, as well as piling up and moving materials of any kind.

He reasons that in scrap handling, for example, performance is extremely important. Whether sorting out mixed scrap material, loading and unloading ships or loading shredders, shears and press plant, the Liebherr material handling machines have been developed for high productivity.

Liebherr offers a range of solutions in this area. The LH range of materials handlers offers a wide range of models, all the way from LH 22 M Litronic with an operating weight range of 21 000-21 800 kg and an 11 m reach, to the LH 80 C with operating weights from 65 900-108 700 kg.

Models available for the local market comprise the LH 22 (mobile and crawler); LH 26 (mobile and crawler); LH 30 (mobile and crawler); LH 35 (mobile only); LH 40 (mobile and crawler); LH 50 (mobile and crawler); LH 60 (mobile and crawler); and the LH 80 (mobile and crawler).



Whether sorting out mixed scrap material, loading and unloading ships or loading shredders, shears and press plant, Liebherr's material handling machines have been developed for high productivity.



A major talking point in Liebherr Africa's materials handling journey is its recent entry into the telescopic handler market.

"Liebherr develops machines and equipment options for every need and application. Our machines are used for a variety of tasks in recycling and waste management sector. Mobile materials handling machines, crawler material handlers, wheel loaders, telescopic handlers, bulldozers and crawler loaders all sort, separate and load recyclables and solid waste quickly and reliably. Material handled includes glass, metal, wood, paper and agriculture waste, to name just a few," says Kudumba.

Speaking of other equipment solutions that can be deployed in the waste/recycling sector, Kudumba says Liebherr Africa offers a wide range of dozers and wheel loaders. The dozer range available for the local market includes the PR734-4; PR744; PR754; PR764; and the PR776. The wheel loader range also comprises several models, including the L524; L538; L550; L566; L580; and the L586 X-Power.

Timber handling

For efficient timber handling, Liebherr offers a broad portfolio of machines, which are ideal for typical operations such as loading and unloading trucks and trailers, sorting logs or transportation. For this particular industry, Liebherr Africa offers its LH 35 (mobile); LH 50 (mobile) and LH 60 (mobile).

In this range, Liebherr Africa recently launched the LH 60 M Timber. Last year, **Capital** Equipment News exclusively witnessed the handover of the first machine in South Africa to Nelspruit-headquartered Forestry Plant & Equipment, one of South Africa's leading mechanised forestry contractors.

One of the key talking points on the machine is that it is able to hook a trailer. Conventionally, log handlers carry the payload on the grab only. With the trailer, customers can now carry an additional 20 t of volume that they are able to move from point A to B in one go, which is very costeffective, especially when handling logs between long distances.

"The LH 60 M's dual drive makes it strong enough to draw a trailer. The machine's twin motor travel drive gives it greater pulling power at maximum speed. It also allows for more efficient driving without gear shifting for fluid working operation," explains Kudumba.

With an engine output of 200 kW, the system has maximum torque for high speeds at its disposal. The stepless drivetrain also maintains the speed at a constant level in the optimum range for maximum acceleration with consistently high pulling power. In this way, a high level of driving performance can be consistently drawn upon even on gradients.

"The combination of a 200-kW engine output and a high pump delivery rate guarantees maximum acceleration and high speed of the working movements. The standard 4-wheel steering provides great agility and manoeuvrability of the log handler, even in the tightest of spaces often found in timber yards. Furthermore, the 4-wheel steering increases driving stability," says Kudumba.

In conclusion, Kudumba says the new generation of material handling machines are powerful and efficient. Liebherr achieves this difficult balancing act with its own engine technology manufactured in-house and optimised to meet the requirements of controlled hydraulics. For decades, Liebherr has been ahead of the industry with its knowledge of production and system solutions. Key components such as the diesel engine, electronic components, slew ring, swivel drive and hydraulic cylinders are developed and produced by Liebherr itself.

"The great depth of in-house manufacturing guarantees maximum quality and ensures that components are optimally configured to each other," says Kudumba. He highlights some of the key features that speak directly to operational economy – the Liebherr-Synchron-Comfort system (LSC) and the Liebherr-Power Efficiency (LPE). The cleverly engineered machine control system, the LSC, assures optimum adaptation of the hydraulics to the respective deployment scenario.



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The Cat 150 AWD's all-wheel drive system assists with traction and manoeuvring, allowing the machine to work in any environment.



SETTING NEW GRADING Standards

New motor grader launches from SDLG and Caterpillar usher in new grading standards with a host of features that speak directly to increased productivity, operator comfort and ease of service, to help maximise return on investment. By *Munesu Shoko*.

n today's machine developments, leading original equipment manufacturers distinguish themselves by placing "the voice of the customer" at the centre of their innovations. An area that has significantly seen vast innovation in line with customer requirements over the years has been the motor grader market. Of significant interest to the customer has been the simplification of operation, operator comfort and ease of service – key parameters that have a huge influence on overall productivity and, ultimately, quick return on investment.

Two new motor grader launches from SDLG and Caterpillar are true cases in point. Caterpillar is using the upcoming CONEXPO-CON/AGG – to be held in Las Vegas from 10-14 March 2020 – to showcase its new 150 AWD motor grader. The new model's major talking point is its all-wheel drive system, which assists with traction and manoeuvring, allowing the machine to work in any environment.

Latest from SDLG is the G9290, which marks the Chinese OEM's entrance into the heavy-duty motor grader market. With a base operating weight of 22,9 t and a 14" wide blade as standard, the productivity of blade down force and blade pull is said to make the SDLG G9290 a strong contender in its size class.

Cat 150 AWD

Efficiency is one of the key design focus areas of the new Cat 150 AWD. A case in point is the Eco mode, which delivers up to 10% greater fuel efficiency without productivity loss, and owning and operating costs are reduced via new filters and longer service intervals.

The new mastless 3D Cat GRADE control system unleashes the potential of the moldboard to give it

<complex-block>



full range of motion. The GNSS receivers are bolted to the machine, which increases uptime and reduces costs associated with potential receiver, mast or machine damage when using the dual 3D GNSS system.

The aggressive blade angle, optimised moldboard curvature and large throat clearance allow material to roll more freely along blade, increasing efficiency. The hydraulic demand fan automatically adjusts speed according to cooling requirements, resulting in more power to the ground and improved fuel efficiency. The engine idle shutdown timer is available to shut down engine after a set period of time, thus saving fuel and helping reduce emissions.

With performance in mind, the programmable Autoshift option simplifies operation by allowing transmission to be programmed to shift at optimal points to match application. Meanwhile, the Power Shift Countershaft Transmission matches the engine, maximising power to the ground. The Electronic Throttle Control helps improve productivity by providing best match of horsepower and torque for application demands.

Several Cat technologies place this machine at the forefront of the motor grader industry. For example, the Shuttle Shift allows smooth, fast direction shifts without requiring the operator to manipulate the throttle or inching pedal.

Cat Product Link aids equipment management with remote monitoring capabilities, thus allowing fleet owners to cast an eye on their mission critical assets all the time. The optional Stable Blade improves grading precision by decreasing engine speed at 15% intervals when machine bounce is detected, then increases engine rpm systematically when the grader stabilises.

The optional Auto Articulation allows the operator to articulate automatically while steering in tight spaces or around curves, obstacles and turnarounds. The optional Cat GRADE with Cross Slope helps maintain desired cross slope by automatically controlling one side of the blade.

The optional Cat AccuGrade uses positioning and guidance technologies, machine sensors and automatic blade control to help get to grade faster, easier and more efficiently. Meanwhile, the Cat Advanced Control Joysticks – an optional feature – allows the operator to control automated grading solutions efficiently and safely without removing their hands from the joysticks.

SDLG G9290

The new G9290 is the first motor grader from SDLG in the heavy-duty size class, with its strength and capacity making it



The G9290's moldboard is kept level at all times by the 16° oscillation on the heavy-duty front axle, 18° wheel leaning and +/- 15° oscillation on the rear tandem, ensuring quality, fine grading.



Inside the cab, the low efforts control levers are ergonomically laid out with ample adjustment possibilities to fit every operator's needs.

ideal for mining haul road maintenance, infrastructure projects, road construction, highways and airports.

The design of the new G9290 motor grader builds on the proven reputation of its smaller brothers – the G9138, G9190 (VHP) and G9220 (VHP) – when it comes to the moldboard, circle turn, drawbar, front axle and rear tandems.

However, the G9290 is said to add a new level of quality with its Volvo-supplied engine and Volvo-designed transmission. A member of the Volvo Group since 2007, SDLG draws on the strength of the group to incorporate high-performance designs and technologies into its products where appropriate.

The SD130B Stage II common rail diesel engine, supplied by Volvo, offers high torque

at low revs from a 211 kW output with Variable Horse Power (VHP) technology as standard. Meanwhile, the HTE840S transmission, designed specifically for motor graders by Volvo, has eight speed forward gears and four speed reverse gears – all with automatic shifting.

The engine is cooled by a thermostatically-controlled, hydraulicallydriven fan, which can be reversed simply by flipping a switch in the cab for easy radiator fin cleaning.

When it comes to blade mobility and control, the moldboard is kept level at all times by the 16° oscillation on the heavyduty front axle, 18° wheel leaning and +/-15° oscillation on the rear tandem, ensuring quality, fine grading. The heavy-duty chaindriven tandem with a no-spin differential lock on the rear axle and heavy-duty bearings, meanwhile, delivers great traction and reliability.

The circle turn, said to be exclusive to SDLG, uses twin-gear hydraulic cylinders to provide instant, high-output torque, enabling moldboard rotation under heavy loads. This means there is no need to stop, reverse and change moldboard angle. Having circle turn gears on the outside of the ring gives the benefit of less mud and debris stuck to the gears and hence less wear, less maintenance and longer durability.

The SDLG circle drive system comes with five support shoes on the G9290 and non-greasing slide bushings for better grading, an extended service life and easy maintenance. SDLG graders also feature an asymmetric drawbar ball stud that can be rotated 180° in order to keep the drawbar in horizontal level position – vital when performing fine grading.

"The G9290 offers tremendous blade mobility, which may be easily performed hydraulically from inside the cab, thanks to the SDLG Blade Control System. The hydraulic lock bar features seven positions to enable blade positioning from a 90° vertical position on both sides of the grader to a 21° downward ditch cleaning angle," explains Mohamad Jammoul, product manager for SDLG motor graders.

The hydraulic system comprises one variable displacement axial piston pump supplying oil to the proportional closed

centre load-sensing main control valve. This ensures that sufficient flow is always available.

Ease of operation and maintenance

Both the Cat 150 AWD and the SDLG G9290 place greater focus on ease of operation and ease of maintenance, based on the two OEMs' understanding that these are significant parameters as far as productivity is concerned.

With large openable doors at the side and at the rear, the SDLG G9290 motor grader provides greater access to all the main maintenance points. For convenience, all filters are grouped together on the left side of engine.

"The new SDLG G9290 motor grader is the embodiment of Reliability in Action," says Jammoul. "The machine is built to last, while delivering best-in-class grading performance."

With ease of operation in mind, the Cat 150 AWD's Selectable blade lift modes – Fine, Normal, or Coarse – allow the operator to choose the blade lift modulation mode that best fits your application or operating style. Joystick controls with electronically adjustable control pods reduce hand and arm movement by 78%, helping reduce operator fatigue.

The 150 AWD's left joystick controls steering, articulation, return-to-centre, wheel lean, gear selection, left moldboard lift cylinder and float. The right joystick controls drawbar, circle and moldboard functions as well as electronic throttle control and manual differential lock/ unlock. The articulation Return-to-Centre automatically returns machine to a straight frame position from any angle with the touch of a button.

As far as serviceability is concerned, the Cat 150 AWD comes with sacrificial brass wear strips between blade mounting group and moldboard, which can be easily adjusted and replaced. The Shimless Moldboard Retention System uses vertical and horizontal adjusting screws to keep moldboard wear strips aligned for reduced blade chatter and precise blade control.

Safety and comfort

The G9290's cab is fitted on the front frame of the machine to reduce vibrations and heat from engine and transmission. Entry and exit can safely be made with three-point contact all the way. The cab is fitted with LED work lights to ensure safe operation even in the absence of daylight.

"The design of the G9290 provides greater visibility for the operator to the front and the sides of the machine, with large windows to enhance all-round visibility. The sloping front frame provides sound visibility to front objects. Inside the cab, the low efforts control levers are ergonomically laid out with ample adjustment possibilities to fit every operator's needs. The steering wheel pedestal is also adjustable for optimal comfort," says Jammoul.

To increase operator comfort, the Cat 150 AWD's control pods can be adjusted electronically, making it easy to set to ideal operating position. The standard Cat Comfort Series suspension seat is fully adjustable. The high-capacity heating, ventilation and air conditioning (HVAC) system dehumidifies and pressurises cab, sealing out dust and helping keep windows clear.

With safety in mind, the 150 AWD's angled cab doors, tapered engine enclosure and sloped rear window make it easy to see moldboard and tyres, as well as behind the machine. The optional rear vision camera enhances sight to rear of machine. \bigcirc



ELECTRIC TRUCKS

SAB-AB InBev Africa's commitment to reducing its carbon footprint has been demonstrated by taking delivery of the first electric truck in South Africa.



BREWING SUSTAINABILITY

As part of its commitment to a 'green' future, SAB-AB InBev Africa has taken delivery of the first fully electric truck to arrive on South African shores. Supplied by FUSO, part of the Daimler Group, the 7,5 t eCanter offers zero emissions and is said to be the first truck of its kind to be commercially available globally, writes *Munesu Shoko*.

he arrival of the FUSO eCanter marks a major step in SAB-AB InBev Africa's push towards a 'green' future. The arrival of the truck coincides with the company's renewable energy drive, which saw its breweries across South Africa being installed with onsite solar facilities by the end of January this year. This kicks off a multi-billion rand investment with the goal to procure 100% of the business's electricity needs at manufacturing sites across Africa by 2025.

This is part of AB InBev's global renewable commitment, which seeks to procure 50% of the company's purchased electricity from renewable energy sources by 2020, and 100% by 2025. Taryn Rosekilly, VP Sustainability at SAB-AB InBev Africa, says AB InBev has already achieved its 50% target in key markets across the globe ahead of schedule and is well on track to achieve the 100% ambition, with good progress being made in Africa. To give an idea, the onsite solar power project at seven of the company's South African breweries will partially power each facility and represents 7% of the business's electricity requirements. This is equivalent to taking about 2 000 vehicles off the country's roads. The solar project will allow for all electricity consumed for the production of its global brand, Budweiser, at its Rosslyn Brewery, north of Pretoria, to be sourced from renewable energy.

"Globally, Budweiser is ramping up towards this ambition of being 100% renewably brewed by 2025 and is currently ahead of schedule. Budweiser wants to use this scale and the power of our brand to encourage consumers to choose renewable, which is why it is committed to a 100% zero emission future. We envisage a 100% renewably brewed Budweiser to come off our Rossyln production line by March this year," says Rosekilly.

For the company to reach its 100% goal by 2025 in



QUICK TAKE

SAB-AB InBev Africa has taken delivery of the FUSO eCanter, the first fully electric truck to arrive on South African shores

Zero emission

The eCanter produces zero emissions and is the first of its kind in the world with a distance range of 100 $\rm km$

With a gross vehicle weight of 7,49 t, the eCanter offers a payload of up to 3,5 t, depending on body and use case

After two years in customer operations, the FUSO eCanter fleet has achieved 1-million km, driven emission-free. Customers are now operating around 150 vehicles in New York, Tokyo, Berlin, London, Amsterdam, Paris and Lisbon



ECANTER FLEET HAS ACHIEVED 1-MILLION KM

Africa, Rosekilly however says SAB-AB InBev Africa will need to source an equivalent of 440 MW of solar energy capacity across the continent. This, in turn, will unlock approximately R5-6billion in infrastructure investments and a further R12,4-billion in energy costs committed by AB InBev over a 20-year period. Rosekilly says the renewable energy campaign helps the company address two clear objectives: firstly, to ensure security of supply in the company's operations, and secondly, to drive down the company's carbon footprint.

Demonstrating commitment

SAB-AB InBev Africa's commitment to reducing its carbon footprint has



A single charge allows for an effective operating range of 100 km.



"The arrival of the FUSO eCanter is an important milestone for SAB-AB InBev, as it provides us with insights on how we can increasingly transition our business for a low carbon future. What makes this truck truly 'green' is that it will be charged using renewable energy generated at the Chamdor Brewery. This will avoid generating indirect emissions through the use of conventional grid electricity."

Taryn Rosekilly, VP Sustainability at SAB-AB InBev Africa



"As OEMs, we all have a role to play in providing environmentally friendly and sustainable solutions for all who keep our world moving. It is for this reason that FUSO Trucks is honoured to be part of this game-changing initiative and for the opportunity to showcase the eCanter, our revolutionary response to the public's need for a zero-emission truck."

Ziyad Gaba, head of FUSO Trucks Southern Africa

been further demonstrated by the arrival of the first electric truck in South Africa. The eCanter produces zero emissions and is the first of its kind in the world with a distance range of 100 km. This is the first electric truck to arrive on South African shores.

"This is an important milestone for SAB-AB InBev Africa, as it provides us with insights on how we can increasingly transition our business for a low carbon future. What makes this truck truly 'green' is that it will be charged using renewable energy generated at the Chamdor Brewery. This will avoid generating indirect emissions through the use of conventional grid electricity," explains Rosekilly.

Rosekilly says the company is well aware that the reduction in greenhouse gas emissions and overall air quality benefits brought by electric vehicles depend on the generation source used to charge them. In some cases, electric vehicles could result in substantial emissions or even help extend the life of fossil fuels, if charged primarily with fossil fuel-based energy. With its solar project rollout, this is a non-issue for SAB-AB In Bev Africa.

Ziyad Gaba, head of FUSO Trucks Southern Africa, says the first eCanter in South Africa has only been brought as a special request by SAB-AB InBev Africa. "Our aim as FUSO has always been to come up with progressive, but simplified transport solutions that are at the forefront of our customers' evolving needs around efficiency, versatility and sustainability. The commitment made by AB InBev not only demonstrates a step in the right direction, but true vision and leadership that is key to shaping our



"Powered by six high-voltage lithium-ion batteries with 420 V and 13,8 kWh each, the electric drivetrain with a permanent-magnetmotor delivers 135 kW via a single-gear transmission in the rear axle."

Joel Ngubane, product specialist at FUSO Trucks Southern Africa



Decarbonisation of the transport sector is particularly important, especially in Africa where we currently drive over 120-million km per year. The amount of carbon emissions that come from that is significant, as we consume over 50-million litres of diesel in the process."

Mark Andrew, logistics director T1&T2 at AB InBev Africa

present and the future," says Gaba.

"As OEMs, we all have a role to play in providing environmentally friendly and sustainable solutions for all who keep our world moving. It is for this reason that we as FUSO Trucks are honoured to be part of this game-changing initiative and for the opportunity to showcase the eCanter, our revolutionary response to the public's need for a zero-emission truck, among other benefits," adds Gaba.

eCanter in detail

The eCanter has a gross vehicle weight of 7,49 t and a payload of up to 3,5 t, depending on body and use case. "Powered by six high-voltage lithium-ion batteries with 365 V (nominal) to 420 V (maximum) and 13,8 kWh each, the electric drivetrain with a permanentmagnet-motor delivers 135 kW via a single-gear transmission in the rear axle," says Joel Ngubane, product specialist at FUSO Trucks Southern Africa.

A single charge allows for an effective operating range of over 100 km, which is more than enough for inner-city distribution. With the emission-free eCanter, customers not only contribute in shaping a sustainable urban environment, but are able to reduce their operational costs significantly, compared to conventional diesel trucks.

Ngubane says the vehicle has the ability to charge using both AC and DC voltage. "In the world of electric vehicles, we have two chargers – Type 1 (CHadeMO and SAE J1772)) and Type 2 (CCS). The vehicle uses Type 1, which uses both AC and DC connectors," he says.

"Using the normal AC charger, the vehicle takes about nine hours to charge, which is preferable for overnight charging when the vehicle is parked. For quick charging, the vehicle uses a DC charger, which takes up to an hour to fully charge the truck," adds Ngubane.

Gaba says the all-electric light-duty truck is FUSO's answer to the public's need for a zero-emission, zero-noise truck for continuously increasing innercity distribution. In addition to being an eco-friendly vehicle, it is cost-efficient and economical for users, as already proved during customer tests in Europe.

After two years in customer operations, the FUSO eCanter fleet has achieved 1-million km, driven emissionfree. Customers are now operating around 150 vehicles in New York, Tokyo, Berlin, London, Amsterdam, Paris and Lisbon. Currently, Daimler engineers are collecting data and feedback on the daily operation of the vehicle, route profiles and charging characteristics together with customers. This information then flows into the ongoing development of the next generation of the FUSO eCanter.

Important move

Mark Andrew, logistics director T1&T2 at AB InBev Africa, says the arrival of the FUSO eCanter is part of the company's grand plan to reduce its carbon footprint from its logistics operations. It puts SAB-AB In Bev at the forefront of decarbonising the transport sector, which is a crucial pillar of the company's business. "This is particularly important, especially in Africa where we currently drive over 120-million km per year. The amount of carbon emissions that come from that is significant, as we consume over 50-million litres of diesel in the process," says Andrew.

Andrew says, through a number of initiatives, the company has spent significant time and effort in identifying high impact areas to reduce its carbon footprint. "For example, in the past three years we have been driving fewer kilometres. This has been made possible by initiatives such as efficient routing of our vehicles, which also translates into economic operation by reducing waste in terms of fuel consumption," he says.

In addition, the company has installed a fuel proxy on all of its 840 vehicles. The proxy – a gadget placed in the fuel tank – allows fleet managers to get an accurate idea of the driving standards across the fleet, which talks to fuel saving and effectively less carbon emissions. Another initiative of note is load sizing, which makes sure that vehicles are always driven with a full load, thus maximising every trip.

"We also constantly renew our fleet, which ensures greater efficiency. In South Africa, particularly in Eastern Cape and KwaZulu-Natal, we have resorted to using larger distribution vehicles, which allows us to carry larger loads of between 30-40 pallets, which in turn, on a unit basis, reduces 12% of our fuel consumption," says Andrew.

He says the next move is exciting. The company is starting to move, slowly but surely, towards CNG (compressed natural gas), LPG (liquefied petroleum gas) and electric-powered vehicles. "AB InBev has already made significant strides in other markets, and we are starting the journey in South Africa. In fact, in all our zones around the world, CNG is progressively used as a fuel source, and is far more environmentally friendly than diesel," concludes Andrew.



BOLSTERING THE OFFERING

Having established itself as a one-stop supplier for the agricultural community – representing three leading tractor brands from one stable – Dicla has in recent years bolstered its offering with a range of its own Dicla-branded materials handling solutions, as well as some leading international brands. Not only have the solutions extended the product offering, but have also allowed the company to expand its sectorial reach, writes *Munesu Shoko*.

n 1993, Dirk Tijsen designed and manufactured tunnels for self-planting of vegetables. This turned out to be such a success that in no time he had 18 tunnels producing flowers and vegetables. About a year later, he was appointed as the sole distributor of vegetable seeds by a Netherlands-based company, Rijk Zwaan Seeds, while supplying the tunnels on a commercial basis as well.

In 2009, Dicla Farm and Seed (Pty) Ltd was formed,

following the merger of Dicla Farm and Seed cc and Tijbros Agricultural Machinery cc. Over the years, the company has expanded its horizons by continuously adding several products and services to its stable. Today, the company supplies tunnels, net house structures, irrigation equipment, greenhouse plastic, shadenet, seedlings, tractors and agricultural implements.

Under the leadership of Johan Tijsen, who took over from his father in 2011 as MD, the company has been on



QUICK TAKE

Dicla has established itself as a one-stop materials handling equipment supplier, offering products such as forklifts, telehandlers and skid steers from one stable



The company supplies its own Korean made, Dicla-branded skid steer range to the agricultural and construction sectors

When it comes to telescopic handlers, Dicla has been offering an Italian brand, Faresin, for the past six years

Dicla's forklift offering is anchored by its own Dicla-branded range. Manufactured in China, the range is rebranded under the Dicla name and has been available for the past 10 years





"We have done well with our skid steer range. To give an idea, we currently have about 400 machines operating in the field. We sell countrywide, and our biggest customer base is the farming community, representing about 70% of our installed base. We have also recently been successful in the construction sector, targeting small to medium size construction companies."

Gerry Esterhuizen, dealer network manager at Dicla



a continuous growth path. Dicla today imports various equipment brands such as Fieldking, Agromaster and Faresin, while being dealers of established brands such as Massey Ferguson, New Holland, Kubota, Challenger, Polaris and AUSA.

Of interest to **Capital Equipment News** is the addition of materials handling equipment such as forklifts,

MATERIALS HANDLING





Dicla has been offering an Italian brand of telescopic handlers, Faresin, to the local market for the past six years.

Dicla recently expanded its product offering with the recent addition of SEM earthmoving equipment to its portfolio.

telehandlers and skid steers to the stable. This has recently been complemented by the addition of earthmoving equipment to the fold, following the company's recent appointment as the SEM dealer some six months ago, establishing Dicla as a true one-stop shop to its customers.

Skid steers

A common trend in recent years, mainly in the construction equipment space, is the importation of non-branded equipment, which is then locally branded and supported by the local importer. Dicla has adopted this model with its Korean-made skid steer range.

The company supplies a two-model range of its own Dicla-branded skid steer loader. Gerry Esterhuizen, dealer network manager at Dicla, tells **Capital Equipment News** that the company has been importing this range since 2006. The company's model focuses on offering a basic, good quality, mechanical skid steer loader at competitive prices. This approach has made Dicla successful with its skid steer range.

"This is our own in-house product range. We import, supply, service and maintain it. We also carry all the necessary parts for any piece of equipment we have in stock," says Esterhiuzen. The company also offers both onsite and workshop repairs. Its 1 600 m² Gauteng workshop is fully stocked with parts and is fully staffed with qualified technicians who undertake all the maintenance and repair work. "We have done well with our skid steer range. To give an idea, we currently have about 400 machines operating in the field. We sell countrywide, and our biggest customer base is the farming community to date, representing about 70% of the installed base. We have also recently been successful in the construction sector, targeting small to medium size construction companies," explains Esterhuizen.

Dicla offers the SSL5700 and SSL6700 models. With a 53 hp engine, rated operating capacity of 850 kg and operating weight of 2 680 kg, the SSL5300 is ideally suited for agricultural applications. The SL6700 is a 64 hp machine with a rated operating capacity of 910 kg and operating weight of 2 790 kg. This is a turbocharged machine, suited for demanding construction jobs.

Telehandler offering

When it comes to telescopic handlers, Dicla has been offering an Italian brand, Faresin, to the local market for the past six years. The range starts from 6 m to 11 m reach and 2,5 to 3,5 t lifting capacity. It is ideally suited for the agricultural sector, targeting applications such as packing bales and storage. However, it can also be deployed in the construction sector for all types of work, including civil and building industrial sites.

A major talking point on this range is the hydraulic system with load sensing (LS) technology. In conjunction with the regenerative valves, this enables high performance levels, allowing for significantly reduced cycle times even at low engine speeds, thus saving fuel significantly.

The heavy duty range, which comes with the LS system, uses the regenerative technology. The technology regenerates the oil emerging from the lifting cylinder while the boom is rising, adding it to the oil in circulation in the pump. "The process significantly reduces the boom lifting time in all operating conditions, especially at low diesel engine speeds, thus substantially reducing fuel consumption and cycle times by up to 60%, compared with machines not equipped with this system," explains Esterhuizen.

The EcoFast valve, together with the Slow Motion function, allows the boom to be slowed when the anti-tipping system is in pre-alarm conditions, with the BLC (Bumpless Control Function). The system also allows guaranteed absorption of the shock derived from sudden boom stops with the BLC. It also allows for increased sensitivity and precision depending on the different types of work, thanks to regulation of the speed of boom movements using potentiometer in the cab with the Boom Speed Control function.

Dicla is also a sub-dealer for Smith Power Equipment, allowing the company to offer the AUSA range of telehandlers. AUSA is a leading Spanish OEM renowned for its extensive range of allterrain telescopic handlers.

Forklift range

Dicla's forklift offering is anchored by its



own Dicla-branded range. Manufactured in China, the range is rebranded under the Dicla name. This has been the case for the past 10 years. "Our approach is to keep the machine basic. We supply the 3 t machine only, which comes with standard 1.2 m forks. The machine is as basic as possible to allow for easy backup and ease of service for our customers," explains Esterhuizen.

The model is mostly focused on the agricultural sector. However, Dicla has seen continued growth of the model in other sectors, and the installed base is now evenly spread between agriculture and other commercial materials handling applications such as warehouses. "We have really done well with this model. In some instances we have sold more than 100 machines a year," he says.

"The Dicla forklift is a cost-effective solution for companies seeking a reliable, yet competitively priced product, especially considering the tight budgets often allocated for materials handling. Apart from the reliability of our product range and competitive pricing, superior service and support ability place us in good stead for continued growth of this range," says Esterhuizen.

The sub-dealer agreement with Smith Power also allows Dicla to offer other forklift ranges - AUSA and Kipor - from one stable. AUSA forklifts are versatile machines capable of handling heavy loads on rough and sloping terrain. This makes them suitable for construction. mining, agriculture and industrial

applications. The wide line of off-road and semi-industrial models ranges from 2,5 to 3,5 t.

Earthmoving offering

To close a gap in its product offering, Dicla was recently appointed the SEM dealer for Gauteng, covering certain areas in North West and Free State as well. "We realised that we didn't have big earthmoving machinery in our stable, and we saw SEM as a perfect fit to close that product gap. The SEM brand also fits well with our approach of offering a competitively priced product backed up by great support," says Esterhuizen. On the other hand, the distributorship agreement allows SEM to leverage Dicla's extensive knowledge and coverage of the agricultural sector.

Dicla supports its customers from its main branch in Muldersdrift, Gauteng. This is complemented by a strong dealer network across all provinces. "We have an active network of 60 dealers, offering sales and service. Most of them are existing tractor dealers, with extensive knowledge of the industry, allowing them to offer high levels of support to our customers," concludes Esterhuizen. ۞



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LEAP FORWARD IN REACH TRUCK DESIGN

The ESR 1000 Series from Crown – recently launched locally by Goscor Lift Truck Company – takes a considerable leap forward in reach truck design. The range benefits from advanced productivity and management capabilities as standard features, thanks to the Gena operating system and built-in InfoLink connectivity, writes *Munesu Shoko*.

ecent developments in forklift technology have resulted in cutting-edge reach trucks that are smarter, offering an array of benefits to the end user. A true case in point is Crown's new ESR 1000 range of reach trucks – comprising the ESR 1020 with narrow chassis, the ESR 1040 and the ESR 1060 for intensive use.

A key talking point on the range is its technological prowess, championed by the new Gena operating system. The range's future-proof Gena operating system optimises performance and makes vital information easy to see, understand and use, while the full connectivity puts it at the forefront of Logistics 4.0 and the Internet of Things (IoT).

The system creates a particularly intuitive and safer user experience via a 7-inch colour touchscreen with a variety of customisable widgets and assistance systems such as Auto Height Select and Capacity Data Monitor.

Patrick Barber, sales director at GLTC, says of note is that InfoLink, Crown's fleet management system, is seamlessly integrated into Gena and



The ESR 1000 Series' Gena operating system optimises performance and makes vital information easy to see, understand and use, while the full connectivity puts it at the forefront of Logistics 4.0 and the IoT

Customers can now benefit from advanced productivity, safety and management capabilities as standard features, thanks to the Gena operating system and InfoLink fleet management system

High-speed processors and proprietary algorithms adjust operating parameters for safe, efficient performance. This includes Crown's AC motors, which incorporate the latest generation motor control and the highest thermal rating in the industry

Operators will also benefit from features such as regenerative braking and lowering, which recover energy for longer runtime. The regenerative lowering and braking functions enable energy savings of up to 11% can be enabled for a fee on customer request. "Via the Gena display, operators have a variety of new safety and coaching functions. The full connectivity via GSM and Wi-Fi makes the ESR 1000 Series fit for the challenges of Logistics 4.0 and IoT," says Barber.

"The ESR 1000 takes a considerable leap forward in reach truck design, building on the award-winning ESR 5200 Series. Customers can now benefit from advanced productivity, safety and management capabilities as standard features, thanks to the Gena operating system and InfoLink," adds Barber.

"Crown's InfoLink fleet management system uses the ESR's Gena operating system to give fleet owners a rich source of real-time performance data. This helps our customers monitor and manage compliance and productivity. Additionally, service technicians can use the truck display for enhanced diagnostics, including step-by-step troubleshooting, setup and calibration," explains Barber.

The range

The ESR 1020 is available in 1,4 tonne (t) and 1,6 t capacities. With its maximum lift height of

9 090 mm, the narrow chassis model is ideal for confined spaces, block stacking applications and rack aisles only 2,5 m wide.

The ESR 1040 is available in 1,4 t and 1,6 t capacities. The standard width model is a value-packed solution that doesn't compromise on durability or operator comfort. It offers a maximum lift height of 9 450 mm and a maximum lift speed of 0,61 m/s.

Designed for heavy loads, higher lift heights and greater throughput, the ESR 1060 is available in 1,4 t; 1,6 t; or 2 t capacities. The model offers a maximum lift height of 13 560 mm, overall width of 1 285 mm and maximum lift speed of 0,8 m/s.

Efficiency in action

Energy saving is one measure of efficiency. Working smarter to get more done with much less effort is another. Crown ESR reach trucks offer both, thanks to the Gena operating system – everything on the ESR is linked to Gena. Sensors integrated throughout the truck gather real-time data on operating conditions, control input and system output.

"The ESR Series reach trucks offer a new dimension of efficiency, energy savings and performance. Crown's intelligent Optimised Cornering Speed system built into all ESR Series reach trucks recognises whether the operator

QUICK TAK





"The ESR 1000 takes a considerable leap forward in reach truck design, building on the award-winning ESR 5200 Series. Customers can now benefit from advanced productivity, safety and management capabilities as standard features, thanks to the Gena operating system and InfoLink."

Patrick Barber, sales director at Goscor Lift Truck Company

is driving into or out of a curve, analysing steer tyre angle, driving direction and steering direction, and automatically adjusts speed and acceleration for maximum safety and performance," explains Barber.

High-speed processors and proprietary algorithms adjust operating parameters for safe, efficient performance. This includes Crown's AC motors, which incorporate the latest generation motor control and high thermal rating.

Operators will also benefit from features such as regenerative braking and lowering, which recover energy for longer runtime. The regenerative lowering and braking functions enable energy savings of up to 11%.

"e-GEN Braking saves energy while improving brake performance and life. The high-torque traction motor provides smooth braking while returning energy to the system. Regenerative lowering, included with Xpress Lower, recaptures energy as the mast is lowered and returns it to the system for a significant runtime advantage," explains Barber.

The OnTrac Anti Slip Traction Control ensures optimum tractive performance in wet, dusty or freezer applications. "Crown's patented OnTrac Anti-Slip Traction Control reduces tyre spin during acceleration, plugging and braking. The Gena operating system analyses truck speed, wheel revolutions and driver inputs to optimise tractive performance and increase tyre life," he adds.

Working smarter at height

Positioning forks and loads at height

can be a daunting task. With ESR reach trucks, operators will work with skill and precision at any height without compromising productivity. Programmable features – Xpress Lower, intuitive displays, one-touch controls and camera options – all work in union to optimise performance. Advanced hydraulics and motors, including regenerative lowering systems, deliver smoother, quieter and faster lowering.

The optional Xpress Lower technology lets the operator double lowering speeds, resulting in substantial savings in time and money. "With the Xpress Lower technology, the mast lowering speed has been doubled to 1,1 m/s, which is unique in the market. This allows productivity increases of up to 21%," says Barber.

The ESR's Auto Height Select (AHS) feature automatically stops the forks at programmed rack heights, either by selecting the desired destination on the screen or by using the one-touch button to stop at the next programmed height. Its precise, automated positioning capabilities help avoid product, rack and truck damage, while improving throughput significantly.

The ESR's optional Tilt Position Assist compensates for mast and carriage deflection and automatically levels forks relative to the ground for more precise positioning. Camera options for the forks



The Gena operating system analyses truck speed, wheel revolutions and driver inputs to optimise tractive performance and increase tyre life.

or mast further optimise load handling and positioning.

Safety and comfort matters

The ESR 1000 reach truck makes safety even more personal with on-truck reminders, automated assistance and dynamic coaching that provides contextual guidance to help increase operator awareness. Consider it like an onboard virtual coach.

Clear interactive displays, automated assistance and coaching, context-sensitive alerts, pre-programmed safety reminders and unobstructed views further enhance performance and productivity.

The optional Capacity Data Monitor provides accurate load weights, lift heights and capacity limits at a glance. Colour-coded visuals are designed to alert the operator of current status, so they stay within safe load limits.

"InfoLink customisable checklists ensure safe operation and provide safety data for managing safety, service and compliance," says Barber. "The ESR regularly displays random safety reminders – illustrations and texts – to raise the operator's awareness of potentially hazardous situations."

The ESR's offset mast gives the operator a better view of the load wheel, fork and pallet. The optional panoramic glass maximises visibility and provides a



With ESR reach trucks, operators will work with skill and precision at any height without compromising productivity

superior debris shield for safety and productivity improvements.

Personalisation is how the ESR helps operators comfortably move with precision and confidence from one task to the next. Operators can choose the optimal position for control, visibility and workflow – allowing them to improve a skill set, with fluency that moves towards precision.

"Integrated into the armrest, the optional remote navigation knob provides a convenient alternative to the touchscreen. Accessories such as work lights and seat heater are controlled from auxiliary switches in the armrest control panel," concludes Barber. ©



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Filip Van den Heede, new MD for UD Trucks Southern Africa.

NEW ERA FOR UD TRUCKS Southern Africa

Filip Van den Heede has been appointed new MD of UD Trucks Southern Africa. He takes over from Gert Swanepoel, who is retiring after 32 years with the company, and is currently fulfilling a senior advisory role as part of the handover process till the end of March this year. In a one-on-one with *Munesu Shoko*, Van den Heede explains some of his immediate priorities, as well as the intricacies of the 'strategic alliance' between the Volvo Group and Isuzu Motors Ltd, which will ultimately see the ownership of UD Trucks being transferred to Isuzu Motors Ltd, once the deal is approved end 2020.

Munesu Shoko [MS]: Who is Filip Van den Heede?

Filip Van den Heede [FVdH]: I am a Belgian national who has been with the Volvo Group for the past 22 years, of which the past 12 years have been with UD Trucks in Asia. In my previous role as vice president of Vehicle Sales and Marketing for UD Trucks International Sales for the past four years, I got to know and work closely with the South African team as southern Africa was part of my area of responsibility. My responsibility in this role covered a total of 60+ countries where UD is present today, including Australia, New Zealand, as well as South East Asia, the Middle East, North Africa, Latin and Central America.

Before that, I was MD of UD Trucks Malaysia for two years. These roles have exposed me to all aspects of the business, including aftermarket, business development, new product introductions and sales. I have, for the

past eight years, been part of the team that revamped the UD Trucks' product line. I have been, from day one, been part of the Quester launch. I have also been part of the Croner, Kuzer and new Quon launches here in South Africa.

MS: What are your key priorities during the first year of your tenure?

FVdH: Our mission for 2020 is to continue providing smart and modern products and services to support smart logistics. That strategy is built on five key pillars, namely Smart Driveability, Smart Fuel Efficiency, Smart Safety, Smart Productivity and Smart Uptime. How are we going to achieve this?

Last year was an extraordinary year for UD Trucks Southern Africa as we got to introduce three new model ranges in the region – the New Quester, Kuzer and the new Quon – giving our customers access to an extensive new, modern and smart, model line-up in all market segments.

The new models speak to our strategy of providing products and services to support smart logistics. For example, the new Quon gives transport companies some relief with a range of features that speak directly to fuel efficiency. With productivity in mind, every component in the new Quon has been refined to realise

FILIP VAN DEN HEEDE'S HISTORY

Filip has been with the Volvo Group for 22 years since he joined Volvo Parts Ghent in 1998. His contribution to business development in Asia started in 2004 in Singapore. He moved to China four years later in 2008 and was subsequently appointed vice president of Volvo Parts Asia and president of Volvo Parts Shanghai. In this role, he managed the logistics and customer services operations of six regional distribution centres and developed the Volvo Action Service customer call centre for China.

Prior to his appointment as MD of UD Trucks Southern Africa, Filip served as vice president of Vehicle Sales and Marketing for UD Trucks International Sales from 2016 to 2019, driving the sales and marketing activities across the different sales hubs, including southern Africa, Oceania, Indonesia, Thailand, Malaysia, the Middle East, North Africa and Latin America. Prior to that, he served as MD of UD Trucks Malaysia from 2017-2018.

From 2012 to 2016 he served as vice president Service Sales for Volvo Group Trucks in Asia Oceania Sales, where he drove the increase of parts and services sales, implemented complete commercial offers and introduced new fleet services.

an overall lighter vehicle, while achieving gains in load-carrying capacity of up to 200 kg, depending on the model.

To boost productivity and profitability for business owners and logistics companies, the New Quester achieves enhanced fuel efficiency of up to 10% compared with the current Quester with the 12-speed ESCOT automated manual transmission, lighter tare weight and optimised driveline, depending on the operating condition, driving behaviour and vehicle maintenance.

A durable and reliable engine is a key factor in the Kuzer securing maximum uptime. A new generation CRS engine system delivers on this promise, even when regularly pushed to its limits. Uptime is further guaranteed by UD Trucks Mobile Workshop that supports businesses by bringing service to the customer's location if needed. UD Trucks Telematics Systems also include innovative geofencing technology to identify and set the fastest routes for drivers, saving customers time and money.

With the product revamp now complete, 2020 is a year of consolidation. With a complete new line of products and services, the next step is to strengthen our position, looking at each segment and fine-tuning the offering. Our customers continue to be our biggest focus, and they are the reason behind the company's continued investment in new products and services.

MS: You mentioned that you have added new services to your portfolio. What are those and how big a focus is the aftermarket offering in 2020?

FVdH: Last year we added two new services to our portfolio: the financial services to help our customers get access to quick and easy finance for their mission critical trucks, as well as the UD Used Trucks offering to support our vehicle sales and customers in the second-hand market, allowing them to benefit from the enhanced features in UD Trucks Telematics solutions. Those are some of the developments on the hard side of the business – the products and services. We will continue to build and make these services more competitive and adaptable to customer needs.

More importantly, we have also placed a big focus on our people. We have spent more time, together with our dealer network, improving the competence of our people through our training programme. We also take pride in working with our customers' drivers, to make sure that they have the right skills to drive our customers' businesses forward. We have done well with our Extra Mile Challenge since we started some six years ago.

My heart is also very close to the aftermarket. This is an important part of the business and we have put in a lot of effort in ensuring the uptime of our customers. We have one of the most extensive dealer networks in the region, with 36 dealers and service agents in South Africa and 30 in other southern African countries like Angola, Malawi, Mozambique, Mauritius, Namibia, Zambia and Zimbabwe.

As UD Trucks, we believe it comes down to the basics of supporting our customers every step of the way. To be there with professional service, parts and sales support throughout a truck's lifecycle, and to keep on adding value to our customers' businesses. Based on my experience in my previous role, I would say UD Trucks SA has the most comprehensive offering of soft products.

MS: Your tenure as the new MD of UD Trucks Southern Africa comes on the back of the recent announcement of the strategic alliance between the Volvo Group and Isuzu Motors Ltd. What does this entail?

FVdH: The first step is to establish a global technology partnership and to create a stronger, combined heavy-duty truck business for Isuzu Motors and UD Trucks in Japan and across international markets.

This will entail transferring ownership of the complete UD Trucks business globally from the Volvo Group to Isuzu Motors in order to accelerate growth by leveraging greater volumes and complementary capabilities. There is great complementarity between the two groups from both a geographical and product line perspective, with further opportunities to be explored over time.

The intended strategic alliance between the Volvo Group and Isuzu Motors is based on three pillars. The first is to form a technology partnership, which will leverage the two parties' complementary areas of expertise within both well-known and new technologies, as well as to create a larger volume base to support necessary, forthcoming technology investments such as automation, connectivity and electromobility.

The second pillar is to create the best long-term conditions for a stronger heavyduty truck business for UD Trucks and Isuzu Motors in Japan and across international markets.

The third pillar is based on exploring opportunities for even broader and deeper collaboration within the commercial vehicle business across geographical areas and product lines, such as light- and mediumduty trucks. Ultimately, the intention is to transfer ownership of the complete UD Trucks business globally.

The next steps will be finalising the scope of the business to be transferred, due diligence by Isuzu Motors and negotiations of binding agreements. Signing of binding agreements is expected by mid-2020 and closing of the transaction is expected by the end of 2020. All potential transactions will be subject to regulatory and other approvals.

MS: You mentioned that the idea is to create a strong, single Japanese trucking entity. What are the synergies between the two Japanese brands? Are they not direct competitors in every aspect?

FVdH: From a South African market perspective, they are surely competitors. The question of synergies is a bit premature to answer at this stage. However, from a global perspective both parties in the strategic alliance between Volvo Group and Isuzu Motors, have an excellent fit in products, technologies and geographical areas, which opens up a wide range of business opportunities for cooperation within well-known and new technologies.

Based on complementary strengths, both parties will explore opportunities for even broader and deeper collaboration within the commercial vehicle businesses across geographical areas and product lines, such as light-, medium- and heavy-duty trucks.

EAZI ACCESS PARTNERS WITH LINDE MATERIAL HANDLING

Linde Material Handling has appointed Eazi Access as their exclusive distributor for South Africa. The products of the premium brand allow Eazi Access to close some gaps in its existing offerings, bringing in complementary ranges that set Eazi Access on a one-stop shop path.

inde Material Handling is one of the world's largest manufacturers of forklift trucks and warehouse equipment, specialising in industrial trucks, fleet management, driver assistance systems and service offerings.

In their press release announcing the appointment, Linde Material Handling emphasised the fact that Eazi Access's ability to provide innovative, bespoke access and material-handling solutions makes them a perfect strategic fit. Marcus Green, GM for rental & sales support at Eazi Access, says this talks to the shared value system and high standards both companies share.

"Eazi Access is a premium brand distributor that offers a differentiated service offering to our customers and Linde Material Handling is known worldwide as the 'Rolls Royce' of forklifts. Partnering with this brand is an extension of what we've done previously with industry leaders like JLG, Magni and JCB," he explains.

What the new partnership entails

According to Green, the partnership with Linde Material Handling will help Eazi Access reach new heights in four areas:

Fleet: "We will be making over 50 new product offerings available to our customers. Forklifts are only one of Linde Material Handling's areas of expertise and the warehousing opportunities we can tap into (such as lithium ion and robotic options) can further differentiate our technical abilities."

Growth: "Leveraging the forklift market in South Africa gives us the chance to grow our range of rental, sales, training and service options to our customers."

Industries: "There are some great synergies we can explore in the light industrial industry, while the safety aspects of these products could open more doors in the heavy industrial and mining industries."

Innovation: "As a brand we are always looking at new ways to be at the forefront of technology so that we can provide safer and more customer-focused solutions – something Linde Material Handling's team strongly believes in."

"The opportunity for us to extend our product offering in the mining, heavy and light industries strengthen our resolve to be a



The partnership with Linde Material Handling will help Eazi Access reach new heights.

single point of contact – a one-stop-shop for our customers, across various sectors. This will help us become an even more customerfocused household brand," Green says.

Linde Material Handling offering

Eazi Access has a wide distributorship jurisdiction for the Linde Material Handling range, which initially covers most of the SADC countries, including South Africa, Namibia, Botswana, Zambia, Zimbabwe, Mozambique, as well as Uganda.

However, Karl Thorington, COO at Eazi Access, mentions that the company is negotiating for 21 African countries in total. "Realistically, in the next two to three years we are looking at distributing Linde Material Handling across all English-speaking African countries," he says.

With regards to the Linde Material Handling offering, Thorington explains that Eazi Access will bring in a total of 59 models. The range comprises counterbalance forklifts (whether electrical, diesel or gas), reach trucks, pallet trucks, pallet stackers, very narrow aisle trucks, order pickers and tow trucks. "The new range gives us a footprint into completely new territories. We are now able to offer a complete solution for warehouses and distribution centres," says Thorington. The machines include:

- Diesel & LPG counterbalanced trucks: Designed to carry loads between 1,4 t & 18 t, these trucks offer safe and reliable material-handling solutions.
- Electric counterbalanced trucks: Designed around the operator, these models offer the highest levels of comfort, excellent versatility and outstanding manoeuvrability to operate both inside and outside to carry out a whole range of tasks.
- Electric reach trucks: A versatile range of reach forklift trucks that provide excellent narrow-aisle handling, ergonomically designed operator facilities, compact robot-welded chassis and great uptime ratios.

Both Green and Thorington are excited about having the Linde Material Handling product in the Eazi Access stable. They also both have a good understanding of the product offering, from an internal and customer perspective, with Green having worked for Linde Material Handling and Thorington having been a Linde Material Handling customer.

HOW TO SELECT THE RIGHT **EXCAVATOR BUCKET FOR YOUR APPLICATION**

Because excavators are such versatile machines, there is no one-size-fits all bucket for every job. However, making the best choice is important. Productivity, fuel efficiency and service life all depend on having the right fit.



Choosing the right size of bucket:

Excavator specifications

Bucket size is limited first and foremost by the specifications of the excavator. You would never use the same bucket on a 14-t excavator as you would put on a 22-t machine, for example. The excavator's size, configuration, desired reach and other specifications will all narrow down the search. On the Volvo Attachment Selector app (Google Play / App Store) you will find listed all the bucket sizes that will work for each excavator model. Material density

A bigger bucket does not always equal greater productivity. Where excavated material is particularly dense it can weigh big buckets down, slowing the cycle time. Volvo CE always recommends using a smaller bucket for picking up dense materials, such as blasted rock or hard-packed clay, than for moving softer materials like topsoil or sand.

Hauler/truck capacity

The excavator's bucket size and productivity should be ideally matched to the capacity of its partner hauler or truck in order to load it as quickly as possible in the fewest number of passes. With the correct bucket, operators will get more done in less time, lower fuel consumption and reduce wear on the machines.

Choosing the right type of bucket:

• General purpose buckets

General purpose or digging buckets are the most common excavator bucket type on general construction and excavation sites. They are designed with teeth for efficient excavating and higher digging forces, making them suitable for digging jobs in a wide range of ground conditions. Handling topsoil, loose clay and sand, as well as gravel and loose stones, is a breeze for general purpose buckets.

• Heavy duty buckets

Heavy-duty buckets are typically used in applications like rock quarries for loading. Made

from high-strength abrasion-resistant steel, they are an all-round heavier and tougher build than general purpose buckets. They provide productive digging in compact materials like blasted rock, hard-packed clay and stone. Heavy-duty buckets can also handle gravel, ripped basalt, shot granite, high-silica sand, sharp rock and other dense materials. • Grading buckets

Grading or ditching buckets are often used for road construction, landscaping and utility work. They are wider than other buckets with a flat cutting edge that makes them ideal for filling soft material digging and moving material around.

Each bucket can also be customised with various types to teeth, side cutters and additional wear protection for optimal performance. Volvo dealers will guide customers through the selection process to ensure the ultimate uptime and productivity for their job. 🛇

Terex Finlay to display three machines at CONEXPO 2020

Terex Finlay will use CONEXPO 2020 to showcase its I-120RS impact crusher, 883+ (triple shaft) heavy duty screener and TF-75L low level feeder. Visitors will also be able to view demonstrations of the company's latest virtual reality technology on the booth.

The Terex Finlay I-120RS shapes the future through innovation. The new generation impact crusher with redefined style and advanced technological design gives improved material flow and production capabilities in quarrying, mining, demolition and recycling applications. Incorporating the Terex CR038 impact chamber with direct drive and advanced electronic control system the machine provides operators with high material reduction ratios and produces a consistent product shape.

A key component of the machine is the on-board innovative quick detach 3,66 m x 1,53 m two deck screen. For applications not requiring re-circulation of materials for further processing or stockpiling the complete screening and recirculating system can be quickly detached from the machine. The high productivity, ease of maintenance and operation makes the machine an ideal solution for large scale producers and contract crushing operators.

The Terex Finlay 883+ (triple shaft) mobile heavy duty screener features a triple shaft screenbox that is ideal for working in dry and sticky applications including quarry, mining, sand, gravel,



The Terex Finlay 883+ (triple shaft) mobile heavy duty screener features a triple shaft screenbox that is ideal for working in dry and sticky applications.

construction and demolition debris and recycling applications.

The triple-shaft design of this new screenbox employs an oval motion stroke to generate an aggressive screening action, reducing plugging and blinding over the screen decks to ultimately provide a quality product with high tonnage output.

The Terex Finlay TF-75L low level feeder has been designed to maximise productivity, enhance efficiency and reduce on site operational costs in a wide range of applications and feed material types. The large 7 m³ hopper with a feed in height of 1 900 mm and width of 3500 mm enables low level feeding directly from excavators, grab cranes, and wheel loaders. For onsite safety and quick set the hopper is fitted as standard with hydraulically folding sides.

"Our business has been built upon the core values and beliefs of delivering dynamic and innovative world class leading products that our customers can depend upon. We look forward with excitement to CONEXPO 2020 and encourage visitors to the show to call by the Terex booth, see these machines for themselves and enjoy our immersive virtual reality demonstration," comments Paul O'Donnell, Terex Finlay global business line.

Terex MPS to showcase latest innovations at CONEXPO

Terex MPS is looking forward to showing customers the future of crushing and screening at CONEXPO-CON/AGG 2020 with its latest innovations – including one of the new TG Series cones – at booth S5118 in Silver lot 1/2.

Following the recent launch of the Cedarapids TG Series cones, Terex MPS will display the TG420 and the team will be on hand to educate visitors on the full range of spider bearing cones. The new Cedarapids TG Series consists of four models focused on the aggregate and construction industries.

Each model is available in two versions, the TG (Fine) and TGS (Secondary). The TG style can be run in a secondary, tertiary and a quaternary position; the TGS models, which can take an approximately 75% larger feed, are perfect for large feed secondary positions. There will also be 2 larger models available for large capacity mining and quarrying applications. This new series of cones complements our current market leading Cedarapids MVPX Series and the Cedarapids TC Series.

"Since April of 2009, the Simplicity, Cedarapids and Canica brands were brought together under the Terex MPS umbrella to carry on their rich tradition of offering comprehensive solutions. CONEXPO-CON/AGG 2020 is the perfect platform to showcase our modular, portable and static product offering to a truly global audience. Our team is looking forward to meeting with customers to discuss our latest innovations, as well as to unveil something new and exciting coming to market," says David Quail, business line director of Terex MPS. ©



Terex MPS will display the TG420 at CONEXPO.

Manitowoc to debut six new cranes at CONEXPO 2020

Manitowoc Cranes will return to CONEXPO 2020 to unveil six new cranes to the lifting market. In addition to these, four other crane models that were introduced in 2018 and 2019 will also be on display at the company's booth, with several making their North American debuts.

The large number of new cranes launching at the tradeshow reflects Manitowoc's improved product development cycle under The Manitowoc Way. It was less than a year ago that Manitowoc launched six new cranes at bauma 2019, and the company is matching this impressive number at CON-EXPO. The six new models will come from the Manitowoc, Potain, Grove and National Crane ranges, covering a wide spectrum of lifting industry needs.

Barry Pennypacker, president and CEO of The Manitowoc Company, Inc., says the company is delivering on its promise to design and manufacture new products more rapidly so that Manitowoc customers can utilise the increased capabilities and efficiencies they bring and earn more return on their capital investments.

"At CONEXPO 2020, we plan to show how our innovation and velocity efforts under The Manitowoc Way are producing cranes that offer class-leading design and performance," he says. "Many of our cus-



The large number of new cranes launching at the tradeshow reflects Manitowoc's improved product development cycle under The Manitowoc Way.

tomers provide direct input into the design and functionality of our new cranes, and we know that they will be thrilled to see their contributions come to life. CONEXPO will be a great opportunity to show the entire lifting industry that at Manitowoc, The Revolution is Real."

Previously announced cranes at the company's booth will include: the Grove GRT9165 rough-terrain, GMK5250XL-1 all-terrain, TMS500-2 truck-mounted, and

GHC140 telescoping crawler cranes; the Potain Hup M 28-22 (with a U.S.-specific transport axle) self-erecting crane; and the National Crane NBT60L boom truck.

And where for years Manitowoc hosted a booth at the Las Vegas Convention Center's Gold Lot, which is now closed due to construction, Manitowoc will now occupy Booth F6144 in the new Festival Lot near the corner of Las Vegas Boulevard and Sahara Avenue.

Liebherr to showcase new gen of crawler excavators

Liebherr will use ConExpo to showcase its Generation 8 crawler excavator series, made up of seven models ranging from 22 to 45 t: R 922, R 924, R 926, R 930, R 934, R 938 and R 945. Two machines of the product range, R 926 and R 938, will be exhibited for the first time in America at the Liebherr booth.

The highlights of the new crawler excavator generation include higher engine power, a heavier counterweight for higher bucket capacities, and minimal fuel consumption. A new equipment concept with a modified piece at the top of the boom is an innovative new feature.

This leads to better performance and equipment forces with reduced operating weight of the machine. Another feature is the optimized load curve, which yields reduced fuel consumption. These machines have been specially designed to provide extra comfort and safety for the operator, as well as optimum ergonomics and performance on the job site.

Terex Trucks to showcase TA300 and TA400 at CONEXPO

Articulated hauler specialist Terex Trucks is bringing both the TA300 and TA400 to CONEXPO, North America's largest construction trade show. As part of the Volvo family, the company will be sharing a booth in Las Vegas with other Volvo Group brands including Volvo Construction Equipment, Volvo Trucks and SDLG.

With almost 70 years' experience developing and building robust and reliable off-highway haulers that maximise productivity and return on investment for customers, Terex Trucks is ready to show visitors at CONEXPO that they are the dump truck experts.

Visitors to the company's F3432 booth will have the chance to take a closer look at both the TA300 and TA400 articulated haulers and discover the significant investments and improvements that have been made in the products, facilities, people and processes since Terex Trucks was acquired by Volvo Construction Equipment (Volvo CE) in 2015. From March 10th – March 14th, the team will



Terex Trucks will showcase its ADT range at CONEXPO.

be on hand to discuss everything from how Terex Trucks haulers deliver low total cost of ownership, to expansion plans, current and future product investments and why North America is a strong market for the company.

"North America has always been a strong market for us, so we are looking forward to meeting current and future customers from the region, as well as further afield, at CONEXPO," says Paul Douglas, Managing Director of Terex Trucks. ©

Powerscreen's CT75R on show at CONEXPO 2020

Powerscreen's CT75R tracked radial conveyor is the ultimate stockpiling solution for any crushing and screening operation. The mobility and flexibility of Powerscreen tracked radial conveyors reduces / eliminates the use of a wheel loader on site as well as significantly reducing fuel, labour and maintenance costs.

The machine has the versatility to cater for a large number of material handling applications, complete with a range of additional options to meet the individual needs of each customer. Options include: overband magnet, dust suppression solutions and radio remote to start/stop the feeder and raise/lower the discharge conveyor. The CT75R can be easily transported using a low loader or packed in to a container for shipping.



The machine has the versatility to cater for a large number of material handling applications.

Metso's new innovations for the aggregates industry

At CONEXPO-CON/AGG 2020, Metso will showcase its latest innovations and field-proven technologies for the aggregates industry, with solutions designed especially for the show.

"In the world of construction, dependability matters. At Metso we have turned our over 150 years of experience in crushing and screening into solutions that aggregate producers and contractors all over the world depend on to increase their production and profitability, year in and year out," says Simon Pelletier, SVP USA & Canada at Metso. "This year, we have built our show specifically with small- to mid-sized quarrying and general contractors' needs in mind."

Previously launched at the 2017 show, the MX Multi-Action cone crushing technology has been warmly welcomed by quarry operators around the world with close to 100 units sold in total globally. This year, Metso will feature the new MX3 crusher and a special Lokotrack mobile crushing plant equipped with an MX4TM crusher. The new Lokotrack ST4.10 mobile screen is a high-capacity screening plant for quarrying, which further adds to Metso's range of hybrid equipment. These new solutions will be on display for CONEXPO-CON/AGG visitors.

Metso's key offerings at CONEX-PO-CON/AGG 2020 will also include the game-changing, new lightweight truck body solution, Metso Truck Body for hauling more with less. The complete solution is available for all major off-highway truck models used in quarry-



Metso will feature the new MX3 crusher and a special Lokotrack mobile crushing plant equipped with an MX4TM crusher.

ing and mining operations.

Metso is a pioneer in collecting and utilising real-life operational data to get the best possible machine performance. At the show, the company will demonstrate how Metso Metrics Services for managing and monitoring a Lokotrack fleet can help optimise utilisation, reduce surprises and keep costs in check.

Backed by Metso's industry-leading portfolio of parts, including the new Contender Series for thirf-party equipment, upgrades and worldwide service and partner network, Metso will present the widest offering in the market to get more from existing assets throughout their life cycle.

"Transportation and landfill are a major part of the costs related to demolition and recycling. Also, recycled aggregates are becoming more acceptable in many regions. We are excited to showcase to CONEXPO-CON/AGG visitors our latest solutions to enable new business opportunities and savings in recycling and demolition," Pelletier continues.

Metso will introduce the Nordtrack product family with purpose-designed and field-proven features for general contractors and small- to medium-capacity aggregate producers. The new Nordtrack range includes track-mounted crushers and screens as well as track-mounted and wheel-mounted stacker conveyors ideal for recycling, demolition and small quarries.

TWS to demonstrate efficiencies at CONEXPO

Terex Washing Systems (TWS) is gearing up for its showcase CONEXPO-CON/ AGG, March 10-14 2020 in Las Vegas, United States. The company will showcase one of its fines recovery units as well as having an immersive VR experience where customers can experience its end to end solutions.

"Over the past five years Terex Washing Systems has significantly developed its product offering to become an established supplier of advanced wet processing solutions for mineral washing needs in aggregates, recycling, industrial sands and mining. We now have an extensive product portfolio of rinsing, scrubbing and sand production systems available in static, modular and mobile platforms. We are continually committed to further expansion of the offering and our showcase at CONEXPO demonstrates continued significant investment in product development which once again raises the bar in adding value to our customers operations," says Barry McMenamin, TWS Director.



TWS has a dedicated technical team to support Terex AquaClear.

TWS will showcase the Terex FM UltraFines which is a crucial step in efficient management and recovery of ultrafines material from waste water streams, produced from washing processes. The ultra-fines recovery unit can process up to 450 m³ per hour of slurry recovering material as low as 40 micron, thus reducing the volume of solids reporting to storage ponds or water treatment plants.

Bringing together a centrifugal pump, a hydrocyclone cluster and a high frequency dewatering screen on one chassis, the FM UltraFines also boasts a uniquely designed conical tank and anti-turbulence system, which is essential in the process of ultra-fines recovery.

TWS also offers a full portfolio of water management solutions to include clarifying tanks, flocculent dosing systems, filter presses and all associated equipment to provide a one-stop solution for washing and water management. TWS has a dedicated technical team to support Terex AquaClear, consisting of a product manager, engineers and applications specialists, together with a new, cutting-edge laboratory specifically designed for material testing and sample pressing. This ensures optimum equipment selection and specification for our customers. ©

Powerscreen to debut new screen at CONEXPO 2020

Powerscreen, one of the world's leading providers of mobile crushing and screening equipment, will showcase its brand new Powerscreen Chieftain 1700X Hybrid screen at CONEXPO CON/AGG 2020.

The brand new Chieftain 1700X Hybrid boasts a highly aggressive screenbox with a patented 2/4 bearing drive system and improved screening angle. Growing on the Powerscreen legacy of high performance 4 bearing screen boxes, the new screen on the Chieftain 1700X leaves us with a package that will outperform any similar sized screenbox on the market, and many larger machines.

The 4,8 m x 1,5 m screenbox maintains the screenbox size and mesh of the current Chieftain 1700, but with increase screening force and with an increased screening angle, both combine to give a superior screening performance.

Sean Loughran, Powerscreen global product line director, says listening directly to customers, a number of other plant changes have been implemented, such as changing the way the fines conveyor is suspended for easier transport as well as self-tensioning side conveyor sealing rubber and feed-boot improvements for quicker setup. Lower running speed for reduced fuel usage without compromising power all combine to give an unrivalled machine.

The three-deck machine is available with a hydraulically folding extended auxiliary conveyor, complete with a transfer conveyor that allows easy re-circulation with the entire range of Powerscreen crushing machines. Alternatively with a quick valve change the conveyor



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DoppiaTrac DR400 – Making coal crushing simple

To increase its coal production significantly, a KwaZulu Natal company chose Pilot Crushtec International as its preferred crusher supplier. The company had to rethink its equipment needs, to meet the requirements of its client. The company has had to increase its average monthly processed coal production from some 20 000 t a month to just over 60 000 t. Yeshen Achary, sales engineer at Pilot Crushtec, says that for the client, when the decision was made to invest in new machines, Pilot Crushtec was a natural choice for them.

"The company's focus lies in three areas: anthracite, bituminous coal and lean coal mining for both the local and international markets. Having increased its production significantly over the last while, they needed to add an additional mobile crusher. Having had a long association with Pilot Crushtec and an understanding that our service and quality is beyond reproach, they contacted us for a solution. Additionally, the product they were keen on was the DoppiaTrac DR400 double roll crusher, a mobile unit that not many companies manufacture."

The decision to go with the DoppiaTrac DR400, according to Achary, was an easy one. "The double roll crusher works a lot better for their application, as the raw feed material in KZN tends to be slightly softer and creates more fines, which is unsuitable for the particular client's spec of end product. Having looked at



The company has had to increase its average monthly processed coal production from some 20 000 t a month to just over 60 000 t.

a number of competitor machines, the client realised, quite quickly, that the DoppiaTrac design was more advanced, robust, easy to use and, most importantly, was mobile.

Achary, who was involved in the deal from the beginning, believes the DoppiaTrac DR400 will serve the client's needs perfectly. "Essentially, the company could not establish the definitive lifespan of the mine so would have to go with mobile units. Using traditional mobile units would have taken two or three units to produce the required tonnage that a single DoppiaTrac DR400 can produce," he says.

"From a pure operating cost perspective this made no sense as you would be running three diesel engines as opposed to one. Another one of the other unique selling points, which impressed the client, was the fact that it is far cheaper to run the DoppiaTrac DR400 than a cone or jaw crusher as a double roll crusher is not normally as high wearing on the roll segments. Essentially it ticked all the boxes on the clients wish list, and at its price point, it is a safe bet for any contractor."

SEW-EURODRIVE at the forefront of Industry 4.0 in SA

With the advent of Industry 4.0 set to change the face of industry and production, SEW-EURODRIVE has a range of solutions for its concept of the Lean Sm@rt Factory. This is based on the paradigm shift introduced by new technologies such as big data, embedded computing, the Internet of Things (IoT), and cloud computing in the production environment.

The MOVIGEAR mechatronic drive system from SEW-EURODRIVE is designed for flexible use across various communication infrastructures. It is ideal for decentralised field applications. Features include a compact design and optimal integration of components with permanent-field synchronous motor, gear unit, and integrated electronics.

MOVIGEAR is especially tailored for efficient use in the general materials-handling sector. It is available in two sizes and three electrical performance classes for a total of four communication variants. Energy savings of up to 50% are possible due to the seamless interplay between the IE4-rated motor, efficient gear unit, and integrated electronics.

"Perfectly-matched components, combined with the energy optimisation of the overall system, facilitate high system efficiency. These features make the MOVIGEAR mechatronic drive solution a cost-effective, power-optimised, total solution," says Raymond Obermeyer, MD of SEW-EURODRIVE.

Flexible, compact and intelligent MOVID-RIVE B drive inverters save space in the control cabinet. In addition, they are equipped with integrated IPOSplus positioning and sequence control as standard features. These inverters are ideal for asynchronous AC or synchronous servo drives.

Additional features are a broad power range from 0,55 kW to 250 kW, and a high overload capacity. Based on a modular concept, the MOVIDRIVE B inverter is ideal to improve the flexibility and efficiency of a range of applications. SEW-EURODRIVE also offers the freely programmable MOVI-PLC motion and logic controller for solving complex tasks in a flexible manner. The scalable controllers are an ideal solution platform due to their universal operation and functionality. Comprehensive interfaces are available for the external periphery, and for visualisation purposes so as to fully automate complete machines.



Raymond Obermeyer, MD of SEW-EURODRIVE.

SANY excavators take arduous mining applications head on



SANY excavators are growing in popularity in the local mining sector.

Excavators from SANY, distributed locally by Goscor Earthmoving (GEM), are ideal for arduous mining applications such as iron ore, chrome, and manganese, GEM sales consultant Murray Leith comments. "These are strong, reliable machines with simplified electronic components, giving operators minimal downtime," he says. GEM also has qualified service technicians in all major mining areas to look after the machines.

An example of GEM's recent successes in these mining segments include supplying two SANY SY335 medium excavators to a chrome mining contractor in Limpopo. In the Northern Cape, the Kathu branch is heavily involved with major mining houses for their manganese operations.

In tough operating conditions, equipment must be highly reliable, which is where SANY's philosophy of using only world-class components like Isuzu engines and Kawasaki hydraulics comes into its own. With an emphasis on cost-effectiveness, the SANY SY335C medium excavator features an auto deceleration system that reduces fuel consumption by 5% to 10%.

When an operation stops for 3,5 seconds, the engine speed drops automatically to idle level, and maintains this idling state. The strengthened structure makes it an efficient and robust machine for a range of applications. The dual-pump, dual-circuit constant power control system means that the Isuzu engine produces a continuously strong operating force.

Other excavators in the range include the 50 t SY500H and the 76 t SY750, both with greater breakout forces and digging depths for larger mining operations. Additional features to boost productivity include bigger buckets and increased engine power.

Commenting on the current state of the mining industry, Leith highlights the growth in contract mining with a high number of new entrants. "We have found that there has been an increase in mining activities, as seen in increased sales over the past few months."

This is particularly encouraging given the slow state of the economy, combined with the reluctance of banks to finance yellow metal. "However, we are able to assist contractors in this regard by having access to our own in-house finance, which has proved to be a major differentiator for us," Leith concludes. \bigcirc

Multotec expertise cuts wear at phosphate plant

In one of its largest scrubber installations to date, a phosphate mine in Morocco is benefitting from Multotec Rubber's depth of expertise and experience in the field of scrubber liners. The scrubbers measure 6,5 m in diameter and 11 m in length – large dimensions necessitated by the process plant throughput of 12-million tonnes per annum.

The installation, conducted during the first quarter of 2019, was done in response to a serious challenge faced by the customer. The existing head plates were wearing out at double the rate of the shell plates. This was leading to additional maintenance shutdowns during the life of the liners, with the associated extra costs.

According to Mohamed Trabelsi, senior sales engineer at Multotec Rubber, the collaboration with the customer included sending a highly competent Multotec team to site to first assess the situation. Multotec already had a longstanding relationship with the customer at this process plant, with Multotec trommel screens having operated successfully at plant for over three years. "Our team of engineers were on site to gather vital operating information including throughput tonnages, particle size, charge levels and rotational speed," says Trabelsi. "We also assessed the variable speed drive system."

This data was processed using the latest simulation software – Rocky DEM – in which Multotec Rubber has made a significant investment. Leveraged by well qualified engineers, this software can simulate the full lifecycle of liners and predict when the scrubber will no longer perform efficiently.

"By combining our experience and expertise with the results of Rocky DEM, we are able to provide the industry with fit-for-application solutions," he says.

Rocky DEM allows engineers to accurately simulate all operating parameters in the scrubber. These include the shape and size of ore particles in the slurry being fed into the scrubber slurry, the charge level, the linings, attrition rates, particle trajectories and the scrubber's rotational speed.

"We can therefore simulate the actual operating conditions of the scrubber, as well as the performance of the head and shell liners," he says. "Upon our assessment of the results, it was found we needed a different configuration of liners to the previous one in this application. In fact, the solution was a uniquely designed liner configuration – quite different to what is traditionally used." •

Multotec combines experience and expertise with the results of Rocky DEM to provide fit for application solutions.



Caterpillar showcases broad range of solutions at Mining Indaba

Caterpillar used Mining Indaba – from February 3-6 in Cape Town, South Africa – to present its broad range of machines, technology and support services to African miners. The Caterpillar exhibit featured digital displays of electric power generation systems, surface and underground mining equipment, and Cat MineStar technology capabilities – ranging from vehicle safety systems, such as operator fatigue monitoring, to production systems using teleremote, semi-autonomous and autonomous machine operation.

Caterpillar has recently introduced several new underground hard rock mining vehicles in Africa. The new R1700 underground loader (LHD) brings the latest technology for semi-autonomous and fully autonomous operation. The new LHD also delivers more than 30% greater fuel efficiency, 65% more lift and tilt force, and 15 t capacity – 20% more than its predecessor, yet in the same dimensional envelope.

Using MineStar Command for underground, the new R1700 can be operated from a remote location to keep miners away from potential hazards. The system also boosts utilisation by allowing immediate entry after blasting and by reducing



The Cat R1700 is designed for semi-autonomous and autonomous operation.

shift change time to nearly zero.

In addition to the R1700, Caterpillar has introduced several LHDs and underground trucks equipped with EU stage V engines and emission controls. Reducing emissions helps miners improve the underground working environment. With the goal of zero underground emissions, Caterpillar is continuing to develop the battery-powered R1700 XE.

"Caterpillar and Cat dealers are supporting the whole African continent and all types of underground mining applications – big and small mines and all minerals. In the past several months we have delivered machines covering our full product range, demonstrating that we are well positioned to meet our customers' needs," says Erik Elsmark, region manager for Caterpillar Underground Mining Division.

The extensive line of Cat surface mining machines and technologies continues to evolve. Caterpillar has expanded its line of electric drive mining trucks in the past year to include the 794 AC, 796 AC and 798 AC. Recently, a South African mining operation took delivery of several 794 AC trucks, which have 291-t capacity. The model has already proven its high productivity and speed on grade in a wide variety of applications.

Linatex and Linard rubber linings help mines increase uptime

Two African mines are achieving increased production time and plant availability after converting to Weir Minerals' Linatex[®] and Linard[®] rubber lining solutions.

A mineral sands operation in Mozambique approached Weir Minerals just over two years ago, after experiencing high wear on its pipe and launders. This was leading to frequent maintenance, leaks and downtime. The Weir Minerals team observed that part of the challenge was worn out and corroded metal work on the mine's wet concentrator plants due to the proximity to the coast. Access to reline the existing launders was difficult and posed safety risks necessitating a more effective solution.

The solution was to replace the competitors' products – chemically cured rubber – with Linatex premium rubber and Linard 60 rubber. This was done during the mine's monthly shutdowns. Whereas the competitors' rubber lasted only two to three months, the Linatex and Linard linings are still in operation after 25 months.

The Linard 60 rubber lining solution was also applied at a gold mine in South Africa's North West province. The mine's maintenance team had been replacing the rubber lining on mill feed hoppers and spouts every



10 days. The mechanical foreman was looking for a more resilient solution.

The foreman was not familiar with Linatex rubber products, so a trial using Linard 60 rubber was arranged. The entire feed hopper and spout were lined with this silica-reinforced natural rubber.

The results were convincing, with the wear life increasing to 12 weeks, with only the partially worn areas requiring relining, there was a reduction in relining costs. This has increased plant availability, resulting in fewer stoppages and reduced operating costs.

Linatex premium rubber is a proprietary vulcanised natural rubber, produced through a unique process that uses high quality natural latex. It has outstanding strength, resilience and resistance to cutting and tearing – with high performance in wet, abrasive conditions.

Linard 60 rubber, which is silica reinforced, retains the natural strength and nerve of latex, while combining with the toughness needed for handling coarse materials. ③

New wheel loader monitoring system for mining

After 18 months of successful field trials, MineWare has announced the launch of its Argus Wheel Loader (WL) system – an OEM independent wheel loader monitoring system that is said to lift productivity and reduce cost per tonne in real time.

Argus WL delivers real-time feedback to the wheel loader operator via an intuitive touchscreen to make material handling and loading jobs safer, faster and more accurate.

MineWare vice president of marketing and sales Roy Pater says Argus WL extends MineWare's portfolio of monitoring systems as customers continue to digitise their operations and leverage real-time information across more of their ground engaging equipment.

"Building on the success of our Argus and Pegasys monitoring systems for electric rope shovels, hydraulic excavators and draglines, Argus WL was developed based on a growing demand from our customers to improve efficiency, effectiveness and payload accuracy across their large wheel loader fleets," he says.

"Argus WL does this by weighing each bucket in real time, without the need to stop and calculate payload before dumping the load. This we understand from our customers is an unacceptable practice required



from other similar systems today, losing valuable production time to repeat this with every bucket load.

"Argus WL was a natural progression for us, meeting the industry's need for a system purpose built for large wheel loaders used in mining that would lower production costs, reduce machine stress and improve safety."

Pater says the multi-purpose nature of the system was a key point of difference with Argus WL offering advanced functionality in truck detection, structural monitoring, as well as payload optimisation in real-time. "The real-time nature of Argus WL really stands our system apart as it gives operators direct feedback for them to make smarter loading decisions to optimise truck loading and payload management," he says.

"Argus WL guides operators to move the right amount of material with every load, helping mines to reduce payload variability, meet production targets and predict the operations forecasts more reliably, when analysing machine productivity by shift and operator."

Developed on an open IoT platform, the interoperable system works on any OEM machine and integrates seamlessly with third party production software. ③

Kwatani's multi-year collaboration boosts local mining economy

Specialist vibrating equipment OEM Kwatani is leveraging a recent multi-year service contract at a large mining customer in the Northern Cape to further boost the area's local economy.

"Our branch near the customer's mining operation has for many years employed and developed local expertise," Kim Schoepflin, CEO of Kwatani, says. "Our latest initiative takes this further, by upskilling a local sub-contractor to conduct certain maintenance work on our behalf."

A lengthy selection process was conducted by Kwatani to find a suitable sub-contractor, followed by ongoing training to empower artisans and other workers with specialised skills. Schoepflin says it was also important to involve the mine itself, so that they remain confident in the strength of their supply chain.

"Promoting local employment, skills and sustainability cannot be a tick-box exercise," Schoepflin says. "It has to be based on proper engagement, hands-on training and the sub-contractor's own commitment."

She warns that mining legislation and regulatory pressure can tempt stakeholders to rush such a process. "This would be a

mistake; rather, it should be treated as an opportunity to strengthen the capability of all stakeholders."

Kwatani's 35 years of experience in heavy duty minerals applications means that the OEM now has approximately 800 vibrating screens and feeders in the Northern Cape. The maintenance contract is an ideal opportunity to involve and foster the technical capability of local players, she says.

It was vital that the chosen sub-contractor already had considerable experience and capacity, equipment and relevant expertise. •



Volvo Trucks at the summit of the EHCV market

Volvo Trucks Southern Africa ended 2019 as the top-selling extra heavy truck manufacturer in South Africa. According to Naamsa, the National Association of Automobile Manufacturers of South Africa (NAAMSA), Volvo Trucks company sold 3 206 units in South Africa and other African countries during last year, giving the Swedish OEM a 23,2% market share of the segment.

The first place for Volvo Trucks is an improvement of its position in 2018, when the company finished in third position – recording a 4,8% growth in market share in the process.

Volvo Trucks Southern Africa has assembly facilities in Durban and currently has four ranges available: the FH16, FH, FM and FMX. The company is also responsible for export to countries like Botswana, Mozambique, Namibia, Zambia and Zimbabwe.

"Our customers and our staff are the main driving force behind everything we do," says Marcus Hörberg, vice president of Volvo Group Southern Africa. "We believe that the quality of our products, our staff, service, parts and support, played a central role in increasing our market share. We will now work even harder to keep the trust our fleet owners have placed in us."

Hörberg says that in order to efficiently support the growing Volvo Trucks vehicle parc, the company will invest in additional facilities and service dealers. The company will also train and develop additional technicians to keep service levels up to the highest standards.

At the end of the fourth quarter in 2019, Volvo Trucks was also the top-ranked truck manufacturer in terms of overall customer satisfaction, according to the latest report released by Data Track, a local research company that analyses customer experiences of over 37 500 truck and fleet operators in South Africa.

Fleet owners were surveyed in terms of their satisfaction in terms of their parts,



Marcus Hörberg, vice president of Volvo Group Southern Africa.

service and sales dealings with 13 truck manufacturers.

"We are committed to continue increasing vehicle uptime and optimising vehicle utilisation for our fleet owners," said Hörberg. "Aspects like connected services, flexible service contracts and preventative maintenance all assist fleet owners in keeping the wheels of their businesses turning."

Isuzu remains market leader in MCV and HCV segments

Isuzu continues to hold the number one position for seven consecutive years in the medium commercial truck segment of the South African market and retained its leadership position for six years in a row in the heavy commercial market.

According to Craig Uren, sales service and marketing executive, Isuzu offers the widest range of truck models in these market segments and is the leading brand for chassis cab trucks and for the application of a cargo bodies suited to the payload and task.

Uren says the success in these two segments can further be attributed to the option of Automatic Manual Transmission (AMT) on selected medium and heavy commercial trucks which allow drivers to get the most out of their vehicles under any operating conditions. "Automatic selection of gears and no clutch gear shifts can contribute directly to more economical operation of the trucks while increasing safety by preventing missed gear changes," says Uren.

He adds that Isuzu trucks are tough and provide operators with the high levels of efficiency and reliability in a cost-effective package. "The ability to run at low costs helps business to sustain themselves in a tough economic environment," Uren explains.

Isuzu trucks are assembled at the



Struandale plant in Port Elizabeth and after sales is supported by the state of the art Isuzu Parts Distribution Centre a few kilometres away.

"We have 40 commercial vehicle dealers and satellite dealers across the country offering sales and aftersales services. Our service centre technicians are highly skilled and competent and receive ongoing training as far as Japan," says Uren.

Furthermore, Isuzu has a number of subsidiaries which ensure minimal downtime to the business owner said Uren. "Isuzu Drivetrain performs repairs and re-manufacturing of all Isuzu gearboxes and differentials, while Isuzu Mobility provides service and maintenance plans and fixed cost motoring solutions to customers and Isuzu Finance provides financial solutions in the retail and corporate segments," explains Uren.

Meanwhile, Isuzu's wholly-owned body construction subsidiary, Kanu Commercial Bodybuilders, provides practical solutions to truck customers. The bodybuilder specialises in steel based truck bodies which are custom-made and designed to meet the specific needs of the customer.

"As the commercial vehicle industry continues to grow in South Africa and sub-Saharan Africa, Isuzu aims to grow its business and continues to support its customers for the long run!" says Uren. •

New Concor CEO calls for quick construction recovery

Concor's new group CEO Lucas Tseki is confident South Africa's construction sector is turning the corner, provided there is no further delay in the adjudication and awarding of large infrastructure contracts by government agencies.

"Concor has weathered one of the industry's worst downturns and emerged with a robust balance sheet to capitalise on our current and future opportunities," says Tseki. He says government needs to send the right message by speedily awarding contracts and putting contractors to work.

"As Concor, we are battle-hardened by the past few years and ready to embrace the prospects of 2020 and beyond," he says. "For my part, I am ready to listen, to learn and to lead." The black-owned infrastructure and building construction company, previously Murray & Roberts Construction, is leveraging over a century of experience to become the leading player in its segment.

Tseki acknowledges there are many challenges lying ahead for the construction sector. Not least of these is the rebuilding of trust between key stakeholders including contractors, government, banks, developers and labour.

"The pressures of a low growth economy

have strained relationships between the players in the industry," he says. "We must now generate a more collaborative approach that prioritises continuity and sustainability in how we deliver and maintain the nation's infrastructure."

He emphasises that South Africa's future economic growth relies on sound and ongoing investment in quality construction projects. Given the poor state of the economy, it is likely that innovative funding and contractual solutions will be required to pursue the necessary infrastructural and industrial developments.

"Effective Public-Private-Partnerships (PPPs), for instance, are becoming more vital," Tseki says. "These could advance infrastructure development in education, healthcare, water, transport and other areas, especially where state expenditure cannot keep up."

He says Concor's solid track record in project delivery, commercial management and safety performance equips it to manage complex projects of this kind. He notes that there is appetite among lenders for innovative project models that are based on sovereign risk, while contributing to national developmental priorities that will fuel broader growth.

"As a company, Concor's world-class heritage and proven ability to execute on time and within budget makes us a valuable partner," he says. "The country needs the confidence to move into PPPs, but there is no time to lose."

Concor is active in both inland and coastal projects, and has a strong presence in SADC. It has also just been awarded a large ash disposal facility contract at Eskom's Majuba Power Station.



Concor's new group CEO Lucas Tseki.

Simple Volvo hybrid set to improve fuel efficiency by up to 20%

The forthcoming EC300E Hybrid excavator's boom-down motion charges energy-storing accumulators that are used to power the engine system.

Often the best ideas are the simplest. Volvo CE has taken this idea to heart with its ingenious new EC300E Hybrid. Unlike other systems that capture the swing energy of an excavator's superstructure to electrically assist the engine, Volvo's novel hydraulic hybrid harvests 'free' energy generated by the down motion of the excavator's boom and uses it to supercharge the Engine system.

The powerful and regular boom-down motions charge 20-litre hydraulic accumulators, which then deliver energy to drive hydraulic assist motors that help power the Engine system. There are the same levels of controllability and performance as the standard EC300E, including the ability to work in EC0 mode and Hybrid mode simultaneously.

All this simple and uncomplicated cleverness takes load off the engine, and in the process delivers up to 20% higher fuel efficiency, up to 17% less CO2 emissions – and all with no loss of performance. When used in production 'dig and dump' applications (especially those within a 90 degrees swing) the payback of this simple approach can be a little less than two years. Not only is the idea simple – the componentry is too – consisting of just a few add-on components that are simple to maintain. Technologies such as this are another example of Volvo CE delivering on its commitment to innovate and develop more sustainable and cost effective solutions for customers.



EC200E vs EC220E: Which excavator is right for you?

Volvo Construction Equipment offers two crawler excavator models in the 20-25t class – the EC200E and the EC220E. Making the right choice between them will ensure minimum total cost of ownership and maximum profitability.

Both the Volvo EC200E and EC220E crawler excavators are high-quality machines with comfortable cabs and easy serviceability that would make a welcome addition to any construction fleet. However, there are notable differences – particularly in power and capacity.

"Anyone in the market for a 20-25t crawler excavator should think carefully about how the machine will actually be used and discuss this with their local dealer," advises Jörg Breuer, product manager for crawler excavators at Volvo CE. "In some cases, the EC220E may be overspecified for the task at hand, in which case a customer would be paying for more than they actually need."

With an operating weight of 23,1 t (machine with standard specification), the Volvo EC220E is a heavy-duty machine suitable for all manner of applications from building, utility and heavy infrastructure work, to mining, demolition and recycling. At 21,6 t (machine with standard specification), the EC200E is a lighter machine but that does not mean it cannot work successfully in a quarry or demolition site too.

"It all depends on the specific tasks and number of operating hours the machine has to complete on the jobsite – as well as whether you are getting paid by the hour or for the entire project," Breuer explains.

With the Volvo EC220E excavator, the operator can move more tonnes per hour. This is due to the machine's mighty six-cylinder engine with high torque, powerful hydraulics and large lifting capacity.

"If your machine has high utilisation and you want to complete the work as quickly as possible to make the most profit per hour, then this high performance makes the EC220E excavator ideal," he says.

However, if the excavator is destined to load trucks in a sandpit, for example, and only works for say 10 minutes of every hour or where the owner is being paid by the hour for the project to be finished, such a high-performing machine as the EC220E may not be necessary.

"Here I would recommend the Volvo EC200E excavator as the operator can complete the same task but with a lower investment," Breuer says.



Anyone in the market for a 20-25t crawler excavator should think carefully about how the machine will actually be used and discuss this with their local dealer.

"It's all about matching the specifications of the machine perfectly to the demands of the application – nothing more and nothing less. That way we can guarantee the best possible total cost of ownership and, therefore, the best profitability," he concludes.

Bobcat and SANY help DarkFEST 2020 achieve 'beast' status

A SANY excavator and a Bobcat TLB from the Goscor Group have played a key role in assisting UK MTB star and course builder Sam Reynolds design and construct the biggest jumps yet for DarkFEST 2020, taking place from 7 to 8 February in Stellenbosch.

Now in its fourth year, work on the course started in January, with Reynolds' build team including Nico Vink and Clemens Kaudela. "It's the longest course in DarkFEST history, and I think in Fest Series history, too."

Monster Energy marketing manager Ryan Franklin, a headline sponsor of the event, explains that the Goscor Group's Christo Swart approached the event organisers at the end of 2019. "He expressed an interest to come on-board with the 2020 event, and obviously we were very excited to partner with him."

Swart was undaunted by the fact that DarkFEST 2020 aimed to build the best jumps of all time, confident in the capability of the Bobcat and SANY equipment to undertake this project safely, quickly and cost-effectively. The Goscor Group was responsible for the logistics of sourcing a SANY SY210 excavator and a Bobcat B730 TLB from its Cape Town branch, and transporting it to Stellenbosch.

The SANY SY210 is a precision-engineered hydraulic excavator that boasts industry-leading technology to offer maximum job-site productivity, from earthworks to mining and even road construction. Features include a strengthened structure and undercarriage and components, making it extremely robust and reliable. The low maintenance cost and high fuel efficiency of this medium excavator translates into a major cost-saving for clients.

The Bobcat B730 TLB is a versatile backhoe loader that can be configured for a diverse range of job applications, from digging to trenching, breaking, and materials handling. The standard 4.4 litre, four-cylinder turbocharged diesel engine delivers all the power for the most demanding applications. In addition, operating costs are reduced as the class-leading powertrain has been proven through rigorous testing to guarantee reliability and uptime.

The equipment played a key role in stacking and shaping the large quantities of dirt required to build the jumps comprising the course. The machines were operated by the expert DarkFEST builders, who "loved the machines," Franklin comments. ©



SANY excavator deployed to build the biggest jumps yet for the DarkFEST 2020.

Metric Automotive empowers women in engineering

Working to embrace the spirit of transformation and development, Metric Automotive Engineering has affirmed its Level 4 status in terms of Broad-Based Black Economic Empowerment (B-BBEE) requirements.

In an exciting recent deal, the Intombazane Development Trust has invested in the Germiston-based specialist in diesel and gas engine component remanufacture. The new shareholder recognised the value in the company, including its continuous investment in latest technology and its commitment to the local economy. The Intombazane Development Trust also appreciated the company's strong ethos of skills development. The involvement of the trust will further enhance this important work, by supporting the entry of black women into engineering fields through study bursaries.

"It is gratifying to see our interventions uplifting previously disadvantaged candidates, focusing on learners at tertiary level," says Andrew Yorke, operations director at Metric Automotive Engineering. "The skills they are learning are vital to the South African economy, and will certainly transform their lives for the better." ine transformation initiatives by the private sector to fill gaps in the market and support economic growth. This means training historically disadvantaged individuals in areas where their academic success can be rewarded by employment and personal growth in productive jobs.

"There is no time for window-dressing while our economy struggles to create the necessary opportunities for young people," he says. "We are embracing the real spirit of B-BBEE, which is not to empower individuals who already have access to opportunities, but rather to give a chance to those who haven't had an opportunity before."

He emphasises that the beneficiaries of the recent deal are previously disadvantaged women. Through the company's training initiatives, it is furthering the opportunities that exist in fields like the local remanufacturing of large engine components.

Metric Automotive Engineering has long been a leader in diesel and gas engine component remanufacture, leveraging the latest technology and decades of experience in this sector. With its Level 4 B-BBEE status, customers receive 100% spend recognition



Andrew Yorke, operations director at Metric Automotive Engineering.

for any work they procure with the company.

Its modern workshop facilities are equipped for a range of testing, grinding, reprofiling, reboring, surfacing and other specialised engineering services. Work is conducted on large diesel and gas engine components including cylinder heads, cylinder blocks, crankshafts and conrods. Compete engines are overhauled and assembled in-house, and are dyna-tested on one of the company's three dynamometers.

Yorke highlights the importance of genu-

Foreign investment will spur economic growth in Africa

Foreign investor interest in Africa continues to rise, supporting major construction projects in the infrastructure, commercial and industrial space across the continent. Leading data and analytics company GlobalData expects ongoing investments, especially in the transport, telecommunications, energy and utility sectors, will support growth in new infrastructure in Africa.

Yasmine Ghozzi, Economist at GlobalData, comments: "In the latest of the 'Africa Plus One' Summits, the UK-Africa 2020 Summit, total commercial deals amounted to US\$8,5-billion. This will help deliver quality infrastructure investment in member countries to spur economic growth."

At the summit in January, it was revealed that the UK will partner with some of the fastest growing countries in the region in terms of construction output such as Egypt, Ethiopia, Ghana, Kenya and Uganda to develop a rich pipeline of infrastructure projects that are attractive to businesses and investors.

Ethiopia is set to continue to record the fastest pace of growth in construction output over the next five years, with GlobalData predicting growth of 11,2%, driven by higher public spending on infrastructure and higher foreign direct investment. It also expects



growth momentum to be sustained in Kenya in 2020 at 6,5%, thanks to healthy domestic demand. Construction in Ghana is expected to recover in 2020, expanding by 2%, having dropped by 2,5% in 2019. The economy is projected to grow 6,8% in 2020. The summit comes at a suitable time for an economy like South Africa as it is on a path to attract more than US\$83,2-billion (R1,2-trillion) in investment over five years.

Ghozzi adds: "The UK can play a significant role in bridging Africa's huge infrastructure gap. The continent's US\$68-US\$108 billion infrastructure investment gap per year is massive and so infrastructure investment opportunities in African countries are lucrative. The summit comes at a time with Brexit moving things into sharper focus. With the

IMPROVING THE SAFETY OF MINERS WITH IOT

South Africa's mining deaths have reduced considerably over the past several years. In 2016, the industry recorded only 73 fatalities. Even though that is still 73 too many deaths, it's the lowest rate since records began and reflect ongoing efforts to improve the health and safety in mining environments. Injury rates are also falling fast. By *Vishal Barapatre*, Chief Technology Officer at In2IT Technologies.

hese figures are well ahead of China, where coal mining alone resulted in over 200 fatalities in 2019. But, in contrast, countries such as Canada and Australia have much lower fatality numbers. These are the countries that South Africa has been using as a benchmark - which explains why fatality rates are plummeting.

Yet those countries don't have as complex a mining industry as we do. South Africa operates the world's deepest mines and is an incredibly labour-intensive environment. There are more feet underground in highly dangerous environments, so it's fair to say that achieving more here will be harder than the results seen elsewhere.

The Internet of Things, or IoT, can promote mine safety along with improving operations. IoT connects physical environments with digital systems, enabling computers to collect data and calculate scenarios that can be applied to the real world.

Mining and IoT is a natural fit

Mining operations have been using sensor-based feedback long before the concept had a name. Since mining and IoT are already naturally aligned, how can IoT be used to improve safety as well as productivity?

Let's look at a few examples. Tracking employees is invaluable. When a disaster strikes, it is critical to account for all people, as well as establish where they are. Sometimes emergencies can happen in disused areas of the mine. In some environments, there is mingling between legitimate employees and illegal miners. IoT tracking can reveal these patterns and create active situational awareness of the entire workforce.

Asset tracking is also essential. A mechanical breakdown can halt production, and also result in injuries or death. The same for environmental monitoring. There are both immediate dangers, such as the release of gasses or unstable ground, and long-term risks from mining-related diseases. Mining houses are paying out R5 billion in compensation for silicosis cases that go back as far as 55 years. Prevention



is better than a cure. The alternative is a painful class-action lawsuit.

Getting IoT going

Although mining companies are wellversed in the benefits of sensors and data, those older systems are a far cry from the modern equivalent. There are many new sensor choices, more types of data to harvest, and a robust digital system in the background that collects, collates, packages, and distributes the findings. IoT dramatically enhances what we can do with sensors. But it also requires a more significant foundation to accomplish this.

There are also new challenges with bringing IoT to mines. IoT sensors benefit from a very connected environment, yet this is not as easy to accomplish. Even a primary Wi-Fi network is challenging to set up underground where there is limited space for equipment. Nor are open mines easy to wire up, since they are large and environmentally hostile to computer equipment.

Furthermore, mining's own culture can be a barrier. I sometimes encounter the view that what's worked before is fine, though this is becoming less common. What still prevails is the idea that technology is IT's problem and the operational people want to know little about it. Yet IoT is intrinsically an operational technology, so such attitudes are a problem. Mines can leverage their familiarity. I'd recommend starting with machines. Tracking assets and equipment is straightforward, and something mining operations are already can relate to in a value sense.

The same networks and systems that facilitate asset management can also support other IoT activities, such as tracking workers. Once the mine develops an understanding of what it can do with IoT through monitoring the machines, it can start piloting tracking systems for employees. IoT can also message workers and stay in touch with them. Over time, the same systems that track machinery can create situational awareness of and for mine employees.

Every mining environment poses different challenges, but overcoming those is worth it. IoT doesn't just promise better Occupational Health and Safety (OHS), but improved operations overall. It opens the doors to better cost-benefit analysis, predictive maintenance savings, improve business analytics, and advanced technologies such as digital twins.

In a sense, by focusing on health and safety, you can bring IoT's benefits to the entire vertical of the mine, even its supply chain. Mining safety is also about better business and creating a smarter mining sector that will continue to support South African growth.

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