

CAPITAL EQUIPMENT¹ NEWS

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JANUARY 2020

SEM — THE COST-EFFECTIVE SOLUTION

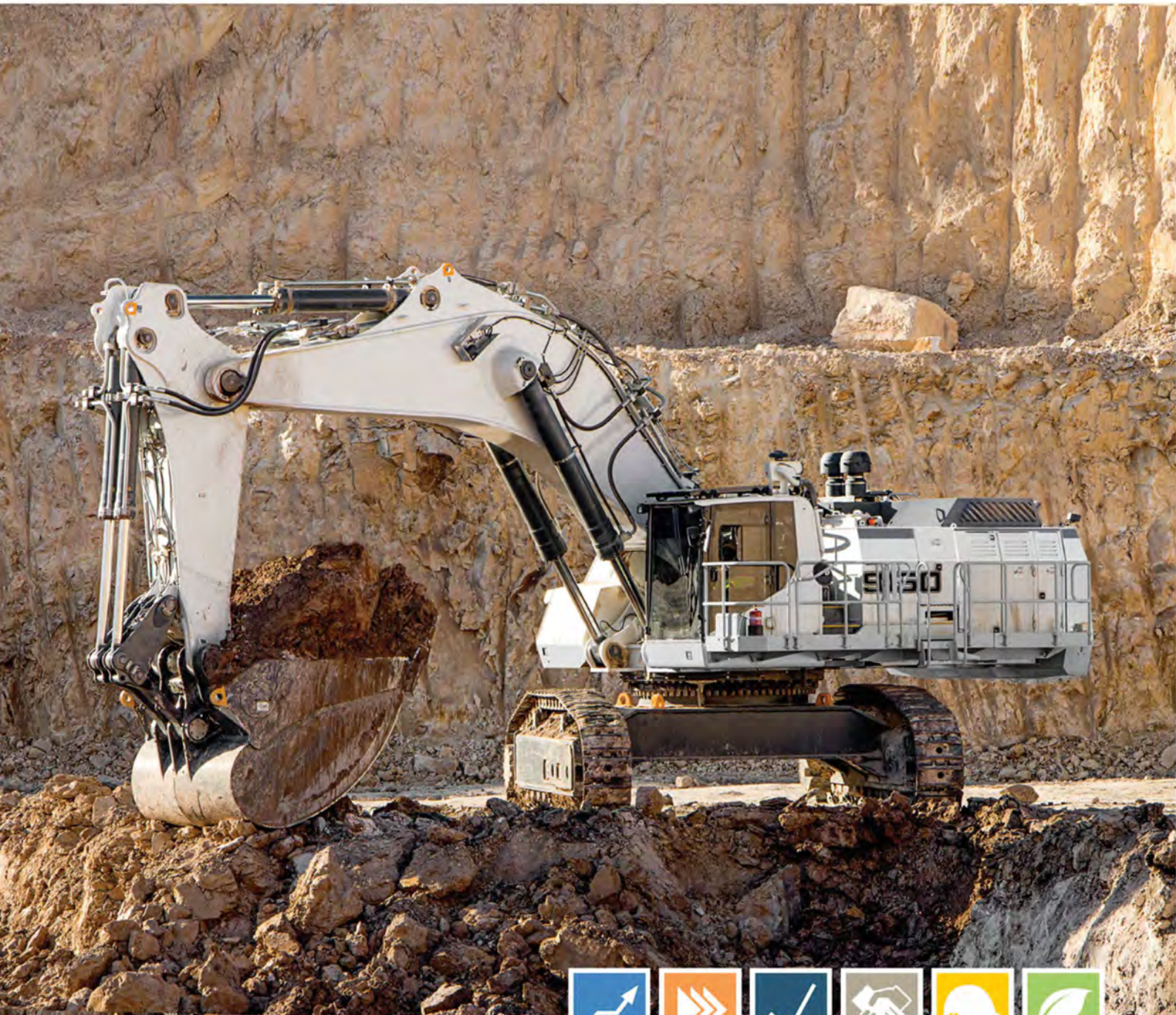


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Printed by Tandym Print

The views expressed in this publication are not necessarily those of the editor or the publisher.



Total circulation Q3 2019: 4 908

<http://crown.co.za/capital-equipment-news>



THE START OF A PROMISING DECADE FOR AFRICA?

A new year is a new beginning. As 2020 begins, many of us feel that we need to make changes in our lives, start on a new path, do new things and say goodbye to old habits, problems and difficulties. Often, we start making new plans and new resolutions.

On the business front, 2020 is not just another year; it marks the beginning of a promising decade for Africa. Research suggests that during at least the first half of the decade, economic growth across Africa will continue to outperform other regions, with the continent continuing to be home to seven of the world's 10 fastest-growing economies.

With progress towards the Sustainable Development Goals, an improved business environment, the African Continental Free Trade Agreement and the transformational technologies of the Fourth Industrial Revolution, never before has the region been better primed for trade, investment and mutually beneficial partnerships.

The recent, unprecedented interest of an increasingly diversified group of external partners for engagement with Africa also highlights this potential. Despite the continent's promise, obstacles to success linger, as job creation still has not caught up with the growing youth labour force, gaps in good and inclusive governance remain and climate change as well as state fragility threaten to reverse the hard-fought-for gains of recent decades.

A special edition of **Foresight Africa** recently highlighted the triumphs of past years, as well as strategies to tackle forthcoming, but surmountable, obstacles to a prosperous continent by 2030.

One of the setbacks to realising the continent's full growth potential has always been the infrastructure gap. To house and serve Africa's young and fast-growing population – expected to increase from 1,3-billion today to over 2,5-billion by 2030 – governments must address sorely needed infrastructure and service requirements quickly.

At the same time, African urban areas will need 565-million additional housing units between 2015 and 2030, just to keep up with rapid population growth and urbanisation. This is about 40-million new houses per annum over that time.

It is, however, encouraging to note that investments in infrastructure development remained resilient in recent years, based on Africa's understanding that infrastructure is an important enabler for GDP growth, more diversified economic and private sector activity. For example, access to electricity has increased from 39,4% in 2015 to 44,6% in 2017.

African governments are fast understanding that infrastructure also serves to foster competition, innovation and productivity. Investment in infrastructure also tends to increase business confidence, and simultaneously lowers transaction costs by making it easier for businesses to move people, goods and services.

Many leaders see the Fourth Industrial Revolution and its accompanying technologies as a pathway for numerous solutions to the challenges facing the continent. Progress towards goals such as education access, climate change mitigation and service delivery can all be enhanced by digital tools already available and on the horizon.

One of the major talking points of the new decade will be the implementation of the African Continental Free Trade Area (AfCFTA). Intra-regional trade in Africa currently represents an average of 15% of global trade across both imports and exports. Under AfCFTA, intra-African trade is expected to grow to at least 53% by the mid-2020s, thus effectively contributing US\$70-billion to the continent's GDP.

If successfully implemented, the agreement will create a single African market of over a billion consumers with a total GDP of over US\$3-trillion. This will make Africa the largest free trade area in the world. For these reasons, I believe 2020 marks the start of a promising decade for Africa.



Munesu Shoko – Editor



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SEM – THE COST-EFFECTIVE SOLUTION

Having concentrated on the fortification of its product range, parts support and services last year, Barloworld SEM is placing major focus on plant hire and contract mining markets this year. With a comprehensive range of products and support services, the company believes it has the right offering to help the two sectors survive the tide of a downward business cycle, writes *Munesu Shoko*.

Having placed greater focus on product launches, reinforcing its dealer footprint and support structures and services in 2019, Barloworld SEM believes it has done the hard yards to be able to offer products and services to the plant hire and contract mining markets in 2020.

The plant hire market is contending with volatile rates due to slowing demand of its services. This is largely driven by the lack of meaningful projects in both construction and mining industries. As with any product or service, the law of supply and demand affects plant hire rates. With low demand for plant, the rates have naturally decreased. Yet, plant hire companies have instalments and insurances to pay for their standing premium gear.

The same can be said about the contract mining market. Mining projects have become smaller and shorter. Just like in the South African construction space, there is a big shift towards smaller, upcoming contractors in the mining industry. A key challenge for this



"By offering initial affordability, high reliability, simplicity of use and maintenance, complemented by a strong parts and service support regime, the SEM product can help plant hire companies and contract miners build a strong foundation for success in these tough economic conditions."

Barry Fang, business manager at Barloworld SEM



"We placed greater focus on expanding our support footprint with the appointment of dealers across all major regions in South Africa last year. The programme has yielded tangible results; every province now has a dealer partner, with the aim to be within 200 km of every customer."

Victor Masuvhe, technical manager at Barloworld SEM



"The contract mining market is shifting, with small and upcoming contractors dominating the market. SEM is well positioned to give them the foundation they need to find their feet in such a cutthroat trading environment, and walk with them on their growth path."

Ewan Bradley, national key accounts at Barloworld SEM



Barloworld SEM is targeting plant hire and contract mining markets in 2020



With the launch of its new 655D front-end loader, the company believes it has a cost-effective and robust tool to serve the two industries



The coal market is an area of great interest in the contract mining space, with a special focus on materials handling applications including feeding plants, coal blending, stockpiling and truck loading, among other coal handling jobs



To cater for the different needs of plant hire and contract mining customers, Barloworld SEM offers a suite of services, including leasing, rental, Cat Finance, used machines, tailored service agreements, among others

group of customers is their inability to access the capital they need to purchase their mission critical assets, which in most cases jeopardises their few and far between contracts.

Barry Fang, business manager at Barloworld SEM, says this is where SEM comes in – the initial capital investment of its product is significantly low, giving small contract miners a foot on the door. Fang says the SEM product comes at 40-60% of the Western premium offerings' price, but without sacrificing quality and reliability.

"By offering initial affordability, high reliability, simplicity of use and maintenance, complemented by a strong parts and service support regime, the SEM product can help plant hire companies and contract miners build a strong foundation for success in tough economic conditions," says Fang.

New capabilities

Barloworld SEM is mainly targeting the wheel loader segment of the plant hire and contract mining markets. With the launch of its new 655D front-end loader, the company believes it has a cost-effective and robust tool to serve the two industries. The coal market is an area of great interest in the contract mining



Barloworld SEM recently held its dealer conference.



The sturdy design of the 5-t 655D makes it a perfect machine for large volume earthmoving and materials handling applications.

space, with a special focus on materials handling applications including feeding plants, coal blending, stockpiling and truck loading, among other coal handling jobs.

"The sturdy design of the 5-t 655D makes it a perfect machine for large volume earthmoving and materials handling applications. In hopper feeding and coal loading applications, the 655D can load more, move faster and burn less fuel," explains Fang.

Fang says despite its value offering, the 655D remains one of the most affordable loaders in its class, with a standard base machine retailing just below R1-million, yet it benefits from a world-class service support regime.

Ewan Bradley, national key accounts at Barloworld SEM, says the contract mining market is already a big market for Barloworld SEM. The previous SEM 660D wheel loader enjoyed huge success in this market segment, especially in the coal industry. Bradley says the arrival of the 655D will further raise SEM's growth stakes in this market.

"The contract mining market is shifting, with small and upcoming contractors dominating the market. SEM is well positioned to give them the foundation they need to find their feet in such a cutthroat trading environment, and walk with them on their growth path," says Bradley.

Bradley says SEM's success in the contract mining sector has always hinged on the quick return on investment. "Most of the contracts in the contract mining space are now between 1-3 years. In one of our success stories, a client managed to pay back their machine in 13 months, which placed them in good stead to maximise profits and grow their business. Central to the machine's success was the fact that it worked throughout the contract duration with no

unplanned downtime," says Bradley.

Apart from wheel loaders, SEM also offers its compactor and dozer ranges suited to the plant hire market. Its 816D dozer is based on a Cat D6G, but this is a simpler machine suited for stockpiling and land clearance. A key talking point on the compactor range is that it comes with a compaction meter, yet most competitor offerings in this market segment don't have this feature.

Comprehensive offering

To cater for the different needs of plant hire and contract mining customers, Barloworld SEM offers a suite of services, including leasing, rental, Cat Finance, used machines, tailored service agreements, among others.

"We use our rental department as a demo tool, allowing customers to experience the capabilities of our machines first hand before they can make buying decisions," says Fang. SEM-certified used machines also offer start-up companies an opportunity to own capital equipment and be able to execute their contracts with peace of mind, knowing that their pre-owned machine is backed by an OEM.

Another key challenge for upcoming contractors, and the capital equipment at large, is the trouble associated with accessing finance to purchase equipment, especially in tough economic conditions where banks are generally reluctant to finance yellow metal equipment. To ease this burden for customers, Barloworld SEM now offers Cat Finance.

Cat Financial, a wholly-owned subsidiary of Caterpillar, established its local office to support customers in South Africa in 2018. "The shift from large contracting houses to small and medium size enterprises in the region has made captive finance a key customer requirement. The emerging customer does not always have the funds to close a deal and in most cases, has a limited track record and balance sheet to easily secure funding," says Fang. "Cat Financial now enables us to offer our existing and new customers convenient financing."

To be a one-stop shop to its customers, Barloworld SEM has established partnerships with other complementary brands. This move is aimed at plugging the product gaps in its offering. For example, Barloworld SEM supports the Weichai engine range in southern Africa. Additionally, it has also acquired the distribution rights for FAW trucks, allowing it to offer a complete load and haul solution to its customers where necessary. To close the excavator gap in its offering, SEM partners with its parent company, Caterpillar, a leading name in this range of equipment.

Support matters

The contract mining market and plant hire segments are uptime-driven, and downtime-sensitive markets. To be able to cater for their needs, Barloworld SEM has recently invested in further capacitating its support structures. Victor Masuvhe, technical manager at Barloworld SEM, says central to this venture was boosting parts support, which is critical to maximising customer uptime. "We have boosted our stock levels significantly," he says.

Last year, Barloworld SEM also placed greater focus on expanding its support footprint with the appointment of dealers across major regions in South Africa. "The programme has yielded tangible results; every province now has a dealer partner, with the aim to be within 200 km of every customer," says Masuvhe. These independent dealers have an industry focus, largely informed by economic activities in their region of location.

The company also prides itself in offering tailor-made service agreements that meet each customer's operating and economic profile. "We are happy to customise our service plans, given that customer needs vary from one customer to the other. For example, a mining customer's needs are different to those of an agricultural customer," concludes Masuvhe. 🌟



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Eric's Roller Hire has proven their reliability and their strength in the compaction industry in South Africa. Eric's Roller Hire is playing a key part in this and staying light years ahead of their competitors in the rental of compaction equipment as well as the supplying of key parts to the market for rollers.



IVECO South Africa has introduced the new Stralis X-WAY in southern Africa.



RAISING THE STAKES **IN LIGHT** **OFF-ROAD MISSIONS**

Latest from IVECO South Africa is the new Stralis X-WAY range specifically designed for light off-road missions. With what is said to be the biggest payload in its segment, the range provide an ideal crossing for on-road applications calling for off-road mobility, writes *Munesu Shoko*.

IVECO South Africa has introduced the Stralis X-WAY range of construction vehicles to the local market. With low tare mass of 7,7 t, the X-WAY raises the stakes in light off-road applications with what is claimed to be best-in-class payload capacity.

The best-in-class kerb weight was achieved through a number of design choices such as the redesign of the mechanical rear suspension, the chassis architecture and cross member optimisation.

"The result is a robust vehicle customers can rely on to deal with the driving conditions on a construction site while carrying the biggest payload in the construction logistics and urban services segment, then go on to deliver greater fuel-efficiency, safety and comfort on the road," says Elvis Mutseura, product marketing manager at IVECO South Africa.

Mutseura says the vehicle comes at a time when regulation 330 of 2015 of the National Road Traffic Act (consignor consignee legislation) places the

responsibility for correct vehicle loading on the consignor (especially) and the consignee.

The consignor who dispatches over 500 t of cargo per month must have records of loads dispatched and the calculation of mass distribution. Mutseura says 500 t per month is nothing for a commercial transporter – that is only 35 x 6 m³ loads of concrete mix per month. Additionally, the AARTO (Administrative Adjudication of Road Traffic Offences Act) legislation will place a bigger burden on compliance with the National Road Act and will increase the risk of non-compliance with possible consequences that can ground a whole fleet.

"Sustainable use of public road infrastructure is the responsibility of all players in the road transport industry and IVECO is doing its part by providing a solution that allows operators to maximise payload without exceeding design limits on our roads," explains Mutseura.

"The X-WAY truck combines the outstanding



"The low tare mass of the vehicles allows the operator to maximise on payloads on the outward journey, while on the return leg the low weight translates into lower fuel consumption. This is a compounding benefit that accrues over the entire lifetime of the truck," says Mutsesura.

With fuel economy in mind, the X-WAY is driven by an 8-litre Cursor 8 engine, compared with 10 and 11-litre engines commonly used in this market segment. The range features the newly redesigned driveline that has taken performance and fuel efficiency to another level. It comes with the direct-drive 12-speed AS Tronic gearbox (16-speed manual and Allison also available).

The long service intervals of 500 engine hours for a mixer and up to 40 000 km for the freight carrier (in a long distance application) translate into major savings for fleet owners. A 3-year/600 000 km driveline warranty also gives fleet owners peace of mind knowing that all the major components of their mission-critical vehicle are covered during that time.

"We are delivering a competitive total cost of ownership with the X-Way. It is available at a recommended retail offer of R1 350 000, with a complete package including a 3 year/600 000 km warranty on the driveline, long service intervals of 40 000 km for long distance use and 20 000 km for short distance use, driver training and telematics," says Mutseura.

With the ability to detect and record concrete discharge (unique to IVECO), the IVECO telematics system is among many other useful features on the Stralis X-WAY. "All transport operators want drivers to drive economically – yet relatively few of

on-road performance of the Trakker, which has become a byword for robustness in the industry with the on-road comfort and efficiency of the Stralis platform. We now have a product that is equally at ease in on- and off-road conditions, and is designed specifically for construction logistics," adds Mutseura.

Lower TCO

Lower total cost of ownership (TCO) was a major design focus area for IVECO when it designed the X-WAY. Thus, given South Africa's current economic context, it provides an effective means to protect margins and make the most of the little opportunities that currently exist in a constrained construction market.

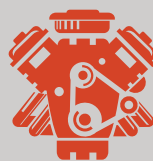
Mutseura says the low tare mass translates into lower fuel consumption over the life of the vehicle because of its lighter return leg – as most of the applications of rigid vehicles involve unladen return legs.



With low tare mass of 7,7 t, the X-WAY raises the stakes in light off-road applications with what is claimed to be best-in-class payload capacity



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QUICK TAKE



Julian Dango, MD of IVECO South Africa (left), with Springbok rugby legend Bakkies Botha during the launch of the new range in South Africa.

them have objective measures of driver performance and even fewer tailor their remuneration policies to reward the desired behaviour. Corporate culture is not what you preach. It is what you tolerate and reward. With IVECO telematics, fleet owners can benchmark their drivers' performance at all times," says Mutseura, adding that this is complemented by the driver training service provided by the OEM.

Versatile offering

A go-anywhere truck is a boon on every site. The X-WAY can be deployed across a myriad of on-road missions seeking the

capabilities of an off-road truck. Typical applications of the range include, but are not limited to: concrete mixer (full 6 m³ of wet concrete); tipper (15,3 t payload on a 10 m³ city tipper); waste removal (skip, hook loader and compactor); freight carrier – volume and mass payload (for example, 16 pallets and 15 t on a tautliner body); equipment carrier; municipal services; and concrete pumping.

Wheelbase options from 3 200 mm to 5 100 mm mean that the range can be customised to meet different operating needs. The modular, mission-oriented approach of the range provides ultimate

flexibility in customising to the specific requirements of a wide variety of applications.

The Stralis X-WAY also offers a wide offer of gearbox and PTO choices. The range offers a choice of PTOs that deliver up to a maximum of 1 000 Nm of continuous torque output, which is perfect for applications such as mixer body or concrete pump. It also offers different fuel tank sizes from 300 to 800 litres, depending on application.

The Stralis X-WAY also offers a choice of cabs: the AD (Active Day) short cab with a low roof, and the AT (Active Time) sleeper cab with low or medium roof. Drivers will be just as comfortable and safe on the longer on-road sections of their missions as on the shorter off-road drives when collecting or delivering a load on a jobsite.

Safety matters

IVECO has placed safety at the top of its design priorities on the X-WAY. For example, the ventilated disc brakes supported by electronic braking system (EBS) and brake assistance system (BAS) ensure maximum safety.

"The EBS has a number of very useful features such as: ABS, ASR (anti-skid regulator), DBI (direct brake integration that distributes the braking effort between the engine brake and the foundation brakes) and BVR (brake lining wear adjustment that optimises the wear of brake linings to give uniform wear and consequently longer service life of the brake linings)," explains Mutseura.

"Another key feature of note is the engine braking with Iveco Variable geometry (VGT) Turbo Brake with braking power of up to 230 hp. The Speed Limiter function can be used to avoid exceeding the speed limit in restricted areas," says Mutseura.

In conclusion, Mutseura says with 24 sales and service points in southern Africa, IVECO's dealer network is positioned and available to provide efficient support and meet all its customers' needs with the new range.

"At the launch event, the vehicle was received with enthusiasm and appreciation from the audience, and we are looking forward to providing a vehicle with capabilities positioned to meet the needs of the construction logistics segment in southern Africa. We are confident that with a product providing best-in-class payload productivity and versatility we can help our customers to overcome current and future economic pressures as a sustainable partner for their transport needs," concludes Julian Dango, MD of IVECO South Africa. 🌟



"The low tare mass of the vehicles allows the operator to maximise on payloads on the outward journey, while on the return leg the low weight translates into lower fuel consumption. This is a compounding benefit that accrues over the entire lifetime of the truck."

Elvis Mutseura, product marketing manager at IVECO South Africa



"We are confident that with a product providing best-in-class payload productivity and versatility we can help our customers to overcome current and future economic pressures as a sustainable partner for their transport needs."

Julian Dango, MD of IVECO South Africa

STRALIS X-WAY PERFECT CROSSING



PAYLOAD

Low tare mass of 7.7 tons that gives the best in class payload of up to 18 tons

ECONOMY

Outstanding drive train with 7.7 litre engine married to a 12 speed automated direct-drive transmission with single reduction rear axle

Best in class service intervals of up to 40 000 km or 500 engine hours

VERSATILITY

Wide range of wheelbase offer from 3200 mm to 5100 mm
Various transmission options including 16 speed Manual, 12 speed AMT and Allison gearbox

Multiple PTO offer depending on application i.e. Multipower PTO, Camshaft PTO and Gearbox PTO

SAFETY

Electronic Brake System (EBS) that incorporates: ABS (anti-lock brake system), ASR (anti-skid regulator), DBI (direct brake integration), BVR (Brake lining wear adjustment),

Engine brake power up to 230HP



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Bell Equipment believes that mining and construction will be key in South Africa realising any meaningful economic growth in 2020.



FORECASTING THE YEAR AHEAD

While commodity prices have offered some reprieve in the mining sector, construction remains in the doldrums, and many other sectors of the economy remain stagnant. Smarting from an economically challenged 2019, analysts predict trivial economic growth in South Africa in 2020. What are the implications for the capital equipment market at large? By Munesu Shoko.

Forecasts are crucial for all economic and business activity. With South Africa facing slowing growth and possible credit downgrades, growth forecasts have been slashed this year, going into 2021. Consequently, the World Bank has lowered the country's growth forecast for 2019 through to 2021, citing weak investor sentiment and persistent policy uncertainty. Growth for 2020 is expected at a paltry 1%, some 0,7 percentage points lower than the previous forecast, and 1,3% in 2021, again half a percentage point lower than prior estimates.

Ernie Smith, Hudaco portfolio executive who oversees the BI and Bauer geared motor divisions, says the recent drop in the GDP outlook for 2020 indicates that it will be another challenging year for all market segments. "However we have seen some recovery in the mining sector, underpinned by the weaker Rand and believe this will continue during 2020," he says.

"As a group we also now have the ability to support the

mining sector with its procurement challenges as outlined in the latest Mining Charter and we are excited about the opportunities this will unlock across our Engineering Consumable businesses. My view is that the construction sector will remain an extremely challenging sector and is not expected to show recovery during 2020," adds Smith.

Joe Brinkmann, director of Jet Demolition, says recent forecasts change frequently, and tend to fluctuate around very low levels, which is not meaningful when it comes to any kind of long-term forecasting. "Policy uncertainty due to the standoff between the government and trade unions in terms of the ongoing State Capture debate, largely centred on the future of State-Owned Enterprises such as Eskom and Prasa, continues to cast a pall over any chance for meaningful improvement in general business confidence that can help to spur economic growth," says Brinkmann.

Duncan Mashika, MD Bell Equipment Sales South Africa (BESSA), tells **Capital Equipment News** that mining

Jet Demolition has both the expertise and equipment to undertake complex heavy industrial demolition projects.



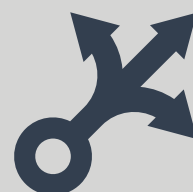
and construction will be key to South Africa realising any meaningful economic growth. "It is expected that some of the planned infrastructure projects will be rolled out in 2020, many of which will entail road construction and maintenance. These projects – if they come to market – will drive activity and a bit of recovery in the construction equipment market," he says.

Mashika is of the view that what's needed to kick-start the recovery is not just short-term projects for this year, but a steady flow of projects that will drive investment and equipment purchases in 2020 and beyond. "Customers need to have confidence that they can deploy their equipment on contracts for the long term before they can commit their capital into purchasing new equipment," says Mashika.

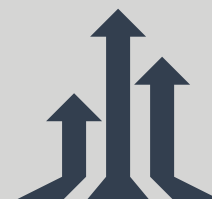
Ross Collard, MD of HPE Africa, says while government spend is the main driver for construction/ civil spending, the budget is seemingly very tight this year, which puts a damper on any projected growth for the construction sector and the economy at large. However, he is encouraged by prospects in the mining sector, but reasons that growth in the

QUICK TAKE

The World Bank has lowered South Africa's growth forecast for 2019 through to 2021, citing weak investor sentiment and persistent policy uncertainty



Growth for 2020 is expected at a paltry 1%, some 0,7 percentage points lower than the previous forecast, and 1,3% in 2021, again half a percentage point lower than prior estimates



There has been some recovery in the mining sector, underpinned by the weaker Rand, and it is believed this will continue during 2020



South Africa's infrastructure needs some serious work and there is some hope that this will happen in 2020





"Our infrastructure needs some serious work and there is definitely hope and a positive view that this will happen in 2020. If you look at the pledges made at the President's latest Investment Summit, there is a clear indication that we can expect investment in infrastructure."

Duncan Mashika, MD Bell Equipment Sales South Africa



"There might be an upswing in equipment sales in 2020. Because we have had a few years of lower equipment sales, some machines out in the field have reached or exceeded their lifecycle hours and will need to be replaced, for example, due to aging of major components."

Ross Collard, MD of HPE Africa

TALKING POINTS



HPE Africa is encouraged by prospects in the mining sector.

industry will largely hinge on whether commodity prices remain resilient or not.

Rebounding sectors

Despite the expected tough economic conditions this year, Collard believes that there might be an unusual upswing in equipment sales. "Because we have had a few years of lower equipment sales, some machines out in the field have reached or exceeded their lifecycle hours and will need to be replaced, for example, due to aging of major

components. We will only see as the year unfolds if this is enough to improve the market," says Collard.

Mashika says there needs to be urgent investment into infrastructure, which will have a positive impact on the economy at large. "Our infrastructure needs some serious work and there is definitely hope and a positive view that this will happen in 2020. If you look at the pledges made at the President's latest Investment Summit, there is a clear indication that we can expect investment in infrastructure," says Mashika.

Smith says as a group, his company has been able to deliver reasonable growth across its Engineering Consumable businesses in rather challenging economic conditions in a market that has been flat year-on-year in 2019. "Our strategy has been and remains for 2020 to take market share across the targeted segments and we remain optimistic that this will still deliver growth for us during the year," says Smith.

"Food and beverage showed some growth last year and believe this segment will continue to grow. Agriculture is expected to rebound after the drought and we expect manufacturing to show some growth driven by higher exports as a result of the weak rand," adds Smith.

Tech to the rescue

As companies seek to survive the tide of a downward economic cycle, technology may offer capabilities that improve competitiveness. "Companies should adopt Industry 4.0 technologies as a means to improve operational efficiencies and reduce total cost of ownership in order to stay competitive in a tough market," says Smith.

"Bearing International now offers many of these technologies like condition monitoring and predictive analytics but see a slow adoption from industry. A strong focus on energy efficiency is another area that companies should focus on and we have a number of products and technologies to address this issue – like our variable speed drive ranges," adds Smith.

Collard concurs, saying that technologies such as telematics can help equipment owners monitor crucial operational parameters like fuel usage, productivity and maintenance requirements on their equipment. "This significantly helps reduce fuel bills and limits downtime, two important parameters that can be a difference between stagnation and success. The technology also gives the customer the ability to accurately bill their machine



"Political and economic reforms are required as a matter of urgency to generate some stimulus in the current tough business environment. This is likely to require some hard decisions on the part of government, but its concerted effort in this regard is vital."

Joe Brinkmann, director of Jet Demolition



"Companies should adopt Industry 4.0 technologies as a means to improve operational efficiencies and reduce total cost of ownership in order to stay competitive in a tough market."

Ernie Smith, Hudaco portfolio executive: Bearings International & Bauer geared motor divisions



The Varispeed AlphaDrive-Micro VSD from BI is a compact frequency inverter.

usage to their customers," says Collard.

The same view is shared by Mashika, who reasons that in a downward economic cycle, information becomes more critical and customers can resort to telematics to get a better understanding of what is happening with their equipment and site at large. Bell Equipment offers its own telematics technology, but Mashika says the uptake hasn't been as widespread as it could be.

"Our technology can provide customers detailed, real-time performance of their equipment both in terms of productivity and maintenance. Analysing and

understanding this information can help operations improve their productivity significantly, which will make them more competitive. Through preventative maintenance, machine uptime is maximised, helping companies execute their projects in a cost-effective manner," says Mashika.

"At Bell Equipment, our Fleetm@tic telematics system helps us expand our advisory role to the customer because we are able to extract valuable machine data which helps us guide them on their fleet usage and workflow so that they are able to reduce any excessive idling of equipment and fuel burn, for example. This is value adding in that it promotes the longevity of equipment and the productivity of a worksite," adds Mashika.

Procurement decisions

The South African capital equipment fraternity is still facing tough challenges, and only compelling strategies to remain resilient in such a volatile economic environment will keep businesses – both end users and suppliers – afloat. Currently, corporates, investors and business owners are holding onto their cash, rather than reinvesting in new assets. The approach is the same when it comes to their capital equipment fleets – which results in

extending the periods in which they sweat the existing assets.

While this may seem like a cost-cutting initiative in the short term, in the long term, prolonged use of any business asset, especially vehicles and equipment, has a knock-on effect on maintenance and service-related costs. This often results in increased major component failures as fleets depreciate. Despite the tough economic conditions, Brinkmann says Jet Demolition continues to make long-term procurement decisions in line with its ongoing commitment to mechanisation and its aim to keep its fleet in tip-top condition.

When making procurement decisions, Collard says equipment owners need to consider the quality of aftermarket service such as turnaround time for breakdowns and parts availability. "During this day and age, it is absolutely crucial for OEMs and their dealers to become service and customer centric, and deliver the value and service that customers expect when they make large investments in capital equipment."

Mashika says decisions are always long term in the construction and mining equipment market. He advises that the full lifecycle costing of equipment should continue to be an important factor in decision-making, as well as the aftermarket support that is on offer.

"The potential of a partnership with a supplier should also be key when making decisions in tough times because no matter how difficult the situation becomes or what challenges are faced, when you are dealing with a true partner, you walk that journey together. That is one of our strengths as Bell Equipment, we never walk away from a problem. If there is a problem with one of our products or offering, we make sure that we stand by our customer until that matter is resolved. Our customers are not just buying a commodity, they are investing in a partnership for the lifetime of their equipment," says Mashika.

In conclusion, Brinkmann says he remains cautiously optimistic of the future. However, political and economic reforms are required as a matter of urgency in order to generate some stimulus in the current tough business environment. "This is likely to require some hard decisions on the part of government, but its concerted effort in this regard is vital. Jet Demolition is vigorously pursuing offshore work in an effort to fortify our business against the current political and economic climate in South Africa, which is thwarting any meaningful growth and development," concludes Brinkmann. 🌟

Crane & Hoist Equipment SA is the new dealer for the full Potain range of tower cranes in selected countries in southern Africa.



NEW CHAPTER FOR POTAIN IN SOUTHERN AFRICA

When appointing Crane & Hoist Equipment SA as its official distributor for selected southern African countries, Potain considered the company's vast knowledge of the product, which puts it in good stead to provide unparalleled sales, rental and support service to customers operating in the region, writes *Munesu Shoko*.

In an exclusive interview with **Capital Equipment News** during his recent visit to South Africa, David Semple, vice president, MEIRA region (Middle East, India, Russia and Africa) noted that the recent appointment of Crane & Hoist Equipment as the new Potain dealer represents a new era for the leading global tower crane manufacturer in southern Africa.

According to Semple, Potain has had a very long history, spanning over 40 years, with one company (its previous dealer SA French) and one individual, former owner of SA French, Quentin van Breda, who has since retired from the industry. He says that the previous chapter has since been closed, and the company is opening a new one with Crane & Hoist Equipment.

Semple says a key consideration in appointing a new dealer was not the size of the company, but the necessary knowledge of the product to ensure continuity for the Potain brand in southern Africa. Although Crane & Hoist Equipment was only formed in 2017, the management team – which together has amassed 40 years of experience in the tower crane sector – was previously

part of the senior management of the previous dealer. The team includes sales director Louw Smit, MD Brenden Crous and operations director Danie Roos.

"The three directors of Crane & Hoist have extensive knowledge of the brand, having previously worked for the previous dealer for many years. Together with the other 14 employees of the company, who have also worked with the product before, Crane & Hoist Equipment boasts about 80 years of combined experience in the tower crane sector, specifically on Potain equipment," explains Semple.

Experience matters

Semple reasons that the tower crane is more technical than it looks. "You really don't want to leave it in the hands of people who don't understand the product," he says. "In our search for a new partner, we needed crane experts, people who really know how a tower crane works; how to select the right tower crane for the job at hand, how to set it up on site, how to troubleshoot it, maintain it and dismantle it. The process of knowing the



product takes multiple years of training and hands-on experience.”

Semple says a suitable distribution partner plays a significant role in the success of every brand. For Potain, starting from scratch, even with one of the biggest companies on paper, but with no required level of expertise, would have spelt trouble for the business. He is of the view that the brand would struggle to be successful in the market and wouldn't be able to give the required level of support to crane users.

“For us, Crane & Hoist Equipment is a partner that has hit the ground running from the day of appointment as the sole distributor of the Potain product. It's not a big company, but every single employee already has the experience of our product. I will rather have a small company that is really strong and an expert in the product than some huge corporation that is only good looking on paper but doesn't understand the product. That's why we made this decision to give distribution rights to Crane & Hoist Equipment,” explains Semple.

Crous is very excited to have this close partnership with a global OEM of this stature. A leading producer of tower cranes and self-erecting cranes since 1928, Potain offers more than 60 models in an array of product ranges, and has an installed base of over 120 000 cranes around the world.

“The close to 200 Potain cranes in

QUICK TAKE

When appointing Crane & Hoist Equipment as its distributor, Potain considered the company's vast knowledge of the Potain product



Although Crane & Hoist Equipment was only formed in 2017, the management team – which together has amassed 40 years of experience in the tower crane sector – was previously part of the senior management of the previous dealer



Crane & Hoist Equipment's distribution territory comprises South Africa, Namibia, Botswana, Mozambique, Swaziland and Lesotho



Crane & Hoist Equipment has a sizeable rental fleet of eight tower cranes, suitable for small to medium-sized projects, where 5 to 8 tonne lifting capacities and jib lengths of 50-60 m are required



Close to 200 Potain cranes are in active service in South Africa.



"For us, Crane & Hoist Equipment is a partner that has hit the ground running from the day of appointment as the sole distributor of the Potain product. It's not a big company, but every single employee already has the experience of our product."

David Semple, vice president, MEIRA region at Manitowoc Cranes



"The close to 200 Potain cranes in active service in South Africa alone, are testimony to the local market's loyalty to the brand. We look forward to providing existing and new customers with the highest level of service and support."

Brenden Crous, MD of Crane & Hoist Equipment SA



"We currently have eight of our own cranes available for rental. At the moment, rental constitutes 80% of our business, and 20% is sales."

Louw Smit, sales director at Crane & Hoists Equipment SA

TALKING POINTS

active service in South Africa alone are testimony to the local market's loyalty to the brand. We look forward to providing existing and new customers with the highest level of service and support. The management and staff of Crane & Hoist Equipment have had a long relationship with the product, which we will leverage to the benefit of the customer," says Crous.

Footprint and territory

While Crane & Hoist Equipment's distribution territory is for South Africa, Namibia, Botswana, Mozambique, Swaziland and Lesotho, Louw says the company will also go anywhere some of its clients operate, especially considering that some of the biggest South African crane users are working elsewhere in Africa.

Semple adds that considering the lack of crane expertise in some of the territories, in case of an enquiry in some of the small markets, for example, where Potain very seldom gets any, be it for a new or used crane sale, service intervention or spare part provision, the OEM would likely turn to Crane & Hoist Equipment as it is the best pool of experience and expertise in the product that you can find south of the equator.

To give an idea, Crane & Hoist Equipment's experts have already travelled as far afield as Ghana, Sudan and Burkina Faso, while the company recently collaborated with Potain to assist with a commissioning project in Guinea.

In terms of service, Smit says the company will service all its customers within its area of jurisdiction from South Africa. "If need be, the company will consider setting up a branch elsewhere necessary. However, for now we find it easy and convenient to service

About 80% of the market is currently top slewing cranes, given the buildings being built at the moment are 30-50 m high.



from here," says Smit.

With regards to the footprint, Semple reasons that the tower crane sector is a niche industry with no big users of the product everywhere across southern Africa. "The truth is that there are few medium to large construction companies that use tower cranes in the region," he says, adding that there won't be any problem for Crane & Hoist in servicing the market from Johannesburg.

Comprehensive services

Strong relationships with key customers in the local market means that Crane & Hoist Equipment SA has been busy since day one, mainly in rentals, servicing and anchoring. The company already boasts a sizeable rental fleet suitable for small to medium-sized projects, where 5 to 8 tonne lifting capacity is required with 50-60 m jib lengths.

Crous says due to the challenging construction sector, the tower crane market is currently driven by rental rather than sales. "When the economy turns, we expect customers to start buying again. We hope that this year the construction market will rebound," says Crous.

"We currently have eight of our own cranes available for rental. At the moment, rental constitutes 80% of our business, and 20% is sales," adds



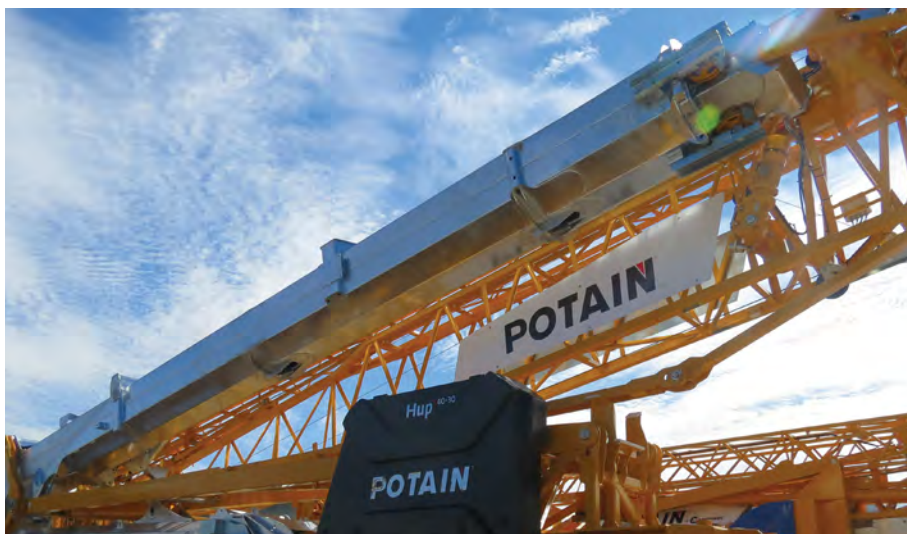
Due to the challenging construction sector, the tower crane market is currently driven by rental rather than new sales.

Louw, adding that beyond its Gauteng base, Crane & Hoist Equipment has also recently been active in several KwaZulu-Natal residential developments.

In terms of products, Crane & Hoist Equipment offers the full Potain range, including top slewing, self-erecting and luffing job cranes. Louw tells **Capital Equipment News** that top slewing cranes are currently the major product driving the market. "I would say 80% of the market is currently top slewing cranes because the buildings being built at the moment are 30-50 m high, which makes the top slewing crane a tool of choice," explains Louw.

In terms of key focus areas, Crous says Crane & Hoist Equipment is mainly focused on doing justice to the Potain brand. "We have worked hard to secure the dealership and with all the experience that we have, we know what Potain expects and whatever we do we want to make sure that we maintain the brand to the highest level possible," he says.

"When people are loyal to the brand, it's important to keep that loyalty going. We will prioritise backup service for our customers. We also place a big priority on safety and compliance with all our products and services, and being part of the Potain family will also give us direct access to their global expertise," says Louw.



Important market

Explaining the significance of the local market to Potain, Semple says the southern African market is one of the key emerging markets for Potain, now and well into the future.

"Traditionally we are a Western-based manufacturer and our biggest markets have been and will always be in Western Europe – France, Germany, the Netherlands and Belgium, among others. These have always been our core markets. However, Potain actually started exporting back in the 1960s, and during that period we have actually grown about 50% of our business outside of our core traditional markets," explains Semple.

Semple reiterates the importance of the local market in Potain's export ventures, saying Africa is regarded as the market of the future, while South Africa is the strongest economy in Africa. "Africa is an important market for Potain and that's why we decided that we should have people with that vested interest running the brand here. We needed a dealer with a strong push and motivation to make sure that we are successful in these emerging markets," concludes Semple. 🌐



BREAKING NEW GROUND

By tripling production, enabling production of two sands simultaneously and significantly reducing water usage, among other benefits, CDE's cyclone technology is paying huge dividends for a South African sand and aggregates producer, writes *Munesu Shoko*.

Having started producing sand and aggregates out of decomposed granite back in November 2016, Ground Breakers – the brainchild of two young entrepreneurs with a background in plant hire, logistics and quarrying industries – is fast becoming a sand producer of choice within its area of supply.

Within three years of operation, Ground Breakers – owned by Johan Meintjes and JC Janse van Vuuren – has established itself as a leading supplier of construction materials. Operating from its Lindley quarry in Johannesburg, the company produces an array of construction materials, including G5, G6, G7, building sand, river sand and plaster sand.

At the centre of its market leading position is the quality of its sand and the flexibility to produce to customer spec. Key to these capabilities is the recent investment in CDE's patented Combo™ – the world's first all-in-one wet processing plant.

Before investing in the CDE Combo technology, Ground Breakers previously deployed a bucket wheel system to transform the quarry's raw feed of decomposed granite into construction

sand and aggregates, with additional low-value fill or bedding products.

The downside

Bucket wheel systems have traditionally been the mainstay for washing sand in the local market. These were cheap to buy, however, a major downside is that up to 37% of valuable fine sand is lost to slime dams, reasons Willem du Plooy, business development manager at CDE South Africa.

Consequently, an upgrade of the existing bucket wheel system was required to tackle the loss of valuable materials to ponds and excess moisture in the final products. "Our quarry site in Lanseria faced a lot of challenges; we had limited water sources and limited space to put up a proper wash plant. Any silt dams we dug were taking away valuable mining area," explains Meintjes.

"The market required a clean washed concrete sand, and our bucket wheel was not delivering a quality product. We also lost a lot of fines to the settling ponds, wasting material that we could

Switching from the bucket wheel system to the Combo has resulted in massive production gains for Ground Breakers.



The Combo allows Ground Breakers to produce two high-quality sands simultaneously from the raw feed including plaster sand and river sand, for a much faster return on investment.



Ground Breakers, a leading Gauteng supplier of sand and aggregates, has purchased a CDE Combo – an all-in-one wet processing plant



Before investing in the CDE Combo, Ground Breakers previously deployed a bucket wheel to transform the quarry's raw feed of decomposed granite into construction sand and aggregates, with additional low-value fill or bedding products



As bucket wheels struggle to process sufficient volumes of water to achieve the desired cut points, fines were not efficiently removed and 100-300 micron fractions were lost to ponds



Deploying the CDE Combo has allowed Ground Breakers to triple its production from around 20 tonnes per hour (tph) to between 60-80 tph

not sell without dredging the ponds and re-processing it through the bucket wheel. We knew that to grow the business we had to find a more sustainable and efficient washing solution," adds Janse van Vuuren.

Explaining some of the downsides of the conventional system, du Plooy says a bucket wheel is basically a water in, water and sand out overflow system, with no defined separation parameters. The more water in the system, the more the sand loss. The less the water in the system, the more silt in the sand. "It's a very difficult balancing act," he says.

"As bucket wheels struggle to process sufficient volumes of water to achieve the desired cut points, fines are not efficiently removed and 100-300 micron fractions are lost to ponds or to the water treatment phase along with the overflow, making the sand product coarser. To mitigate the risk of inaccurate material classification, bucket wheels' settings must be adjusted on a regular basis," says du Plooy.

Diverting excess material to settling ponds requires considerably more space to accommodate the latter, and classification efficiency decreases as the proportion of fines in the feed material grows. The time then required for clearing out settling ponds to recover lost material requires long periods of plant downtime.

"To give an idea, after three days of operation with the old bucket wheel system, they had to stop production because the accumulated silt would be too excessive in the system," explains Du Plooy.

Outside of the issue of high maintenance costs for a restricted throughput, the sand product typically discharged from the Ground Breakers' bucket wheel system contained between 23% and 25% of moisture. The high moisture content meant that stockpiling the final product required double – sometimes triple – handling (to move the material to a separate stockpile area).

CDE to the rescue

Following a visit by CDE experts, Ground Breakers' feed material was tested at CDE's laboratory. Based on the analysis results, CDE engineers established that the customer could make significant savings by adopting cyclone technology to eliminate the loss of fines to ponds. This would help to retain every valuable grain of sand available in the system and reduce the size of the settling ponds as well as maintenance time. In addition, CDE technology could add a plaster sand product to the company's offer, which has higher commercial value than the river



Johan Meintjes (left) and JC Janse van Vuuren, owners of Ground Breakers.

sand currently processed.

After considering the site's footprint and the customers' requirements, CDE presented the Combo all-in-one wet processing and water recycling system as the most appropriate solution to the customers' requirements. The Combo would allow them to produce two high-quality sands simultaneously from the raw feed including plaster sand and river sand, for a much faster return on investment.

Incorporated cutting-edge water management would ensure that the final products would be dewatered to an average 12% moisture, making them ready for market straight from the belts. As an added benefit, the fully integrated CDE AquaCycle thickener would allow for up to 90% of the process water to be recycled directly into the system for near-independence from fresh water supplies.

Following a collaborative design process with the customer, CDE developed and built a Combo modular plant to transform 60 tonnes per hour of raw feed into washed 0-6 mm river sand and 0-1,5 mm plaster sand.

The Ground Breakers' bucket wheel was not effectively reducing moisture in the sand products and fines were lost to ponds. To address these limitations, the Combo's high-frequency dewatering screen dewateres the material in one pass, removing the need for re-processing and double handling. Once the sand slurry

with the silt material is discharged from the hydrocyclones, it is delivered to the screen which is sized according to the customers' specific capacity requirements.

This allows for the production of a sand product with a moisture content typically ranging from 10% to 15%. As a result, the product is ready for market straight from the belts, in turn converting sand into revenue in the shortest possible time. An added benefit of the Combo system is that although the plant packs a powerful punch, it only requires a very small footprint, which makes it easy to relocate, even in remote areas and urban settings.

"Our CDE Combo is compact and highly efficient. It produces two properly washed products and our customers are very happy that the moisture content is so low. This means a considerable cost saving to them, as generally we sell per tonne," says Meintjes.

"Because the system works basically as a full-circuit unit, retaining fines and recycling used water for immediate re-use in the system, the need for silt dams has been significantly reduced and we have been able to preserve valuable mining areas," adds Janse van Vuuren.

Massive gains

Switching from a bucket wheel system to the Combo has ushered in massive production gains. Firstly, production has

tripled, from around 20 tonnes per hour (tph) with the old bucket wheel system to between 60-80 tph with the CDE Combo. "The old system also lacked consistency because the plant would get blocked more often," says Janse van Vuuren.

"The Combo has also been conducive to considerable cost savings, as generally we sell per tonne. The additional -2 mm product has many uses, from plastering exterior walls to making paving bricks. It has increased our profitability considerably," adds Meintjes.

"The new Combo on the Lanseria site has allowed the company to maximise yield and reduce its operational costs. The production of sand and aggregates is guaranteed to be within specifications, with no risk of cross-contamination when two products are processed simultaneously, and in line with the requirements of customers or their downstream processes," says Du Plooy.

According to Du Plooy, another major gain of installing the Combo is the flexibility. The Combo allows Ground Breakers to produce more than two products by manipulating the amount of fines or course material. This allows Ground Breakers to spec the material according to specific client needs. Apart from the flexibility offered by the conveyor system, one can also put in new screens to change the product spec.

In fact, when we visited the site, CDE and Ground Breakers were working on a spec change on the plant. Originally the cut size on the fine sand was 1,5 mm. Ground Breakers had a request from one of the clients who would like the cut size to get closer to 3 mm. By changing some of the panels on the screen, the production team is now able to change the cut size to the required 3 mm cut.

"At CDE we put all our passion and expertise in developing equipment that is tailor-made for each client to the highest quality standards. Return on investment is fast thanks to reduced requirements for spares, highly efficient water management as well as longer and more reliable running time.

"CDE's products are specifically designed to require minimum attention, minimal civils and a minimal number of operators thanks to its one-touch technology, so that it can be left to simply produce clean sand and aggregates at the required rate.

"It was a pleasure to support Ground Breakers in installing the next generation of wet processing equipment to allow the company to achieve the full potential of its vision and its quarry site," concludes Du Plooy. 🌟



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Like the Bell B60E, the B45E 4x4 bin concept is along the lines of a rigid dump truck rock bin with bottom-mounted telescopic tip cylinders.



GROWING THE 4X4 ADT CONCEPT

With the launch of the new Bell B45E 4x4 at bauma last year, Bell Equipment added a new model to its range of articulated 4x4 two-axle ADTs. Similar to the 60-t B60E and the smaller Bell B30E 4x4, the new truck is configured to provide a highly efficient and cost-effective transport solution for niche applications in the mining and construction industry, writes Munesu Shoko.

With the front half of the truck being essentially the same as its 6x6 counterpart, the Bell B45E 4x4 is derived from proven high-volume technology and decades of experience. Powering the truck is a 390 kW / 2 460 Nm inline six-cylinder engine from Mercedes Benz, optimised for off-highway use by MTU.

This, combined with the Allison seven-speed automatic transmission, contributes to outstanding driving performance while delivering the low fuel consumption typical of Bell ADTs.

Wet brakes on both axles ensure safe deceleration and work in conjunction with the Jacobs Engine Brake, to provide the multi-stage programmable automatic retardation.

The standard Bell cab is spacious, offering great visibility and comfort while ensuring safety and productivity. This is achieved through a comprehensive package of productivity, safety and ease-of-operation features, based on real-time data collection by the truck's sensors (on-board weighing, pitch/roll sensor, among others).



Bell Equipment has found that its 4x4 bin configuration, which doesn't have the traditional ADT dovetail, is considerably better at minimising carry-back than the 6x6 counterparts.



"With comparable performance to rigid dump trucks on well-tended, dry underfoot conditions, the two-axle articulated trucks score in all-weather conditions when the haul roads deteriorate or become slippery. Additionally, the loading site is often a challenging environment to negotiate and undulations are common."

Tristan du Pisanie, Bell Equipment's ADT marketing manager

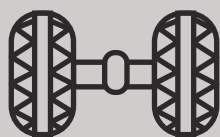
TALKING POINT



Like the Bell B60E, the B45E 4x4 bin concept is along the lines of a rigid dump truck rock bin with bottom-mounted telescopic tip cylinders



Thanks to its wide geometry and flat-bottomed floor, the 41-t fits in well with typical quarry loading equipment and offers better filling characteristics than the longer 6x6 ADT bins of the same volume



A rigidly mounted 55-t axle supplied by German manufacturer Kessler with 21.00R35 twin tyres ensures a robust solution with a nominal payload of 41 tonnes



With comparable performance to rigid dump trucks on well-tended, dry underfoot conditions, the two-axle articulated trucks score in all-weather conditions when the haul roads deteriorate or become slippery

4x4 flagship

In designing the rear chassis and the 25 m³ bin, Bell followed the design of its 4x4 flagship, the B60E which has been optimised for tough mining applications. A rigidly mounted 55-t axle supplied by German manufacturer Kessler with 21.00R35 twin tyres ensures a robust solution with a nominal payload of 41 tonnes.

At the front the truck rolls on 775 / 65R29 tyres that boast high load carrying capacities and high lateral stability, an essential characteristic for a machine intended for challenging underfoot conditions. To improve ride comfort, the B45E 4x4 can optionally be equipped with the Bell "Comfort Ride" adaptive front suspension system.

Like the Bell B60E, the B45E 4x4 bin concept is along the lines of a rigid dump truck rock bin with bottom-mounted telescopic tip cylinders. Thanks to its

QUICK TAKE



In designing the rear chassis and the 25 m³ bin, Bell followed the design of its 4x4 flagship, the B60E which has been optimised for tough mining applications.

wide geometry and flat-bottomed floor, the 41-t fits in well with typical quarry loading equipment and offers better filling characteristics than the longer 6x6 ADT bins of the same volume.

When carrying sticky material such as clay, optional body heating helps to minimise carry-back when tipping. Additionally, Bell Equipment has found that its 4x4 bin configuration, which doesn't have the traditional ADT dovetail, is considerably better at minimising carry-back than the 6x6 counterparts. With a fully programmable maximum tipping angle of up to 55° relative to horizontal, the short bin body reaches a tipping height of only 6 394 mm, which can be an advantage when operating with overhead structures (for example hoppers and crushers).

Flexible all-rounder

"Thanks to its high capacity and superior productivity, the Bell B60E can perform a supporting or primary production role in many large opencast mining and quarrying operations around the world. However, we see other target applications for the B45E 4x4," says Tristan du Pisanie, Bell Equipment's ADT marketing manager.

"These include small to medium-sized mining or quarrying operations with lower production tonnage, as well as larger sites with difficult underfoot conditions. Finally, there could be operations requiring selective mining in very specific areas as a top-up on their main production volumes," adds du Pisanie.

Despite a number of competitors having dropped 40 t rigid dump trucks from their range, many customers in Europe are continuing to work with rigid trucks in the 40-t class. "With comparable performance to rigid dump trucks on well-tended, dry underfoot conditions, the two-axle articulated trucks score in all-weather conditions when the haul roads deteriorate or become slippery. Additionally, the loading site is often a challenging environment to negotiate and undulations are common," he says.

"The all-wheel drive and oscillation joint configuration are the reasons for this and they also provide for safer machine operation. This means that the machine is also suited to stripping or overburden work, which provides higher utilisation and improved return of investment," says du Pisanie.

Economic drive concept

For today's quarry operations, with lower maximum speeds and shorter hauls, Bell 4x4s offer a more economical drive concept compared to 4x2 rigid trucks that are designed for high top speeds over long distances.

"The lower fuel consumption has a direct effect on the operational costs. Another very important factor in this regard is tyre wear," says du Pisanie. "After several thousand

operating hours, in direct comparison with 4x2 rigid trucks of the same size, operators reported a 65% lower wear on the rear twin tyres of the Bell B60E. Here again, the all-wheel drive and the consistent traction on each wheel ensured by the oscillation joint seems to be the difference."

With regard to tyre wear on hard and abrasive haul roads, the two-axle ADT concept offers further advantages over conventional 6x6 trucks. The shorter rear chassis means 4x4s are more manoeuvrable than comparable three-axle trucks, whose middle and rear tyres tend to scuff around tight bends. This increased wear results in higher tyre and route maintenance costs as the scuffing tyres tend to churn up the road. The use of 4x4s in opencast mining requires less shunting at narrow loading points or at the primary crusher.

In tunnelling or in underground mining the smaller turning circle is particularly significant. "Here, we have already successfully placed several 4x4 thirty-tonners. Specific customer requests for the more powerful B45E 4x4 prove that this derivative of our standard 6x6 machine can offer a real alternative for this very special market segment," concludes du Pisanie.

The Bell B45E 4x4 entered the market in April 2019 following its launch at bauma. Like all Bell 4x4s, the truck is produced at Bell Equipment's main factory in Richards Bay, South Africa. 🌐

MAKING DATA DO THE 'HEAVY LIFTING' FOR THE CONSTRUCTION INDUSTRY

Despite hopes of a turnaround, the construction sector remains in the doldrums. Its contribution to GDP contracted slightly in 2019, continuing a slide that has been happening since 2017. The picture isn't likely to change soon and as a result construction companies are 'building-in' business optimisation to ensure continuation. By *Chris de Bruyn*, operations director at Gabsten Technologies.

Myopic mindsets have unfortunately led many to neglect managing their data. There still remain traditional views in the industry that data is not a vital component to operations. Yet construction is a very data-dependent sector. Sharing accurate information and establishing a 'single truth' are crucial for timely delivery and healthier margins.

Blueprint for profitable construction

Such measures have become even more important in the current market. The costs of materials are steadily rising, so efficiencies have to be found in other places. Those gaps hide in the data and how it's being handled. Mismanagement, cost overruns, budgeting, poor asset ROI, opaque procurement, supplies theft and miscalculations are all areas rife with opportunity for improvements. If a business in the construction value chain is exploiting its data, thereby fully applying its data insights, it can enjoy many terrific gains. But those ignoring their data are losing out.

They are also putting themselves at serious risk. Cyber-attacks on construction companies are rising, particularly against those operating across various sites, some of which are remote, with many devices in the field. These are candy to cyber criminals. Yet some owners and managers don't even believe they will be targeted.

However, online crime has become an illicit business that is more profitable than narcotics or weapons. Large dedicated teams plunder business accounts, and their means of attack keep evolving. Business can now be targeted through their data. Ransomware is a particularly effective way to do this: just one email can result in the encryption of all the reachable company data. The cyber criminals then demand a ransom to unlock the files. Emails, customer lists, supply databases, project artefacts – all gone, bringing business to a standstill and often causing delay penalties.

It's open season on companies that rely on data but aren't securing that data. The same companies are also those not investigating what efficiencies their data can generate. That data is everywhere: part of desktop spreadsheets, in employee emails, on a laptop sitting in an unlocked bakkie on-site. A business that doesn't know its data can't explore that data to isolate opportunities for better returns and improvements. Yet, the dual challenges of security and data analytics can also support each other.

Building a foundation

By introducing a data management culture, a business can make sense of what it has and how to protect it.

Data becomes increasingly secure and useful once categorised, including sharing and coordination across different parties. Every building project is a value chain of suppliers and providers – a cyberattack can target any of those. Yet, sharing the right data with partners, collaborators, clients and suppliers will achieve the best results. Knowing your data is the foundation of attaining all of the above.

You can't secure everything, but you can ensure you are ready for a disaster. A well-designed Business Continuity (BC) and Disaster Recovery (DR) strategy lays the groundwork for secure and exploitable data. The plan takes shape by auditing your data and business environments. Audit results are used to identify the types of data and components, such as device management and storage requirements. Once a BC plan is in place, and regularly



Chris de Bruyn, operations director at Gabsten Technologies.

tested, you are ready even if an attack happens. Extra security, analytics and sharing services can then be added.

Times are tough for construction companies. But even as they hunker down and wait for the storm to pass, they can gain ground by analysing their data. Is it secure? Is it accessible? Is it delivering value? And, if the worst happens, can it be recovered? Answering 'yes' to these questions should be a priority for every construction organisation. 🌐

Following a continuous improvement process, new technologies have been implemented on the engine and on the hydraulic system of the R 9150.



LIEBHERR R 9150B: THE AGE OF REASON

After a start frustrated by problems that tarnished its initial image, the R 9150 has now reached the age of reason. Just one year after the official launch of the R 9150 “B” version, which coincides with excellent reliability rates, it is time to review what has been done, the results obtained and finally look into a very promising future.

After more than 30 years of good and loyal service of the R 984, Liebherr did launch two models in this class in 2009 and 2011, respectively the R 9100 (100 t) and the R 9150 (130 t). Both models were brand new developments receiving the latest technologies to make them

more productive and fuel efficient than the R 984 ever was, and the Liebherr vertical integration programme featuring, for example, a Liebherr V12 diesel engine, swing pumps and cylinders.

The beginnings were difficult, and Liebherr does not deny that fact. Otmar Wehrle, GM Sales says: “With



no doubt, following the R 984C, a top performer in reliability and cost per tonne, the two machines have inherited a difficult legacy. And we have to admit that we did not have a perfect start: during the first years following the market introduction, there have been reliability issues in relation to the engine and hydraulic components. And despite a higher instantaneous dig rate and less fuel consumption than any previous model in this class, early failures impacted negatively on the CPT.

"During this period, we listened to our customers and worked hard to fix the problems. We went through an intense improvement programme and in field campaign. And as a result we are proud that the feedback from our customers on



The R9150B in a demolition application

QUICK TAKE

After more than 30 years of good and loyal service of the R 984, Liebherr did launch two models in this class in 2009 and 2011, respectively the R 9100 (100 t) and the R 9150 (130 t)



The beginnings were difficult, and Liebherr does not deny that fact. During the first years following the market introduction, there have been reliability issues in relation to the engine and hydraulic components



During the continuous improvement process, new technologies have been implemented on the engine and on the hydraulic system of the R 9150, and Liebherr worked hard over the past years to improve the reliability of three major components



The main control valve was part of the modernisation campaign Liebherr made in 2015. Consequently, a new fabrication and quality process of the main control valves was set up



the last version of the R 9150 is now extremely positive. Both the 9100 and the 9150 now prove the reliability numbers, productivity and we have been given confirmation by our customers that the cost per tonne is the best in the 100 t class. And this is the greatest reward for us," adds Wehrle.

"All these efforts are now also reflected in our business results at a global scale; in 2019 we saw our market share increase by 54% in the R 9100 and R 9150 segment – proof that both machines have finally won the trust of the market."

Continuous improvement

During the continuous improvement process, new technologies have been implemented on the engine and on the hydraulic system of the R 9150, and Liebherr worked hard over the last years to improve the reliability of three major components.

The main control valve was part of the modernisation campaign Liebherr made

EXCAVATORS

in 2015. The important technical and commercial efforts consented by Liebherr did not pay as cracking issues continued after the campaign. Consequently, a new fabrication and quality process of the main control valves was set up.

Emmanuel Goetschy, group leader customer support says: "The industrialisation of the process was achieved in December 2018. All main control valves fabricated since then are the improved version. The nature of the modification will lead to a substantial increase of the service life of the component."

Introduced in 2010, the Liebherr swing pump had problems; main failure cause was the swivel yoke bearings. After many efforts to improve the pump, the Liebherr Components Division decided to design a brand new pump using a hydrostatic bearing in replacement of the conventional bearings.

"The first set of pumps was supplied in 2018, they went to markets where the highest failure rates were measured. These pumps have now achieved over 9 000 hours without any problem, the trend is very promising to achieve new standards in life time," says Goetschy.

Last but not least, the 4th generation of the D9512 Liebherr diesel engine is now making high hours. "The engines are reaching their service life, which is currently 15 000 hours. And when removed from machines with 15 000 hours we see that the engines still have a lot more potential left and are able to run for higher hours," adds Goetschy.

Day after day, Liebherr gets evidence that the engine is now reliable. Moreover, a statistical analysis does confirm the efficiency of the technical changes and shows a reliability rate slightly superior for the D9512 4th generation compared to the Cummins QSK19 that was used in the Liebherr R 984 for many years.

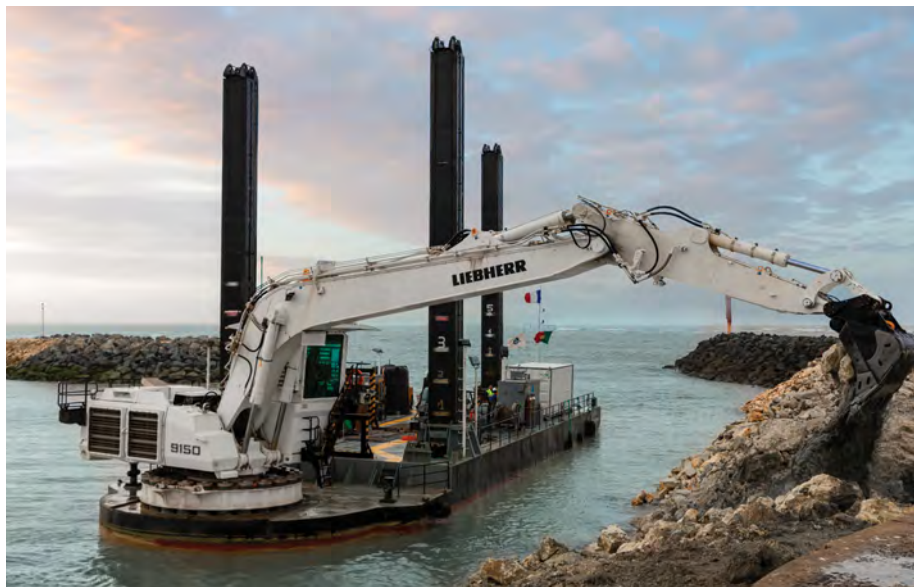
Based on these learnings, Liebherr gained confidence and decided to extend the lifetime of the D9512 from 15 000 hours to 18 000 hours (mid-life major overhaul is now 9 000 hours). This lifetime extension applies to 4th generation engines on R 9100 / R 9150 having the latest upgrades since zero engine hour, brand new engines and certified Remanufactured engines with a maintenance carried out as per the book.

Solid assets to succeed

Benefiting from this modernisation campaign, the R 9150B is now fully ready to make the most of its specific strengths



The R9150B comes with the exclusive EVO bucket Solution with patented Liebherr design.



The 4th generation of the D9512 Liebherr diesel engine is now achieving high hours.

on the ground and become the new benchmark in the 150 t class.

For instance, R 9150B comes with the exclusive EVO Bucket Solution with patented Liebherr design to maximise the loading capacity and ensure optimal penetration efficiency. Thanks to the contoured sidewalls and the augmented depth, the EVO Bucket backhoe bucket has a capacity from 8,8 m³ in standard backhoe configuration, and 9,6 m³ with the short boom option (dedicated to mass excavation in optimum maintained bench height conditions).

The new buckets also make the excavator the perfect working partner in terms of shovel match for the Liebherr T 236 truck and all other articulated and rigid dump trucks in the 50 t to 100 t class. Superior bucket capacities combined with class leading cycle times

lead to outstanding productivity resulting in lowest cost per tonne.

Available end-2020 for the R 9150B, a package of assistance systems will support to increase safety and productivity of the machines while reducing operating costs by application of new technologies, for example, a "Truck loading Assistant". The systems will be able to provide products and reports that support and assist all personnel involved with the machine. It will also provide self-diagnostics tools, high value data and big data for digitalisation and analysis purposes.

The R 9150B is also offered in a wide spectrum of special executions like frontless, demolition or long reach, electric drive and pontoon. A highly versatile machine to perform in every application. 🌟



As part of its mission to deliver the lowest possible TCO for customers, Volvo Construction Equipment designs its machines to retain a high resale value.

FIVE EASY WAYS TO INCREASE MACHINE RESALE VALUE

High resale value is an important contributor to the low total cost of ownership (TCO) of machines. Here are five simple tips to increase the profitability of your machine further still.

1. Keep a complete service history log

If you are selling a piece of used equipment with many hours on the clock, a buyer may assume that it needs a lot of repair work even if it is in excellent condition. Always keep your machine's service history up to date to prove the services that have been completed, as well as any components or parts that have been replaced. This will help the buyer understand its true condition – and you to receive a fair price – irrespective of its age and hours.

2. Clean the machine and touch-up any paintwork

First impressions matter. Taking the time to clean your machine, making sure all the sheet metal is straight and touching up the paintwork will improve its appearance and value. Don't go overboard with the paint, though.

Excessive painting does not look uniform and may indicate to the buyer that you are trying to hide something. Similarly, painting black components yellow, like coils, springs and hydraulic hoses, can actually decrease resale value. A clean machine with light touch-ups is always best.

3. Take good care of your cab

A carefully-maintained cab suggests that you have looked after the machine overall. Thoroughly clean the cab, make sure all the switches are working properly and replace any that are not. It's important to check the seat adjusts properly too as seat assemblies can be expensive and the cost of a replacement will be deducted from the resale value.

4. Fix any leaks

If a buyer spots a leak, they may take it as a sign of bigger issues even if it isn't. Inspect

the entire machine and fix any leaks you find.

5. Replace parts where needed

It may seem like a large and unnecessary cost to replace parts on a machine you are selling but it is worth it. It's not uncommon for an excavator in a demolition environment to have damage to its rear door, for example, and while it might cost a lot to replace it yourself, it could net you back several times that amount in resale value.

As part of its mission to deliver the lowest possible TCO for customers, Volvo Construction Equipment designs its machines to retain a high resale value. But aside from machine quality, making sure it is clean and in working condition will increase resale value – and having a complete service history will help you prove every cent it is worth. 🌟

Pilot Crushtec's modular range makes sense in an ever-changing business environment.



FIVE REASONS WHY MODULAR MACHINERY IS THE FUTURE OF MINING

Pilot Crushtec, a South African supplier of crushing, screening and materials handling solutions, has embraced the concept of simplification and ease of use, offering a range of modular solutions that cater to almost every eventuality in the sector. Here are five reasons why mines should be considering modular equipment solutions for their crushing, screening and processing plant operations.

1. Cost savings

There are a number of areas where costs can be minimised and effective use of capital is maximised. Firstly, most of the required units are built-for-stock in the Pilot Crushtec factory. This means they are manufactured in a controlled environment, under strict supervision, to exacting standards which will, of course, reduce labour and material costs.

Secondly, and most importantly, the entire range has already been designed, manufactured and tested – meaning customers won't incur exorbitant design and engineering costs to design a bespoke plant. Moreover, you are able to purchase what you need, when you need it, to cater to the varying nature of the process.

2. Setup time

Manufacturing modules at a central area means no delays in manufacturing. All modules can be manufactured simultaneously and sent to site for assembly once completed. Once on site the modules are slotted into the process line with minimal effort.

This is just one of the major time saving benefits of the modular principle – modular components do not require major welding on-site and are pre-assembled at the factory, meaning that when they arrive on-site, it's fast and efficient to setup and begin operations.

3. Convenience

The modular concept makes it extremely convenient for clients to plan, design and simulate plant operations. With the help of over 30 years of experience in the industry, the modular approach to plant operations takes away much of the guess work and ensures that the entire process is planned properly to deliver predictable and accurate, real-world results. The modular components slot together simply and no bespoke design work is required to ensure that different modules fit together properly to suit your process.

4. Quality assurance

With the modules being made under cover at Pilot Crushtec's state of the art facility, all parts of the production process are continually monitored, tested and approved by the engineering and inspection staff. Coupled to this, manufacturing in a factory setting ensures perfect conditions all the time and assurance that all parts and specialised labour are available at all times. This is in line with their zero-defect policies on machines leaving the premises.

5. Growing production volumes

A growth in production demands for a plant would usually require a major overhaul and re-design of a crushing and screening plant. Not with the modular concept. Simply include additional components to your existing plant operations, to scale up operations and increase the ability to process higher volumes of materials, or to change specifications on end products by adding in different components. All modules are designed and come complete and ready to run. 🌟



Volvo CE's compact machines: a machine for every job.

COMPACT MACHINES: YOUR HELPING HAND

From inner city projects to landscaping and precision demolition, compact machines are the pint-sized powerhouses putting versatility into action. In this article, people at the heart of these projects reveal how compact machines can make a difference in real-life applications.

1. Branching out at the RHS Chelsea Flower Show

Versatility is a compact machine's superpower. This year saw a Volvo ECR25 Electric make its first appearance at the world-famous RHS Chelsea Flower Show in London, proving that landscaping jobs are another segment to add to a compact machine's roster. The electric excavator helped create the Gold Medal winning Morgan Stanley Garden, whose aim was to create a beautiful garden with a light carbon footprint.

Another advantage of the ECR25 Electric is its small size – which not only made manoeuvring delicate and precise but also kept pre-project transport cost low. Operator Peter Holmberg was pleasantly surprised that the excavator not only performed to the same high levels as the more conventional diesel version, but with less noise and no fumes, it also created a much more pleasant and productive place to work.

"Compared to a diesel engine, the electric motor reacts quickly with a high torque," he says. "It gives you a really good and precise digging feeling. It also provides a calmer, safer and more pleasant working environment."

2. Grand Paris: Big city, small machines

Working in inner cities can be difficult. Not only are there the logistical challenges of transporting the machines to the job site but once in the city, older narrow streets and busy areas can make manoeuvring difficult. On top of this, the noise produced by heavy machinery can result in community complaints and working hour restrictions. Compact machinery is the ideal solution for inner-city construction projects, both large and small, as they are easier to transport, more agile and quieter than their larger counterparts. The small machines have been working on some big projects.

Currently, Volvo CE has fleets of compact excavators and compact wheel loaders working on the €100-billion Grand Paris project in France, of which a large part is to construct a circular subway line connecting the entire city and beyond. Even projects of this massive scale cannot be complete without the power of compact machines. Isabelle Rivière, territory relations manager for Société du Grand

Paris, the public agency in charge of the project, says: "It is all much bigger than hundreds of kilometres of subterranean lines. A new Grand Paris is taking shape and transportation will be its frame."

3. Getting attached to the small-scale construction jobs

But it's not just the big jobs that these compact machines are perfectly suited to. Swedish micro tunnelling and excavation specialist, Röde Anlägg AB, used a Volvo EW60E compact excavator for its small-scale urbanisation projects, particularly broadband installations. One of the key advantages of this compact machine was the wide range of attachments that can be used including: six buckets, a hydraulic breaker, a hydraulic thumb, a tilt rotator all with the quick coupler option making it easier than ever before to switch between attachments. This helped owners to tailor the machine for any job.

In 2017, Roy Björklund, an operator at the company said that since they started using the EW60E compact excavator, "productivity has increased, which is mainly due to the mobility of the machine. It's also cheaper to transport and has low fuel consumption".

4. Electric wheel loader: Keeping green fingers green

From mid-2020, Volvo CE will begin to launch its range of electric compact excavators (EC15 to EC27) and wheel loaders (L20 to L28), stopping new diesel engine-based development of these models. The first commercial electric L25 compact wheel loader was delivered to German tree farm – Leick Baumschulen – in October 2019.

The tree farm and landscaping company has been a loyal Volvo CE customer for more than 30 years and has a strong focus on sustainability. Company co-owner Christopher Leick says "it is a product with the right performance and great design. The machine operates like a conventional wheel loader, but with improved comfort for the driver and surroundings – it feels similar when it comes to power but is quieter, has less vibration, less maintenance and is emission-free locally. But one of the biggest advantages is the quiet operation". 🌱

Metso equipment for Venetia mine

Metso will deliver high-performance crushing and material handling equipment to the De Beers Group's Venetia mine, located in Limpopo province, South Africa. The Venetia mine is reported to produce an output of about 4-million carats, making it one of South Africa's mineral resource flagships.

Initially, the Venetia mine was designed as an open-pit operation. In 2013, an underground extension project commenced with plans to start producing carats in 2022, climbing to full production in 2025 and extending the mine life to 2046. To achieve this, the project team needed a dedicated commitment and optimised, high-performance technologies to deliver on their plans.

The customer approached Metso, known for its world-class equipment and services, to deliver two primary jaw crushers and a number of feeders. All the equipment will be installed underground, which is a very challenging installation, especially given the shaft constraints (dimensions) and weight limitations

for transportation underground.

The customer decided on Metso's Nordberg C Series jaw crusher range because the revolutionary pinned and bolted design of the crusher allows for the extensive disassembly. This enhances ease of transportation and installation, especially where there are critical space constraints such as an underground installation – as is the case with this project. The Metso apron feeders are used for extracting or feeding ores that are wet, sticky, dry or even frozen. ☼



The order was booked in Metso's third-quarter 2019 orders received.

CDE to launch latest Combo innovation at CONEXPO



The latest model in the Combo range will have a number of soon-to-be-revealed enhanced features.

CDE is set to revolutionise the wet processing industry once more with the launch of the latest in its range of Combo all-in-one wet processing solution at CONEXPO-CON/AGG in March 2020.

The patented Combo – the world's first all-in-one wet processing plant – was unveiled in Europe at bauma in April 2019. It was the first fully integrated, modular, patented turnkey materials wet processing and water management solution for the production of premium manufactured sands.

The latest model in the Combo range will have a number of soon-to-be-revealed enhanced features that have been specifically designed to enable operators to capitalise on new opportunities.

Wayne Warren, business development manager for sub-Saharan Africa at CDE, says: "At CDE, we are proud to deliver optimised operations for maximum yields and fast returns for our clients. Our high-performance solutions maximise resources and add huge commercial value to our customers' enterprises, with the innovative Combo having led the way in a new era of wet processing."

"We are looking forward to launching the latest Combo model at CONEXPO-CON/AGG, directly to the very market that inspired it. This next generation plant will deliver significant commercial benefits while minimizing operational costs."

CDE's pioneering wet processing technologies enable greater production efficiency, increasing yield to maximise profit per ton, delivering a rapid return on investment. Unrivalled fines separation and greater sand dewatering ensures sand and aggregates producers maximise yields with less than 15% moisture content creating a steady stream of revenue straight off the belts to command the highest possible market price.

"The Combo is the first all-in-one materials processing system that accepts both natural sand and crushed rock feeds, giving our customers complete flexibility in the choice of the material they want to process depending on available reserves. Natural sand reserves are a finite resource and the CDE cyclone technology ensures that not one grain of valuable sand is lost to ponds," says Kevin Vallyley, director of engineering at CDE. ☼

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New Mining Industry president for FLSmidth



Mikko Keto will join FLSmidth as President, Mining Industry and member of Group Executive Management.

Effective early July 2020, Mikko Keto will join FLSmidth as President, Mining Industry and member of Group Executive Management. The appointment comes following Manfred Schaffer's decision to retire in 2020.

Mikko Keto joins FLSmidth from Metso, where he has worked for 10 years of which the last two years as President, Minerals Services and Pumps, where he delivered growth in Services along with profitability improvement. He also served as a member of the company's Executive Team.

His prior roles for Metso include Senior Vice President, Spare Parts, Senior Vice President of Performance Services business line, President of Automation Services, Vice President of Flow Control Services, and various line management positions.

Before joining Metso, he was Head of Sales for the Maintenance business unit at KONE Corporation and held senior management and sales positions at Nokia Networks, with assignments in multiple countries.

"Mikko Keto will lead the FLSmidth Mining organisation in capturing profitable business opportunities. He comes with an extensive experience in Service Line Management, Spare Parts and lifecycle offerings. He brings a strong commitment to customer partnerships, and believes strongly in delivering significant enhancements in performance, sustainability and asset optimisation," says Thomas Schulz, CEO of FLSmidth.

Mikko Keto: "I am excited to join FLSmidth and help drive profitable growth in the mining business and further develop FLSmidth's portfolio of solutions towards zero emissions. FLSmidth has close to 140 years' experience, excellent technologies and outstanding competencies in its global workforce."

Keto is a Finnish citizen. He earned a M.Sc. (Econ) from Helsinki School of Economics and Business Administration (1994), Finland. He will relocate to Copenhagen.

"Since joining FLSmidth in 2014, Manfred Schaffer helped navigate an extended mining industry downturn and led the Mining organisation through the transition to a new way of working. In the face of market headwinds, Manfred travelled extensively in order to meet with as many customers as possible and support sales opportunities. I am very thankful for Manfred's strong contribution to our Mining business over the last five years," concludes Schulz. 🌟

Protecting equipment by perfecting lubrication application

Proper lubrication is essential to the correct functioning of mechanical equipment and ensures its longevity. When bearings are under- or over-lubricated, it causes problems, and can eventually lead to machinery failing.

"Even over-lubricating is problematic, as it causes grease churning and overheating, which can eventually damage a machine's motor coils or windings," says Callum Ford, national marketing manager at Lubrication Engineers (LE) South Africa. "At LE, we advise customers to use the minimum quantity lubrication (MQL) at the correct interval to protect equipment, minimise costs and ultimately optimise their businesses."

LE supplies various products and solutions to make this easier, as well as decreasing the risk of lubrication cross-contamination. The company's Xport battery-powered grease gun with clear grease tube is especially useful for lubricating hard-to-reach areas or equipment that requires frequent or large-scale lubrication.

"We estimate that 60 to 80% of bearing failures are lubricant-related, including problems caused by grease cross-contamination," says Ford. "When the wrong grease is applied to a piece of equipment, the resulting issues can be expensive and time-consuming to correct. The grease-gun allows for easy and 100% accurate visual identification, eliminates cross-contamination and enhances existing lubrication reliability. 🌟



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BBBEE deal transforms Bell operations

Heavy equipment manufacturer and distributor, Bell Equipment, has concluded a Broad Based Black Economic Empowerment agreement, effective 1 January 2020, which will empower the group's South African manufacturing subsidiary, Bell Equipment Company South Africa (BECSA) and further empower the South African sales and distribution subsidiary, Bell Equipment Sales South Africa (BESSA).

Commenting on the empowerment transaction, Bell Equipment Group CEO Leon Goosen says both BECSA and BESSA will be 51% black owned and aligned with government's economic transformation policies. This will improve the BEE scorecards of both entities and position the group more competitively in the South African market in addition to a number of other significant benefits.

"BECSA, as a 51% black-owned entity, will benefit from continued access to Automotive Production and Development Programme (APDP) funding, the ability to increase manufacturing throughput and encourage the drive for greater industrialisation. We estimate BECSA to achieve a Level 3 BBBEE recognition.

"The transformation will also be advantageous to Bell customers as BESSA will be a 51% blacked-owned and 30% black women-owned entity, with an estimated Level 1 BBBEE recognition, allowing our customers to maximise the benefit of their procurement spend from BESSA. In addition, an improved BBBEE level, coupled with our local manufacturing, is aligned with the goals of the 2018 Mining Charter and SANRAL's



Executives at the signing ceremony.

transformation goals," explains Goosen.

BESSA became 30% black women owned in April 2017 when shares were sold to BEE shareholders – 22,5% to SIBI Capital (Pty) Ltd, a 100% black women owned and managed company, with Sindisiwe Mabaso-Koyana and Bharti Harie as the ultimate shareholders, and 7,5% to a BBBEE trust, the Bell Equipment Foundation, which benefits black female beneficiaries.

Both Sibi Capital and the Foundation will also participate in the current empowerment transaction with a direct shareholding of 7,5% each in BECSA. "Our partnership with Sibi Capital and the Foundation has proven successful as they are aligned to our business and we have a solid foundation on which to build a long-term relationship that can add value

to our business," says Goosen.

A black management company, comprising current Bell executives, Avishkar Goordeen, Dominic Chinnappen, Duncan Mashika, Bruce Ndlela and Niraj Andhee, as well as the Bell Foundation, will hold an effective 36% share in BECSA and a 21% share in BESSA.

"The Bell management team making up the BEE management company are a well-balanced and highly qualified team with years of institutional knowledge. They bring together the necessary manufacturing expertise, new business development focus, sales and distribution skills and are able to continue to spearhead interactions with the private and public sectors. Provision has also been made through the structure to allow for future managers to participate," says Goosen. 🌟

ADB's €345-million road construction support in East Africa

Over 3-million people in Tanzania and Kenya will benefit from a €345-million financing package for road construction support, approved by the African Development Bank's board in Abidjan in December 2019.

The bank's support for the Mombasa-Lunga Lungu/Horohoro and Tanga-Pangani-Bagamoyo roads Phase I, is in the form of African Development Bank and African Development Fund loans and represents 78,5% of the total €399,7-million project cost. The European Union contributed a grant of €30-million, 7,7% of the total project cost, to the government of Kenya.

The road is a key component of the East African transport corridors network, connecting Kenya and Tanzania. Producers,

manufacturers and traders will be able to move goods more quickly and cheaply. In addition, farmers and fishermen will benefit from improved access to local and regional markets and amenities, including better schools and health centres.

"The project will have spillover benefits for hinterland countries such as the Democratic Republic of the Congo, Burundi, Rwanda, Uganda and South Sudan that depend on Mombasa as gateway to global markets," says Hussein Iman, the bank's regional sector manager for infrastructure, private sector and industrialisation.

The bank's support will also provide roadside trading facilities for sellers, half of them women who currently operate in disorganised and unsafe conditions. The road crosses regions with high rates

of youth unemployment. In light of this, the project includes a vocational training component for 500 unemployed youth (half of them women) to acquire marketable skill and improve their economic prospects.

The Bank anticipates that the intervention will boost regional integration by reducing transit times, facilitating trade and the cross-border movement of people, opening access to tourist attractions. The project will also link the ports of Dar es Salaam, Tanga and Mombasa, and stimulate the blue economy in coastal areas.

This first phase involves the construction of 175 km of road sections: the 121 km Mkanga-Pangani road section in Tanzania and the 54 km Mombasa-Kilifi road section in Kenya. 🌟

SDLG enters heavy-duty motor grader market

Chinese construction equipment manufacturer SDLG has announced the latest addition to its range of motor graders, the G9290. 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 makes the SDLG G9290 a strong contender in its size class.

The new G9290 is the first motor grader from SDLG in the heavy-duty size class, with its strength and capacity making it ideal for mining haul road maintenance, infrastructure projects, road construction, highways and airports.

The robust 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 adds 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 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. The heavy-duty chain-driven tandem with a no-spin differential lock on the rear axle and heavy-duty bearings, meanwhile, delivers outstanding traction and reliability.

The circle turn, exclusive to SDLG, uses twin-gear



The new G9290 is the first motor grader from SDLG in the heavy-duty size class.

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 easier 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. 🌟

China continues to expand influence in infrastructure

China's involvement in infrastructure developments in emerging markets across Asia continues to expand, says GlobalData, a leading data and analytics company.

According to GlobalData's report, China's Involvement In Global Infrastructure, the total value of infrastructure projects in which Chinese contractors are at least partially involved stands at US\$235-billion while in South Asia the project values total US\$191-billion.

China launched Belt and Road Initiative (BRI) in 2013 to develop the modern day versions of the land-based 'Silk Road Economic Belt' and the 'Maritime Silk Road of the 21st Century'. Under the initiative, China is seeking to improve infrastructure in emerging markets across the world, facilitating economic development through the companies that are able to transport goods more easily and cheaply between countries along various routes.

Danny Richards, Lead Economist at GlobalData, comments: "Although wariness has been increasing among the governments in emerging markets over the risks of relying heavily on China for funding and construction contracts, the opportunities provided under the BRI can be attractive for governments with limited funding capacity and rising infrastructure needs." 🌟

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Volvo Group to sell UD Trucks to Isuzu Motors Ltd

Volvo Group has agreed to sell its UD Trucks unit to Isuzu Motors Ltd. for about US\$2.3-billion and announced plans to forge a strategic alliance with its Japanese rival, the latest sign of consolidation in the global automotive industry.

In a first step, the intention 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 enterprise value for the complete UD Trucks business is JPY250-billion and will be subject to the final scope of the business transferred and Isuzu Motor's due diligence. The transaction is expected to, at the time of closing, result in a positive impact on the Volvo Group's operating income of approximately SEK2-billion and increase the Volvo Group's net cash position by approximately SEK22-billion.

"The Volvo Group and Isuzu Motors have a well-established relationship on medium-duty trucks in Japan based on mutual respect, shared values and win-win spirit. We see great potential to extend our cooperation within technology, sales and service as well as other areas going forward, for the benefit of our customers and business partners," says Martin Lundstedt, President and CEO of the Volvo Group. "Our UD Trucks colleagues have done a great job to improve performance in recent years and the alliance opens up a great opportunity to continue the successful journey."

"Isuzu Motors and the Volvo Group strongly believe in the business opportunities and synergy potential between the two groups. We intend to derive the full value from each other's different specialties across product and geographical strongholds. Our collaboration will actively contribute to service improvements and strengthened customer satisfaction as well as to prepare ourselves for the forthcoming logistics revolution," says Masanori Katayama, President and Representative Director of Isuzu Motors Limited.

The intention is to transfer ownership of the complete UD Trucks business



The intention is to transfer ownership of the complete UD Trucks business globally.

globally, which had revenues totalling SEK24-billion in 2018. The business had a minimal impact on the Volvo Group's operating income in 2018. All technology cooperation between the Volvo Group and Isuzu Motors will be managed through individual contracts.

The Memorandum of Understanding is non-binding. 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. 🌐

Connectivity is the key to tomorrow's logistics

Besides facilitating the exchange of data, connectivity is also about generating more data from within the supply chain. Various lab teams from the DACHSER Enterprise Lab are working on ways to leverage the possibilities of the Internet of Things (IoT) in practice. This includes the use of smartphones and apps as well as innovative sensors that can provide the location and other status data for shipments and assets such as swap bodies and packing aids.

Low-power wide-area networks (LPWANs) are one of the technologies that underpin the Internet of Things (IoT). These newly available radio frequencies and protocols allow the transmission of small amounts of data over a long-range. This makes LPWANs ideal for using sensors in logistics. The best-known LPWAN solutions include LoRa, Sigfox, LTE-M, and NarrowBand IoT (NB-IoT).

NB-IoT and LTE-M are new mobile communications standards within the LTE network (4G) and are currently being rolled out in many countries worldwide. In Germany, for example, NB-IoT is expected

to be available nationwide by the end of 2019, while in the Netherlands the rollout was already completed last year.

Low energy consumption, high-security standards, and substantially lower investment and operating costs make the use of this new technology very attractive in particular for asset and consignment location tracking. Geopositioning makes it possible to calculate with greater precision the arrival times of vehicles, containers, shipments, and much more based on real-time data. Among other benefits, this makes for even better capacity planning for subsequent processes, such as the unloading of a truck.

A further advantage of LTE-M and NB-IoT is that the radio frequencies are future-ready. Both standards are to be incorporated into the planned 5G sub-network for massive machine-type communications (mMTC). However, it will be a few years yet before work even begins on building 5G mMTC. Another reason that a shift to LTE-M and NB-IoT is inevitable is that today's 2G and 3G mobile com-



NB-IoT and LTE-M are new mobile communications standards within the LTE network (4G) and are currently being rolled out in many countries worldwide.

munications networks, which are currently used for positioning sensors worldwide, will be switched off in stages over the next few years. Some countries such as South Korea, Taiwan, and Switzerland have already begun with deactivation. 🌐

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 CONEXPO. 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 customers 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



Manitowoc showcased its latest cranes and technology at the last edition of CONEXPO, in 2017.

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. 🌟

Rebuilt Doosan forklifts for HELUKABEL

HELUKABEL SA recently took delivery of two rebuilt Doosan BR16JW forklifts from Goscor Lift Truck Company (GLTC). The units made economic sense for the German cable importer and distributor, considering its warehousing and storage application doesn't necessarily warrant buying new machinery.

As the costs of doing business keep rising, especially in constrained economic conditions, the thought of purchasing new materials handling equipment (MHE) may be out of question for many, especially when the application doesn't necessarily warrant buying new.

With that in mind, GLTC has identified the need to offer machine rebuilding services for the full range of products in its stable, allowing its customers to extend the lifecycles of their existing forklifts, or buying refurbished or fully rebuilt units that have the same capabilities of a new unit, but coming at a much lesser price.

One company that has benefitted from the quality of GLTC's rebuilt forklifts is German company HELUKABEL's South

African subsidiary, a specialist in the importation and distribution of cables. The company recently took delivery of two rebuilt Doosan BR16JW forklifts.

HELUKABEL is one of South Africa's leading cable companies, boasting an extensive range of cables, wires, special cables, media technology, cable accessories, as well as data, network and bus technology. Today, the company produces for all markets and a wide range of industrial and infrastructure applications. Its extensive warehouse stock, containing over 33 000 articles, enables it to deliver its customers' orders within extremely short delivery times. Thus the reliability of its lifting equipment is of great significance.

"We needed to upgrade our lifting equipment, and these units were the most suited for our warehousing and storage needs," explains Habib Chagan of HELUKABEL. "The cost was obviously the main reason for opting for these machines, and also the fact that the type of industry we are in doesn't necessarily warrant us buy-

ing new machinery, as they get changed regularly."

"Buying a rebuilt forklift makes economic sense, especially for our type of warehousing and storage needs. When the rebuilding work is carried out by a credible supplier like GLTC, one can be rest assured that the equipment will offer the best possible production during its second life," adds Chagan. 🌟



HELUKABEL SA recently took delivery of two rebuilt Doosan BR16JW forklifts from GLTC.

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Monde Mawasha, research and strategy programme director at CDC ICT.

ANALYSING THE FOURTH INDUSTRIAL REVOLUTION

There is a lot that is being said about the Fourth Industrial Revolution (4IR). Is it real? Is it a steam train that's coming towards us, or a Maglev bullet train that is going to sweep us all off our feet? By *Monde Mawasha*, research and strategy programme director at CDC ICT.

The first thing that can be said about 4IR is that it is real. It is a force that will profoundly change how we work and how we live. It is driven by various technologies, of which Artificial Intelligence (AI) is an important component. These technologies will affect all aspects of our being. Now, is the ontological impact of this force going to be robots taking over the world and people becoming slaves?

I would say that rest assured. The brain of AI compared to a human being is that of an insect, at the present stage. The brain of a human being has close to 100-billion neurons and 100-trillion connections between neurons. It is the most complex structure in the universe.

But, then, therein lies the Rub! These connections are in each and every one of us. The perennial question has always been how these 100-trillion connections in the 7-billion of humanity under the sun can be unleashed for the common good.

Now, clearly the robots are not about to take over the world...yet! It may be at a ripe old age of, say, 200 or 250 years (your lifespan doubled due to advances in medical and bio technologies), one may bewail, as the 19th Century writer Ludwig von Goethe said "I thank God that I am not young in so finished a world."

The scenarios

That aside, let us illustrate some scenarios for 4IR. Imagine a mechanical digger that is AI enabled. It necessarily will use sensors. Let us suppose that a Ground Penetrating Sonar is attached on the digger and it can thus sense when it is digging that there are cables in the ground. It then would immediately desist from digging that area to ensure that it does not damage the electrical or communication cables.

Three questions arising from this scenario are: what will be the next action of the digger? What is to be done of the former human digger operator? What if this is a false positive?

I would suggest that the former human operator would play the role of using the 100-trillion connections that they possess and is able to override the digger and inform it that this is a false positive and that it must continue digging. The human may then set the sensitivity of the ground penetrating sonar based on the soil conditions of the area being dug and thus ensure minimisation of false positives and increase the efficiency of the digger.

It may be that the human operator then has to reconfigure the digger to dig shallower or give

a new instruction of a new digging route that by-passes the cables.

One can imagine the utility in this scenario. The world that is inter-connected has been spared a paralysing outage of their computer networks or electrical power connections. This being repeated throughout the world has the potential of contributing billions of dollars to the economy through enhanced efficiencies.

The human operator has been released from the bondage of the drudgery of manually operating the digger day in and day out, and instead is liberated to apply usefully the 100-billion neurons in the brain that they possess.

The Tesla instance

Another scenario may go as: The Tesla Electric Car Autopilot is meant to be used in highways and freeways only. But as human beings we are explorers by nature. That is why we were able to get out of Africa and conquer the entire globe. Thus, we will test the envelope and use our Tesla electric car Autopilot function in urban areas. Now the insect-sized brain of the Autopilot AI is overwhelmed and an accident ensues. However, it so happens that the driver has wearable intelligent sensors that monitor her vital signs as well as hormonal and protein indicators that detect various bodily conditions through her sweat.

This intelligent system will immediately inform emergency paramedics that, for instance, she has internal bleeding, and has broken bones in certain areas. It will then determine and display the steps that the paramedic needs to take to efficiently extract her and how to medically attend to her.

The paramedic is thus hugely empowered and is able to not stabilise her and then rush her to hospital, but to actually, medically attend to her to ensure that she has maximum chance of surviving the accident. Not only that, the information on the wearable device is transmitted to hospitals and an intelligent information system calculates the priorities levels of patients coming in versus the capability of the hospital personnel and equipment.

The value of the human paramedic is enhanced in this value chain. And the health system is able to run more efficiently. I would postulate that the impact on the economy and the self-actualisation of all the people in this value chain is incalculable!

Thus in my mind the impact of 4IR is in facilitating the creativity of individual human beings, and allow them to self-actualise.

This creates a totally new Economic Paradigm. 🌐

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