

CAPITAL EQUIPMENTS **NEWS**

Everything on mining and construction equipment

FEBRUARY 2015

WIRTGEN GROUP ROLLS OUT **LEADING TECHNOLOGY** WITH HAMM COMPACTORS



WIRTGEN SOUTH AFRICA

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NEW EQUIPMENT: Bobcat T450 Tracked loader

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Cover story:
Wirtgen Group rolls out leading technology with HAMM compactors

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MANAGING TARE MASS in trucking

There are many factors that contribute to the cost impact as a result of truck weight limit changes.

Across the nation the practice of road transportation brings with it a variety of situations which have arisen as a result of overloading of vehicles. Generally it is a deterioration of the roads infrastructure and more specifically an increase in the operating costs and the accident rate on the road.

Therefore the practical maximum gross vehicle weight is the optimum level at which a given vehicle can operate in a given set of truck limits. This month we focus on the importance of keeping the tare weight of the vehicle down to an economic limit in order to maximise the payload.

The tare weight is defined as the weight of the truck and trailer when it is carrying no freight as opposed to payload which is the weight of the freight carried on the truck.

When specifying new trucks, fleet operators should consider the lightest weight components that will suit the application and where appropriate, buy a lighter weight version of standard truck models.

Not only will the reduction in weight of the vehicle by using lighter weight alternative materials such as metal alloys and composite materials, reduce fuel consumptions but will contribute a great deal to reducing greenhouse gas emissions.

American truck manufacturers tend to offer lightweight tractor models, which are up to 1000 kg lighter than comparable European models, giving the fleet operator a distinct payload advantage.

Let's look at some of the savings that fleet users can expect by specifying correctly when purchasing new vehicles. First of all the application will determine the technical specification of the truck and thereafter the material composition of each component should be evaluated to establish that the weight-saving properties are inherent in the choice of component.

Many truck manufacturers offer a choice of lightweight components specifically to meet the demands of customers wishing to maintain a lighter tare weight. These are not normally standard items and do come at a price premium but the long term financial gains outweigh the initial expenditure.

Some of the areas where lightweight components have proven benefits in reducing tare weight are;

- Using alloy wheels with 11R 22.5 tyres in place of 315x80. Aluminium clutch and transmission housings.
- Centrifuse brake drums saving up to 100kg
- Aluminium axle hubs with weight savings up to 80kg
- Aluminium fuel tanks and brackets.

In this instance fit tanks with sufficient fuel for only one duty cycle otherwise carrying excess fuel adds to the weight factor.

In some applications engine brakes provide adequate stopping power so the fitting of retarders may be an overkill and add to the tare weight of the vehicle.

Cab designs also play a big part in weight reduction as by using an aluminium skin over a steel reinforced frame will give the vehicle an advantage in weight saving. Economies of scale and environmental contributions are the main essence of maintaining a low tare weight in vehicle selection.

Pierre Sanson



Construction Equipment



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Wirtgen Group rolls out

LEADING TECHNOLOGY WITH HAMM COMPACTORS

By Pierre Sanson

The Wirtgen Group with headquarters in Germany and local production plants in Brazil, China and India, is an expanding international company, doing business in the construction equipment industry.

Their group includes the six well-known brands, Wirtgen, Vögele, Hamm and Kleemann, Benninghoven and Ciber. With these six brands the company is a technology leader which offers their customers solutions in mobile machinery for road construction and road rehabilitation, as well as mining and processing of useful minerals.

The Wirtgen Group has been operating in African market in the fields of road construction and mining for many years now and with its well proven network of sales and service has provided technical support right on the job site or workshop services with fast reliable response times.

One of the prime brands in the Wirtgen portfolio of products is the HAMM compactor range which rates as the most successful equipment of its type in global use today. This ongoing

success is founded on a clear philosophy of innovation, technical requirements, ergonomic design and simple operation. Design has been in the forefront of product development at HAMM and this is one of the reasons that HAMM is continually able to launch innovative machines and concepts on the market whose user friendly design ensures top productivity and an ideal workplace for the operator.

The South African market is no exception when it comes to the application of the latest in high-tech, high productivity machines. Two new models in the HAMM range have recently made their debut in the local market, the 3K 3000 Series single drum roller and the HD Compactline new generation HD Series.

From the moment the operator steps into the Cab of the HAMM 3000 Series compactor, with access available from either side of the unit, he is faced with an ergonomically designed work station that sets it apart from any other single drum roller on the market. The driver's seat swivels through 45 degrees hence giving the operator unrestricted visibility and control from either side of the machine.

Adding to the versatility of the unit are the 5-in-1 control levers which allow the operator to operate all functions of the machine using either hand. ROPS/FOPS as standard equipment ensure the operator's safety under all working conditions.

Visibility to the rear is enhanced with the single piece engine cover which slopes away from the cab hence giving the operator the ability to see objects that are three feet high, three feet from the cab. With the excellent rear visibility combined with the forward visibility to the drum, the operator has superb machine control especially in confined spaces, at all times. A tiltable, automotive type instrument panel is fitted to the 3000 Series which incorporates complete operation and diagnostic lights and gauges to keep the operator informed of all the machine functions. The state-of-the-art panel is well in keeping with the latest on offer from the top automotive and truck manufacturers in the world. The brilliant lighting of each pictogram shows the operator the current operating state of the machine, complete with the appropriate warning signals should there be a problem.

A major feature of the HAMM 3000 Series is the innovative 3-point articulation joint, designed into the unit. The centre articulation joint is based on the employment of three pivot points as opposed to one. The equal distribution of weight, divided by three contributes tremendously to the stability of the roller on uneven terrain and assures optimum steering stability even during maximum cornering. The



drum and rear wheels will maintain contact with the ground through the full 10 degree oscillation even through a full turn. Combine the new articulation joint with traction control and the 3000 Series machines have gradeability that is unmatched in the industry.

A further enhancement on the HAMM 3000 Series, is the Hammtronic technology, developed by HAMM to provide an optimum compaction operation. Its function is to manage all engine and roller functions. The drive, vibration, oscillation and engine speed are all controlled by Hammtronic. The rolling speed and vibration system are adjusted with electronic engine management, maximising operating performance. Information is transmitted to the information display and documents the most current data. Hammtronic automatically monitors the front and rear drives preventing spinning of the drum or wheels further enhancing gradeability. Power on demand technology greatly reduces fuel consumption by as much as 30 to 50%.

Power for the 3000 Series is a Deutz water cooled diesel engine that incorporates an innovative cooling system which allows the engine to run at optimum levels and provides a lower fuel consumption rate than competitive models. All models are available in either smooth drum or pad foot configurations. The compact tandem roller market is one of the most competitive market segments worldwide. HAMM has dominated this market in most countries with their HD Compactline which now sits at a model range of 16 units.

This places HAMM at the top of the market segment with the largest model range in the sub 4.5 ton weight category. Of the 16 unit model range, four models are equipped with Oscillation technology having one vibratory drum and one oscillating drum. The balance of the range is equipped with either a single vibratory drum or both vibratory drums.

The advantage of Oscillation is that it achieves a rapid increase in compaction because the oscillation drum directs tangential thrusting forces into the material to be compacted while remaining constantly in contact with the ground. The combination of continuously acting static load and changing dynamic shear forces in the material brings about a faster, better and more gentle compaction.

The design characteristics attributed to the HD Compactline ensure that its features contribute to the efficient operation of the equipment and the comfort and safety of the driver. The HD Compactline rollers offer the operator unrestricted view of the drum edges and the working environment in front, behind and both sides of the unit.

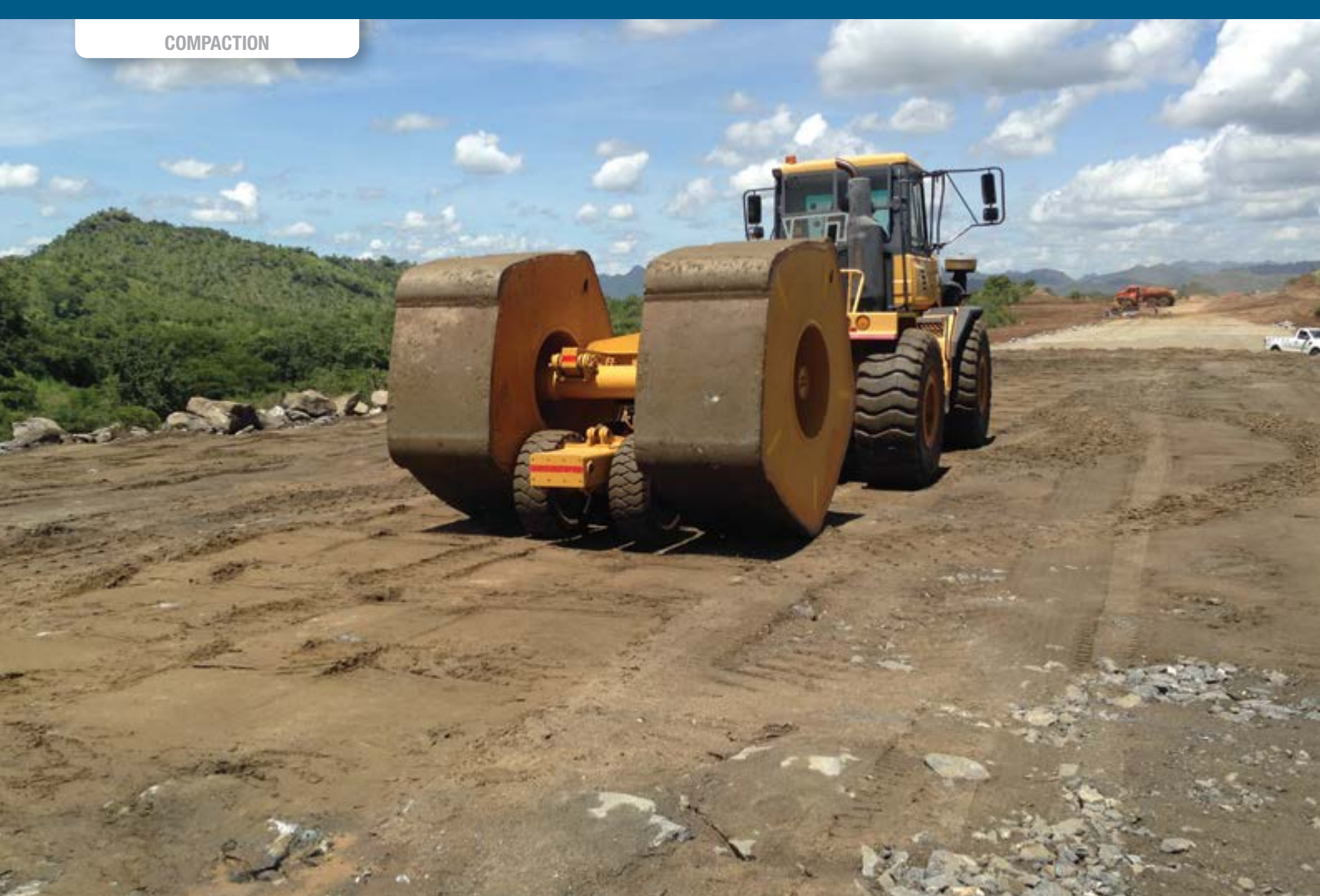
The HD Compactline, by virtue of its compact construction can work nearly everywhere especially with their low profile can be ideally used in areas with low ceiling heights. The optional fold away ROPS makes the unit even smaller for ease of transport. The three-point articulation joint is not restricted to the larger units only, for the HD Compactline range has very much driving comfort in mind, thanks to

the three-point articulation joint and flexible positioning of the driver's seat. The articulated joint effectively acts as a shock absorber and provides excellent directional stability, good stability in turns and a high degree of stability against overturning. Driver comfort is further enhanced by the driver seat, steering column, lever and footplate being mechanically isolated from the frame. This significantly reduces the amount of vibration experienced by the driver.

All HD Compactline rollers offer extremely high levels of side clearance with drums that can be operated in offset position (50 mm in machine models upwards of 2.5 ton) in crab steering mode. This allows for compaction right up to the edge, allowing for perfect compaction even on narrow lanes and along curbs. Controls and instrumentation for the HD Compactline is language-neutral and can be mastered in merely a few minutes. The clear unambiguous markings of the control panel make operation virtually intuitive.

Power for the HD Compactline range is by means of Kubota water cooled diesel engines either the 3 cylinder or 4 cylinder depending on the model and the territory where they will be operating. Low noise levels and safe operating has been the hallmark of these engines.

The HD Compactline offers a tangible advantage and one particularly valued by the majority of rental companies because they are compact, efficient and particularly easy to operate. 🌍



INTRODUCTION TO COMPACTION

“The composition of the soil has a great influence on the maximum dry unit weight and optimum moisture content. It also has a great influence on how the materials should be compacted in given situations.”

The process of construction relies heavily on the compaction of the soil before any building operation can commence. Soil compaction is used for the support of structural entities such as building foundations, roadways, walkways and earth retaining structures, to name a few. For a given soil type certain properties may deem it more or less desirable to perform adequately for a particular circumstance. In general, the preselected soil should have adequate strength, be relatively incompressible so that future settlement is not significant, be stable against volume change as water content or other factors may vary, be durable and safe against deterioration and possess proper permeability.

To ensure adequate soil compaction is achieved, project specifications will indicate the required soil density or degree of compaction that must be achieved. The composition of the soil has a great influence on the maximum dry unit weight and optimum moisture content. It also has a

great influence on how the materials should be compacted in given situations.

Compaction is accomplished by use of heavy equipment. In sands and gravels vibratory type equipment is used. This causes re-orientation of the soil particles into a denser configuration. In silts and clays, a pad foot roller is frequently used to create small zones of intense shearing which drives air out of the soil.

When selecting equipment for compaction it is therefore essential to choose the most effective type of machine for the job which is determined by the soil type. There are various types of equipment available such as, the Rammer which gives high impact forces, the Forward Plate Compactor designed for mainly granular soils and Rollers of various sizes and weights that are normally employed in road construction soil compression. Some of the most common types are the walk-behind and ride-on rollers. 🌟

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FASTER ASPHALT COMPACTION RESULTS

with new CAT B-Series compactors

Sized right for the application, Caterpillar's new Cat CB44B and CB54B B-Series tandem drum vibratory compactors build on the track record of the proven models that they succeed, namely the CB434D and CB534D, and come to market with a host of advanced features that are designed to match varied job site requirements, from parking lots to mainline paving. Additionally, these machines offer multiple vibratory choices to match amplitude and frequency requirements.

"Whilst some of the features have changed on the B-Series, the best-in-class vibratory systems haven't," points out Barloworld Equipment paving industry manager, Johan Hartman. "It's still easy to match frequency to amplitude in order to achieve predetermined densities in the fewest number of passes." (Barloworld Equipment is the Cat dealer for

southern Africa.) The CB44B and CB54B tandem vibratory rollers compete in the 5 to 8, and 8 to 11,3 tonne class, respectively. Both machines are driven by four cylinder Cat C4.4 engines, each configured with different ratings to maximise power to weight ratios, and in turn meeting EU Stage IIIA standards.

Machines supplied to the southern African market come standard with a FOPS cab, which features full floor-to-ceiling glass, enabling good sight lines to the drum edges, drum surfaces, and both sides of the machine. Visibility and comfort are enhanced by the standard 180° seat positioning; whilst new handwheel steering technology eliminates the conventional front steering console. Meanwhile, an LCD display and push-button controls simplify operation for an all-around comfortable operating environment.

On the go, ease of operation is simplified with a newly designed centre-articulating hitch with six degrees of oscillation that ensures mat contact and a smoother ride over uneven surfaces. An offset option of up to 170 mm extends coverage and simplifies control next to obstacles.

Well suited to all types of mix designs and applications, both machines perform equally well in vibratory or static mode, providing high variations of amplitudes for breakdown and intermediate tasks, while their high static linear loads deliver excellent results for finishing work. Typical applications include highways, city streets, secondary roads, lane additions, industrial sites, overlays, and airport runways.

Fitted with 1,5 m drums, the CB44B generates 82,1 kW, whilst the CB54B is fitted with 1,7m drums and delivers 96,5 kW on



demand. In both cases, the smooth operating power train comes standard with Eco-mode and automatic speed control, saving fuel, reducing sound levels, and lowering operating costs. Eco-mode has the dual advantage of conserving fuel and reducing ambient sound levels.

These rollers also utilise oil-bath lubrication of the eccentric weight bearings, which lengthen service intervals. "The standard 500 hour engine oil service interval and large capacity hydraulic system maximise uptime and minimise lifetime operating costs," Hartman explains.

Machine owners have the option of adding compaction control. This system combines infrared temperature sensors with mapping to keep the operator informed of current mat temperatures, machine position, and coverage completion. This intuitive system greatly enhances night-time performance, and also records information for future process analysis and quality control documentation. With each roll, temperature can be measured and passes can be counted more efficiently than ever before.

"Distractions, fatigue, multi-tasking and night-time operation can affect how well an opera-

tor executes the rolling pattern on an asphalt mat," Hartman expands. "Essentially, compaction control counters questions that typically arise in the operator's mind. For example, 'Where did I stop on the previous pass? 'Did I go back far enough on the return pass? 'Did I provide enough overlap on the previous pass? And 'Is the mat temperature too hot, or too cold?'" Then there are the vibratory systems options. These including dual amplitude, dual frequency, Versa Vibe™ (only available on the Cat CB54B), and five amplitude systems. Dual amplitude and dual frequency can be tailored to thick and thin lift applications. A single switch automatically matches amplitude and frequency to keep pace with the paver. Standard on the Cat CB44B and CB54B is a two amplitude, two frequency vibratory system.

The Versa Vibe system creates a 2-in-1 machine with four amplitudes and two frequencies. This versatile system provides two settings for lighter hitting and higher working speeds on thin lifts; and two settings for heavier hitting, and slower speeds, on thick lifts or those with challenging mixes. The five-amplitude system offers the widest range of amplitudes with a single frequency. This system is a heavy hitter, with more options that help fine-tune compaction performance

on thick lifts. The system also works well on tough-to-compact mix designs that consist of large aggregate and low levels of filler and binder.

Either way, for optimum results, reliable water spray systems are needed to keep rollers on the mat and on pace with the paver. "In this respect, the high-capacity system is designed with dual pumps, triple filtration, and an adjustable intermittent operation," Hartman continues.

The dual pumps provide back-up capability and alternate with the direction of travel to maximize service life. Clogging is prevented through filters at the fill point, water pumps and spray nozzles. The adjustable intermittent mode conserves water and minimises re-fills for optimal efficiency and an ultimately smooth riding surface. ☼

ZEST WEG GROUP COMPLETES BENCHMARK

steam turbine project at Mondi

The Zest WEG Group, through subsidiary company Zest Energy and its technology providers have successfully completed a benchmark steam turbo generator set contract at Mondi Richards Bay that showcases the Group's value addition, innovation and customer focus. The original contract was awarded in May 2012 and partially handed over in December 2013, with final hand over in March 2014. This contract has been followed by a five year Long Term Service Agreement (LTSA), where Zest Energy will be responsible for the overall maintenance of the steam turbo generator set. "The LTSA has also been linked to availability guarantees on this turbine," Coenraad Vrey, Managing Director at Zest Energy, says.

The scope of work included the design, manufacture and delivery as well as complete installation and commissioning of the steam turbo generator set and associated equipment. Original equipment manufacturer (OEM) supervision services were also provided during installation and commissioning, with 24/7 on call support for a period of four weeks following handover. The flagship project achieved a number of records: the largest ever steam turbine manufactured by technology provider TGM Turbinas. "Not only was this the first project to utilise a combination of a TGM turbine with a WEG EM alternator, it was also a first reference for both equipment manufacturers in South Africa," Vrey says.

"Throughout the execution of this project, the Zest WEG Group has proved its ability to be involved in large scale projects, not only from a standalone product supply perspective, but also from an integrated solutions point of view. This is an important achievement that will drive sustainable growth within the Group," Alastair Gerrard, General Manager at Zest Energy, says.

Zest Energy supplied the turbo generator set equipment and took the overall lead on the package, which included steam technology from TGM Turbinas of Brazil and generator technology from WEG Electric Machinery of the United States. Local subcontractor TGS (Turbine Generator Services) undertook the mechanical installation portion of the scope. Bosch Projects was appointed by Mondi as the official

Engineering, Procurement and Construction Management (EPCM) contractor on the project. Mondi already had a 38 MW extraction back pressure steam turbine and a 34.3 MW extraction condensing steam turbine and required a new 48 MW multi extraction condensing steam turbine to take up the additional high pressure steam from the plant at full load. The power generated is used on site with the excess exported to the national grid.

The beginning of 2013 saw the design and engineering phase of the project under full swing, with close scrutiny of the finer design details to ensure that no crucial element had been overlooked. Major long lead items such as the turbine casings and forged rotor shaft had already been delivered to turbine manufacturer TGM Turbinas, while WEG Electric Machinery clocked up similar progress. The Zest Energy project team then had the formidable task of transporting the completely manufactured and assembled pieces of equipment, a process which was completed in August 2013.

Professional rigging sub-contractor Lovemore Brothers, under the supervision of TGS, was tasked with lifting and positioning the equipment in areas with constrained access and onto the reinforced concrete floor of the power house, which was extended off the existing floor and designed specifically to accommodate the heavy payload and vibrational characteristics associated with the operation of such mammoth machinery. A 220 t hydraulic jacking system was ultimately used to position the equipment. Full scale installation commenced after all the equipment was positioned correctly.

Installation was completed successfully towards the end of November 2013. Vrey comments: "As the turbine control system had to integrate and operate with the complete steam management system, we had to optimise the design to ensure proper and safe operation with the rest of the equipment. It was a learning curve for us and the client in terms of developing the control system to ensure that it was a fully integrated and optimised system upon final handover."

Gerrard concludes: "To install a complex system into an existing system that is



equally complex to begin with is not an easy task. With Zest Energy's experience in electrical infrastructure, substations and power generation, especially on both standby and continuous power plants, meant we could draw on all this experience and apply it to the Mondi Richards Bay project, with all the electrical integration scope carried out in house, making us unique in the marketplace." ❁

Metso's new VSI Orange Series Rotor

ENSURES MINIMUM DOWNTIME



Operational uptime plays a key role in today's crushing operations where maximising productivity and reducing the cost per ton are paramount. To meet these challenges, Metso has developed the Orange Series Rotor for vertical shaft impact (VSI) crushers. With the new rotors productive uptime can be increased substantially through longer parts lifetime and faster service.

The new Metso Orange series Rotor components have been reconfigured with built-in possibility for easy interchange, thus maximising wear life. The change-out of primary components through the service door has been improved.

With the Orange Rotors, maintenance is made easy by reducing the total number of wear parts by 30% and the total number of components by 25%. This is achieved by integrating several components and using less fixing points. Hard-facing during maintenance is no longer required.

The increase in wear parts life with these components is significant. The results of tests conducted on the new primary components in real quarry operations show that in most cases, there has been an enhanced wear life which for example has shown a 30-35% increase in tip life.

In quarry operations, the extended lifetime will provide the operator significantly increased operational time with fewer intervals between wear parts changes.

In tip and cavity wear plates replacement, the actual servicing time can be cut by more than half, due to simplified retaining bar fixing.

The Orange Series Rotor was designed with the busy operators of the older model of Barmac VSI crushers in mind. The Orange Series Rotor can be fitted, without any modifications to all VSI models that accept the following rotors: 690 DTR, 840 DTR, and 990 DTR. 🌱



JACK DANIEL GETS A LIFT

with the Terex[®] Explorer 5800 crane

The Jack Daniel's name stands for dedication to craftsmanship and quality. When ordering a Jack Daniel's Tennessee Whiskey, you know you are getting a high quality product.

The same is true for Gilley Crane Rigging and Lifting of Manchester, Tenn. The company stands for quality service by trained craftsmen, safe lifting practices and the high quality crane and rigging services with the most modern crane equipment on the market.

The two recently came together when Gilley Crane was tasked with lifting two boilers weighing more than 100,000 lb (45,360 kg) each at the Jack Daniel's Distillery in Lynchburg. The challenging lifts required each boiler to be lifted twice at a 28-ft (8.5-m) radius in a confined space. "At one end of the lift, we had to work around a fenced-in lot nearby other equipment, while at the other end we had to work around rebar sticking up around the boiler base," explains Gilley Crane Owner, Robert Gilley.

Working in the confined area, Gilley Crane's crew needed a compact crane with excellent maneuverability. Having only a two-day window to complete the project, the company needed a crane that offered fast roading, quick setup and efficient operation.

Gilley Crane selected a new crane from its fleet for the lift, one in which the brand name and team behind it stands for quality and service. It was the company's new Terex[®] Explorer 5800 all terrain crane, purchased from its Terex Crane distributor in Cleveland, Tenn., Renegar-Driggers Machinery Co, Inc. "I have bought a lot of equipment in my life, and I can't be any happier with the level of service and support provided by Terex and Renegar-Driggers," says Robert Gilley.

The Terex Explorer 5800 all terrain crane is designed to quickly travel the streets and highways of many market around the world. It can be configured so that its five-axle chassis meets stringent axle loads of less than 20,000 lb (9000 kg) per axle. The crane also features a compact, 43.3-ft (13.2 m) carrier length and 4-ft (1.2 m) front overhang. Its narrow 9.8 ft (3.0 m) width enables the 245 US ton (220 t) capacity class crane to transport without restriction. Gilley Crane's four-man crew quickly roaded the Explorer 5800 crane plus full counterweight the 30 mi (48.3 km) from its

Manchester yard to Lynchburg. It required just four additional transports to move the crane's 154,800 lb (70,2 kg) of counterweights to the project site.

The Explorer 5800 all terrain crane transports with its standard 229.7 ft (70 m) telescopic main boom installed, which provided quick on-site setup and offered more than enough length for the boiler lifts. To improve on-site equipment setup, this Terex all terrain crane self-rigged its counterweight panels. "In total, it took us about 1.5 hours for crane setup before we were ready to work," says Gilley Crane's Project Manager, Scott Peterson.

The unique Explorer 5800 crane boasts another exclusive feature that boosts efficiency over the road and at the jobsite: the Terex single-engine concept to power both chassis and crane operation. "The engine offers intelligent power management that selects the best performance for all load cycles," explains Terex Cranes' Regional Business Manager, Steve Ake. "With only one engine, we reduce crane weight, daily maintenance time and long-term operating costs."

Powered by a 12.7 litre, 550 hp (405 kW) Tier 4F (Euromot Stage IV) engine, the crane has the power to quickly make it to the jobsite at speeds reaching 53 mph (85 km/hr). Once on-site, engine speed and power is reduced to 1600 RPM and 275 hp (205 kW) respectively, providing ample capacity for proper crane operation, while reducing fuel consumption when compared to two-engine cranes. "The fuel efficiency and savings are unreal," says Peterson. Robert Gilley adds, "The one-engine concept works really well for us and provides plenty of power for both roading the crane and powering the lifting operations."

In total, the project required eight lifts to move and place the two boilers and bases. The 20-foot-tall by 25 foot-long (6.1 m by 7.6 m) boilers and 10,000 lb (4,5 kg) bases were first placed onto trailers and moved approximately 200 yd (187.9 m) to their final location. Working with 55.4 feet (16.7 m) of main boom at a 28 ft (8.5 m) radius, the Explorer 5800 crane delivered more than enough capacity to lift and position the boilers and bases. "The space we had to work with left very little room to maneuver the crane, but the steering on the Explorer 5800 is more advanced than what we've seen from any other crane on the market," says Gilley. The Explorer 5800 crane of-



fers six steering modes, including off-wall and crab, to deliver a turn radius of 37.3 ft (11.4 m), improving on-site maneuverability. "The speed with which it crab steers is very efficient," adds Peterson. "It's mind-boggling at how quickly and easily it steers and transitions between the different steering selections."

All crane operations, from steering to boom settings, on the Explorer 5800 crane are managed by the IC-1 computer system. "The IC-1 system," says Ake, "features touchscreen operation and intuitive controls to make it easy on the crane operator. Plus it stores all the load charts for quick access and confident operation." Gilley adds, "Our operators can quickly pick up crane operation because of the IC-1 controls."

Within two days, Gilley Crane's crews transported the Terex Explorer 5800 crane to the Jack Daniels' Distillery, rigged it for the project, performed the picks and transported it back to the Manchester yard. "This crane is totally out-of-the-box," mentions Peterson. "Our operators are extremely pleased with its performance, and everyone who has seen it work is impressed with its capabilities." 🌟



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Sandvik launches

MID-RANGE MINING CRUSHERS



Sandvik Mining has expanded its CH88 series of mining cone crushers launching two technologically advanced models that improve productivity and profitability in the mid-range segment.

Sandvik CH880 for high capacity secondary crushing and Sandvik CH865 for high reduction tertiary and pebble applications feature high crushing forces relative to mantle diameter and 500kW motor. The new crushers combine a range advanced automation features for a more secure and productive process.

The intelligent system in the Sandvik CH 860 and Sandvik CH 865 enable real time performance optimisation, while smart, compact design solutions reduce dynamic load and minimise engineering and installation work. The crushers feature fewer moving parts than competing models. Non-welded, bolted liners on the top and bottom shell enable safer, easier maintenance.

Both new crushers also feature the company's automatic setting regulation control system (ASRi) and hydroset, to ensure automatic op-

eration at peak performance around the clock. ASRi constantly monitors pressure, power draw and mainshaft position and automatically adjusts the setting during full load.

The hydroset main shaft support system provides protection from overloads by permitting tramp iron and other uncrushables to pass through the crusher before automatically returning to the original setting. The system automatically compensates for crushing chamber wear to provide consistent product size.

Hydroset enables Sandvik to incorporate their unique PLC-controlled electric dump valve for tramp iron protection, which significantly reduces pressure peaks and mechanical stress on the crusher, greatly improving reliability.

For almost one year of rigorous testing in a Chinese iron ore mine has produced excellent results.

Many of the mines today are looking for increased productivity without expanding their plants so with the introduction of the Sandvik CH865 and the Sandvik CH860, crusher re-

placement has been made easier. On the test site a similar size crusher was replaced using the same foundation, hence significantly increasing production of the final product and also increasing chamber liner life. The electric dump valve repeatedly proved its tramp iron protection value by reducing costly unplanned breakdowns. ♻️

“The intelligent system in the Sandvik CH 860 and Sandvik CH 865 enable real time performance optimisation, while smart, compact design solutions reduce dynamic load and minimise engineering and installation work.”

Renttech South Africa

LAUNCHES TWO NEW DIESEL-DRIVEN GENERATORS



Renttech South Africa's growing portfolio of industrial sales and rental equipment shows that the company is committed to providing new products and technologies that align with changing times and market demand.

The company, which boasts 22 recognised brands of welding, power generation, lifting, rigging and construction-related equipment, has recently launched two new ranges of diesel-driven generators, and has plans for introducing gas-driven generators early in 2015.

The new ranges of diesel-driven generators include a heavy-duty range covering 10 to 30 kVA in both single and three phase sound-attenuated models, and an extra heavy-duty 'rental spec' series for extreme conditions.

"The smaller units are popular for domestic and small business use, whereas our standard units are popular with larger businesses and site use. The 'Rental spec' units are aimed at heavy-duty on-site applications," explains Martiens Opperman, Renttech South Africa's Operations Manager.

Opperman emphasises that the company is constantly striving to improve the quality and efficiency of its products, many of which are sourced internationally, with the overall aim of

supplying top-quality, versatile products at affordable prices.

"The 10-30 kVA range is small and compact, 1500rpm, sound-attenuated and fitted with a Kubota/Newage Stamford power pack and offered at extremely competitive prices.

The heavy-duty 'Rental spec' units can be double-stacked, painted to marine container specifications and come with a standard five year rust proof warranty. These can be supplied as dual frequency units (50/60Hz). These units are fitted with either Perkins/Newage Stamford or Cummins/Newage Stamford power packs and handle ambient temperatures of up to 50°C. The units 800 kVA and above are fitted in converted soundproof marine containers which are ideal for site use," says Opperman.

The two new generator ranges form part of Renttech's existing range of power generation equipment which is used across a number of industries in South Africa and Africa, including the mining, construction, ship-building and petrochemical industries. Opperman notes that the diesel ranges are proving popular within its rental fleet, with follow-up orders currently in production.

When it comes to installation, it is vitally important to get the sizing right, says Opperman.

"Correctly sizing a generator is essential in the supply of standby power equipment, as running a unit under capacity will cause it to 'glaze' or get damaged owing to under-supply of power," he says. "There can be major cost implications if a unit is either too big or too small for purpose. Renttech South Africa's in-house technical expertise, as well as the strength of our after-sales support, helps to prevent costly errors."

Renttech South Africa has enjoyed a strong growth trajectory in recent years due to a number of acquisitions of welding businesses around the country. The company is looking forward to a number of new projects that are in the pipeline for 2015, both in South Africa and other African countries.

In addition to new gas-fuelled generators, Renttech will also be distributing to the South African market new hybrid-type light-emitting diode (LED) towers. These are currently in the production development phase and will be available in the first quarter of 2015.

"The field of power generation and standby power is a dynamic one, and Renttech is proud to be at the forefront of a number of exciting new product ranges which are both cost-effective and energy-efficient," Opperman concludes. 🌟

AXLE WEIGHING AS WELL AS TOTAL WEIGHT

on all trucks now a requirement! Effective 31 January



In a recent development the National Department of Transport published a Twenty Second Regulation Amendment in the Government Gazette (No 38142 published on 31 October 2014) which included changes requiring not only the monitoring of total weights but also that of individual axle loadings. Furthermore accurate record keeping was also stipulated. Regulations 330A to 330D are of specific importance to the transport industry as they will have the greatest impact on how the new amendment will be regulated.

available for inspection to any traffic officer or person appointed as contemplated in the Act.

As daunting as the new laws might seem they are easily mitigated with the installation of the RDS Axlog Alpha. This particular Ronin® on-board weighing solution addresses each of legal requirements outlined in the article above to ensure that you can comply to the new regulations without breaking a sweat. With the Axlog Alpha installed on your trucks all individual axle weights and total weights will be measurable, recordable and available for inspection on demand. 🌐

Regulations 330A-330D briefly outlined:

- Henceforth a consignor will be required to apply a method of establishing the mass of a vehicle and any axle or axle unit of such vehicle in order to ensure that such vehicle axle or axles are not overloaded.
- A consignor is now by law required to keep a thorough record of the mass of every load transported from his or her premises.
- Furthermore such records must be

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- Vehicle alarm system

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- "It wasn't me..."

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are the common realities of driver management damage control.

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Features & Benefits:

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- Allocating Traffic Fines
- Overtime Management
- Linking Driver behavior to vehicle type

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1) Normal 2) aggressive 3) dangerous
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CharterWay – a Mercedes-Benz VALUE-ADDED PRODUCT



Mercedes-Benz as a leader in the commercial vehicle market has always remained in the forefront when it comes to value-added products and will continue to play a leading role in providing innovative mobility solutions for their customers in order that they may achieve maximum profitability. They also have a responsibility to exploit current and new opportunities in their quest to offer transport solutions wherever necessary.

They achieve this, not only through the development of industry leading hardware but also through cutting edge products along the Value-chain. One of the fleet management offerings that are becoming a product of choice amongst operators is the CharterWay concept.

CharterWay is basically an all inclusive maintenance package which covers all repairs and servicing requirements of the vehicle for the stipulated kilometre reading and/or period of the contract. The contract covers any repairs that are required during the routine operation of the vehicle, but does not cater for any components damaged due to negligence or acts of nature.

CharterWay allows the customer to optimise the vehicle utilisation and operate with fixed monthly costs for the duration of the lease contract. Another area that appeals to the operator is that he no longer has the expense of having his own in-house service facility as the vehicle is maintained exclusively by the nearest dealer. The success of this product is gaining momentum. Having started in 2008 with



an average of one in twenty customers going for the product, the ratio today has improved to at least one in four, which proves the value of the product.

Currently there are well over 2 000 vehicles on the system which are being serviced by dealers throughout the country. The system will check the vehicles record when it comes in for service and any necessary repairs will be channelled to the correct account designation and determine whether it is warranty or not. In this manner all the information obtained can be correlated by the Company to analyse any trends which may lead to component part failures.

CharterWay customers, should they opt for the Enhancement Project, will see a 20% drop in maintenance costs or a saving of up

to R120 000 over the life of an Actros truck tractor unit. Service intervals of 40 000 km for Actros truck tractors, engaged in long haul operations can be expected with this concept. There is also the added advantage of preferential parts pricing together with preferential labour and lubrication rates.

Customers contracted to the CharterWay system will be guaranteed that if any mechanical failure is not repaired in two days, a daily compensation rate will be paid by the manufacturer for each day that the vehicle is off the road. Payment however is limited to a maximum of five days. Alternatively a loan vehicle could be available as an option at a reasonable cost.

CharterWay contracts are tailor made to suit the application and the requirements of each individual company. 🌟

Skyriders get off the ground

IN MALI

Skyriders continues to live up to its reputation as a leading provider of rope access-aided inspection, non-destructive testing and maintenance services to African industries, following the company's second permanent appointment at Syama gold mine in Mali.

Skyriders was contracted by Société des Mines Syama Sa, Mali to carry out routine inspection work on a replacement smokestack that the company successfully helped to erect in 2013. Marketing manager Mike Zinn says: "In 2013 we assisted with the erection of the replacement stack, and recently our two-man team – including a Level III rope access technician and inspector – inspected the rebuilt stack."

The scope of their work includes inspecting the external and internal components of the structure – a task that takes four days to complete. During the inspection, the team conducts visual surveillance and, using ultrasonic meters, tests wall thickness. Findings are then submitted to an external consultant for final reporting. "To ensure the highest standards of quality and efficiency, we worked with internationally renowned smokestack and industrial chimney specialist, Beaumont Specialist Consulting," notes Zinn. Zinn admits that the work is physically demanding, with hot weather posing particular challenges. "The team wear backpacks that carry water and start work as early as possible in order to limit the time they work during the heat of the day. Despite these obstacles, Skyriders' scope of the project has been highly successful to date, as the company has the best team in the business, which boasts string of successful industry results," he concludes. 🌀



Hytec Services Africa installs **FLUID DISPENSING SYSTEM FOR REMOTE TANZANIAN MINE**



Hytec Services Africa (HSA), a Hytec Group company, recently completed the supply and installation of a lube and coolant dispensing system at African Barrick Gold's North Mara Gold Mine, located in a remote corner of northern Tanzania. The dispensing system enables more responsive, immediate and efficient servicing and maintenance capabilities for the mine's heavy mobile material handling fleets, comprising haul trucks, graders, loaders and shovels.

The maintenance of heavy mobile equipment in operation at North Mara Gold Mine was previously constrained by the significant distance between the main equipment workshops and the remote workshop located at an open cast pit. A more automated dispensing system, to facilitate faster fluid 'top ups', was required for a more effective operation, for which HSA was contracted.

The system covers the complete fluid management and distribution process, from the bulk offloading of fluids from tankers into 20 000 l holding tanks (coolant and transmission oil are stored in 1 000 l tanks), as well as the steel pipe infrastructure for transfer into remote hose reels, from where machine services can be carried out.

The dispensing system consists of seven steel dispensing lines dedicated for engine oil, transmission oil, two variants of hydraulic oil,



coolant, compressed air, as well as a waste oil pipe for the safe removal of used oil from the site. Grease points were also provided. Each oil and coolant flow is filtered through Bosch Rexroth duplex filters, while the bulk tanks are protected with Hy-Pro desiccant breathers.

HSA, together with Hytec, executed the design and layout of the entire dispensing system. All the stands for the bulk offloading pumps, filter stands, waste oil pumps as well as the cabinets for hose reels were designed and built by Hytec. Hytec's Installation and Servicing departments were involved in the pre-assembly of pipework in South Africa, as well as its final installation on site. HSA coordinated the project, including the logistics of delivering mate-

rials, equipment and personnel to the site. The remoteness of the North Mara site, located near the Kenyan border, required three days' travelling to reach from South Africa, presenting numerous logistical hurdles to contractors, and requiring meticulous planning in the assembly of components, pipework and tool loads for transport to the site.

Components for the project were supplied by several Hytec Group companies, including Hydraulics & Automation Warehouse, Hytec Fluid Technology and Tectra Automation, while Hytec's drafting, project and work-shopping services provided integral project engineering functions. 🌐

SDLG SUCCESS IN SOUTHERN AFRICA

is recognised at international conference

Babcock received an award for sales excellence at the recent SDLG construction equipment conference in Shanghai, China

SDLG is a value-added range of mechanical-driven wheel loaders, graders and vibratory rollers, ideal for applications in the re-handling, construction, quarrying, agricultural and aggregate industries.

Babcock's General Manager SDLG, Grant Sheppard, who attended both events accompanied by his two top performing salespeople, says he was thrilled to receive the award, particularly since Babcock has only been the exclusive distributor of SDLG construction machinery in southern Africa since early 2012.

"The award recognises the outstanding sales year we enjoyed in 2014," says Sheppard. "We were one of only two dealers to be recognised with this award and this is a milestone achievement for us. "SDLG really came into its own in southern Africa in 2013, but 2014 truly entrenched us

as a brand to be reckoned with in the market. Over the course of last year, we more than tripled our sales staff and we have now representation in all the major centres of South Africa and its neighbouring countries. This investment into our personnel and footprint is earning significant dividends and, building on this dynamic foundation, we have very high hopes for 2015.

"Our achievement lies the fact that within a market sector that did not grow last year, we actually doubled the sales penetration of the SDLG brand. The reasons for this beyond-expectation success include the level and quality of the support we offer our customers, our philosophy of partnering to enhance customer operations and the extensive sales and support footprint available to our customers across southern Africa. SDLG is represented in all Babcock service centres in the region, which translates to more than 20 outlets. This shrewd strategy has successfully exploited the best possible advantage out of Babcock's existing footprint and afforded us a major competitive advantage."

Sheppard says during 2015 Babcock will extend its SDLG product range within the wheel loader and other market segments, in response to customer requests.

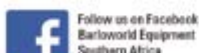
The international SDLG dealer network is expanding rapidly and there is an expectation that there will be more than 100 dealers worldwide by 2016. The brand's strategy puts customer satisfaction at the forefront, ensuring a strong aftermarket support offering. SDLG wheel loaders are one of the world's biggest selling product lines in this sector. 🌱

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CRITERION EQUIPMENT NEW RANGE of smart TCM forklift trucks

“Smart engine-powered counter-balanced type forklift trucks are now available with two new types of engines to enhance existing Kubota diesel engines.”

Criterion Equipment has launched a new range of Smart TCM 2-3 T engine powered forklift trucks, designed for enhanced performance in all operating conditions, even harsh environments.

“Smart engine-powered counter-balanced type forklift trucks are now available with two new types of engines to enhance existing Kubota diesel engines. A wider choice of gasoline or diesel engines provides the flexibility to meet the diversified performance requirements of industrial trucks,” says Brenton Kemp, managing director, Criterion Equipment, a wholly owned subsidiary of Invicta Holdings Limited. “Although there are no significant changes of the major truck specifications and the external appearance of this series

over the previous Smart series, there have been some changes of components for improved performance.

“These new Smart concept machines have been designed and manufactured in accordance with stringent quality and safety specifications to ensure enhanced reliability and flexibility, as well as economical operation and extended service life.”

Smart internal combustion engine forklift trucks, which have a power-shift transmission and loading capacities of 2, 2,5 and 3 T, are now available with two new types of engines - Isuzu C240 diesel engines and GCT K21 gasoline engines.

The new Isuzu C240 engines have a rated



output of 35.4,5/2500 kW/r.p.m, a maximum rated torque of 140/1800 Nm/rpm and a service weight of 4240 kg. The new GCT K21 gasoline engines have a rated output of 34.6,5/2250 kW/rpm and a maximum rated torque of 153/1600 Nm/rpm.

These engines - with a deep bass noise level, as opposed to the high pitch noise of other machines - have been designed for reduced noise levels during operation.

Isuzu C240 engines, which meet Tier 3 emission control regulations, have an engine management system that delivers efficient power, enhanced reliability and economic operation.

Smart forklift trucks have a mono-block type transmission where the transmission case is combined with the drive axle housing to absorb engine vibration at two points of rubber mounting. The absorbed engine vibration is transmitted to the differential through the transmission and engine power is also transmitted to the differential through the transmission without loss, because of

direct gear connection. Smart machines have a full hydraulic steering system without knob shift control. All the operator has to do is keep turning the hand-wheel at the end of each position.

Optional accessories, designed originally for TCM's Inoma series, are fully compatible with these machines, to ensure enhanced operation, greater flexibility and improved safety. Optional equipment and hydraulic attachments include wide view full free two and three-stage masts, side shifters, hinged forks, rotating clamps, load grabs and turna forks.

There are fewer parts in this range than other forklifts on the market and all main components are located on the same side of the machine for effortless and efficient maintenance.

Safety has been critical in the design of this new Smart series. A new fork landing mechanism ensures the fork lowering speed decelerates at a height of approximately 150 mm above the ground, enabling

accurate placement of the forks into the load fork pockets or pallet.

High mounted rear combination lights are clearly visible at the top of the overhead guard and are recessed to protect against vibration and to ensure extended bulb life. The front and rear pillars are welded together as a single piece head guard structure, giving additional strength to the entire frame. A rubber strip attached to the hood prevents operator slippage.

Optional safety accessories include a rotating warning light, rear working lights, windshield wipers and an insulator kit.

Enhanced operator comfort ensures increased productivity, especially in harsh South African conditions. In the Smart series, tilt cylinders are situated under the floor to provide an expansive floor space for easy foot movement. A multi-functional suspension seat, a small diameter easily maneuverable steering wheel, a convenient parking lever and an enlarged foot step, enhance comfort and safety for the operator. 🌟



JOHNSON CRANE HIRE OFFERS alternative lifting technologies

Johnson Crane Hire is positioning itself as a heavy lifting solutions provider rather than a crane hire company as it focuses on alternative lifting technologies as being complementary to cranes. "Adopting alternative lifting technologies has definitely given us an edge in the marketplace. This falls within the ambit of our brand promise, which is total cost effective solutions," James Robinson, Heavy Lift Manager for the Crawler Cranes and Projects division of Johnson Crane Hire, says.

"We have the equipment, but more importantly, we have the expertise to apply to solutions. This is a highly specialised and niche sector of the market. What sets us apart is that our experience and intellectual property reside within Johnson Crane Hire; we are very much hands-on and in-house." Robinson says that while "sometimes there is no getting away from using a crane," alternative lifting technologies come into their own in terms of expanding into the African market, or where the need arises.

"We love cranes, but know it is not always

practical to send a crane into Africa. When it is there it does the best job possible, but the logistics of getting it there is almost a project in and of itself. Alternative lifting technologies are a lot easier to mobilise and therefore represent a much more cost effective solution in some instances," Robinson says.

"These are ideal when it comes to once-off projects. As soon as the work becomes repetitive and we need to have a lot of flexibility, then cranes are the answer. However, when you can specifically design a lift and it follows a certain set of criteria, then alternative lifting technologies are the best. We are always on the lookout for integrated solutions that best meet our clients' needs."

While Johnson Crane Hire has already used jacking and sliding techniques to great success on some projects, Robinson says "there is a range of other technologies where we have the know-how and are ready to expand into if need be." These include hydraulic gantries and strand

jacking. However, the latest trend is Self-Propelled Modular Trailers (SPMTs). "These are modular trailers like Lego pieces with hundreds of wheels underneath them that are assembled to whatever size is needed. It forms a platform that essentially drives itself."

The Crawler Cranes and Projects division of Johnson Crane Hire is ideally positioned to offer such alternative lifting technologies to its clients. "We have invested in one of the latest versions of jacking and sliding technology, opting for a system that is ultra portable. This is particularly important in confined or cramped areas where you cannot get any other sliding equipment in," Robinson says.

In keeping with its focus on total solutions, Johnson Crane Hire has invested significantly in boosting its crawler crane fleet. "We recently expanded our big cranes, not in terms of capacity, but in numbers. We now have a 750 t lattice boom truck mounted crane, a 600 t crawler crane and a 750 t mobile crane." Robinson says



the truck mount lattice boom unit has been acquired specifically for the wind energy sector, where installation of wind turbines is a growing market in South Africa.

Looking at the latest trends, Robinson says there is a move towards the modularisation of plant equipment, which reduces assembly time and enhances both quality and improves. Modules are transported to location and erected on site. "I think the trend is definitely going to be for larger lifts, which falls in line with our portfolio of crawler cranes, in which we have made a substantial investment, especially in terms of capacity."

Robinson concludes that Johnson Crane Hire will continue to offer its clients the



latest innovations. "Within a competitive market, clients are always demanding better solutions. There are some exciting innovations in alternative technologies that we are keen to bring to the market, as it strives to keep with international best practice and standards. However, our ongoing investment in our crawler crane fleet shows we are fully committed to our total solutions." 🌀





NEW HIGH PERFORMANCE T450

Tracked loader from Bobcat

Waterloo, Belgium. Bobcat has expanded the company's range of compact tracked loaders with the launch of the new T450 model. Filling the gap in the range between the T110 and T590 models once occupied by the discontinued T140 loader, the T450 offers a massive increase in power combined with hydraulic and hydrostatic efficiency improvements that translate into significantly increased productivity.

Manufactured at the Bobcat plant in Dobris in the Czech Republic, the T450 is powered by the Bobcat D24 45.5 kW (61 HP) turbo-charged diesel engine, providing 25% more power than the T140 model, ensuring the T450 has the best performance and engine power to weight ratio in its class. The D24 engine in the T450 meets the current Stage

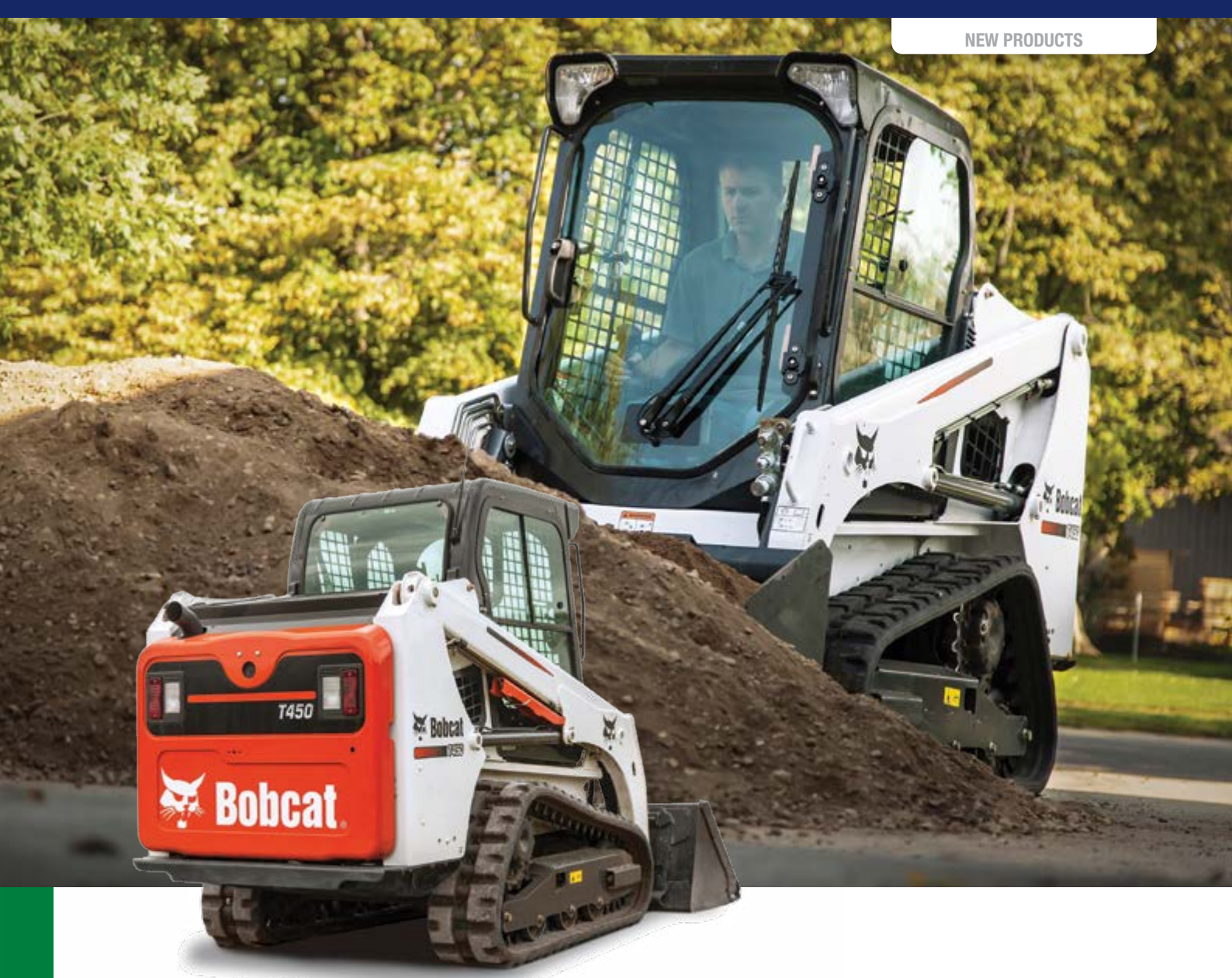
IIIB emission requirements through the use of cooled exhaust gas recirculation (EGR) and diesel oxidation catalyst (DOC) after-treatment technologies, with no diesel particulate filter (DPF).

High productivity results from the increased pressure of the hydraulic system which provides increased attachment performance - the T450 can be matched with over 80 different attachments and there are rear hydraulic auxiliary and 7-pin ACD connector options available. The T450 is equipped as standard with the quick-change Bob-Tach attachment mounting frame.

However, customers can choose the optional Power Bob-Tach system to change non-hydraulic attachments simply by flipping a switch inside the cab.

Equipped with radial lift boom arms, the rated operating capacity of the T450 has also increased from 642 kg to 665 kg, while the operating weight has been reduced from 2990 kg to 2789 kg. Thanks to its compact dimensions and lower weight, the T450 is even easier to transport on a trailer towed by a light truck, 4 x 4, or all-terrain vehicle.

The T450 features the same new generation cab design used on the recently launched S450 skid-steer loader and all larger new generation Bobcat compact loaders, providing class-leading entry and exit through the largest cab door opening on this size of machine. The cab is also fully enclosed as standard, including a front door and wiper system. One of the many advantages offered by Bobcat compact tracked loaders is the ability to extend the



working seasons, and for customers looking to do this, the enclosed cab offers added value in the form of comfort and protection from the elements.

As well as greater operator space and all round visibility, combined with enhanced front and rear working lights, customers can also choose cab pressurisation and heating, ventilation and air conditioning (HVAC) options – Bobcat is the only company to offer these options on this size of tracked loader.

Other options include Bobcat's Advanced Control System (ACS) and Selectable Joystick Controls (SJC) controls. The latter provides operator seat mounted joysticks for increased control and comfort with unique electric-over-hydraulic joystick control for a machine of this size. Customers can also choose the two speed drive option for faster travel when required, especially beneficial in long haul applications and the Deluxe Instrumentation Panel option.

Like all Bobcat compact equipment, the T450 is designed to work long hours on de-

manding jobsites with minimal time spent on routine maintenance. Improved uptime and serviceability features include the hydraulically powered SmartFAN – a patented, dual-path cooling system drawing cool, clean air from above while forcing hot air from the engine compartment and directing it out through two side vents. The T450 also has a transverse mounted engine for optimised weight distribution and full and direct accessibility to service components. Simple checks and superior design make it easier to access systems and perform maintenance correctly at the proper intervals.

The T450 and the rest of the compact tracked loader range from Bobcat are designed to provide excellent performance on very soft or muddy ground and sand, as well as on uneven terrain. Dedicated rubber tracks provide superior traction, flotation and very low ground pressure for working very effectively in all of these environments.

The compact size and superior ability to work in difficult ground conditions mean

that the new T450 compact tracked loader will appeal to a wide variety of users, including applications in landscaping, house and office building, construction, equipment rental, recycling, local authorities, agriculture, forestry and nurseries.

As a Bobcat compact tracked loader, the T450 is ideal for any application where soil compaction and ground disturbance should be minimised. Moreover, since the rubber tracks will not mark paved surfaces, the T450 tracked loader can easily travel over and be used on public roads. Special applications include use in clean-up work after severe storms, floods, and natural disasters, particularly in areas and in conditions where the use of larger machines is restricted. 🌱



**Chris Swanepoel, Manager,
Mining Division at Scania,**

SCANIA MINING BUS

enhances safety values

By Pierre Sanson

Scania prides itself with being able to provide a variety of solutions to its customers whether it is mining, transport and logistics, marine or environment.

Their product development system covers a period of more than 70 years, catering for customers with special needs in all corners of the globe. The concept has been to develop existing facilities and by adding tailored solutions, increase productivity and achieve better returns.

During the past 15 years, mining has become a key area in Scania's portfolio of smarter solutions, especially where transportation takes between 30% and 60% of total operating costs.

The outward expansion of some mines of-

ten leads to longer transport stretches either from the mine to the processing plant or from the main buildings to the excavation areas.

Keeping the flow of equipment and personnel moving is a key element in the productivity of a mine so having a comprehensive service truck fleet is indispensable to any mining operation. One of the areas of mining that requires continuous evolution is the safety element and the introduction of a dedicated personnel carrier as part of the service truck fleet has become a necessity as part of the safety element of an active mine. No longer is it safe to convey equipment operators and mining personnel to their work area in smaller vehicles or even buses that are built for normal urban passenger transport. The congestion caused

by a large number of these vehicles on mine roads can sometimes be detrimental to the safety record of a mine.

For mines where personnel transport is a major issue, Scania has developed a bus locally that meets all the safety requirements for the conveyance of mine personnel.

Because of the Scania modular production system, chassis, axle, engine and powertrain, parts on buses are identical to those of trucks. For this unit a 4x4 chassis is used which provides an additional advantage in an off-road mining operation.

The cab configuration used for this particular development is the P360 which has immense strength, built from high-quality materials with comprehensive corrosion



protection. The distinctive shape and imposing appearance of the Scania cab is built around a tough rigid steel cage and has been built to withstand severe impact. Also incorporated into the design of the bus is a ROPS over the cab which meets global safety standards.

The bus body itself is locally designed and manufactured comprising a cage design using six tons of steel in the structure. From the outset, the construction was monitored by the University of Pretoria who also conducted the destruction testing. Built to SANS 1563 specification, the mining bus also conforms to ISO 3471 and ISO 3449 (FOPS and ROPS). The bus has taken two years in the development stages before the final product was released in order to ensure conformity with the road ordinance and stringent mining requirements.

The Scania mining bus has all the right specifications to enable a safe ride for its 34 occupants as every aspect of any long term requirement has been built into the design. From the Opticruise transmission to the 250 mm clearance, every aspect has been meticulously calculated. High mounted brake boosters prevent damage when negotiating uneven terrain considering the ability of the unit to tackle up to 50% inclines. The 25 degree approach angle and the 22 degree departure angle classify this vehicle as a true off-road machine. The comfort of the passengers has not been neglected as

noise levels in the bus have been kept down to 76 db while the securely anchored seats (SABS spec) have three-point safety belts as an additional precaution.

On the road the Scania Mining Bus exudes a comfortable ride with the benefit of built-in anti-roll stabilizers complimenting the flexible chassis dynamics and full parabolic suspension. The ABS braking system has been supplemented with a retarder, adjusted to be available at operating speeds as low as 10 kph, adding to the safety features of the bus.

A communication system has been included in the design to enable the driver to communicate with the passengers at all times and to also monitor the performance of the vehicle under all conditions.

Chris Swanepoel, Manager, Mining Division at Scania, who has been involved with the development of the bus since the outset and is well proud of the final product said, "With the introduction of the Mining Bus, Scania has increased its ability to provide extensive solutions to mining operations with strong performance packages that reduce operational risks and contribute to a low production cost." 🌟



ISUZU TRUCKS SET TO MAINTAIN

a solid performance in 2015



Coming off the back of a good performance in 2014, although a tough year for the industry, Isuzu Trucks South Africa is set to exceed the 4000 unit sales for the ensuing year to remain the leader in the cab-over chassis and medium commercial vehicle (MCV) segment of the industry with a current share of 12.8% of the total truck market.

Addressing the media at their annual State of the Business address, Craig Uren, Chief Operating Officer of Isuzu Trucks South Africa, provided a holistic view of the current situation in the truck industry and a realistic outlook for the year ahead.

Operating against a global and local backdrop characterised by conflict on many fronts, political, religious and economic, Uren stresses the importance of business being nimble enough to embrace uncertainty and managing many variables to remain competitive. The tough economic conditions that saw the overall truck market record a nominal annual growth of 2.0% at the end of December 2014, are set to continue in 2015. The medium commercial (MCV) segment dropped by 4.9% while the heavy commercial (HCV) recorded a decline of 2.1%. The heavy commercial segment (HCV), on the other hand grew by 8.7%.

The Japanese manufacturer's success in the South African market can be attributed to their diverse product range which provides innovation, differentiation and customer-centred approach to providing solutions that will increase their productivity and profitability. Dominant in the Isuzu truck range is the popular N-Series

which accounted for 21% of the MCV market, giving Isuzu leadership in this segment. The F-Series with a 23.4% of the HCV market has become the gauge by which the logistics operators have come to measure the vehicles in this segment. The newly introduced FX-Series is making inroads into the Extra Heavy Commercial Vehicle (EHCV) with a current market share of 3.3%.

Craig Uren made reference to the assembly plant in Port Elizabeth which reflected the company's steadfast commitment to South Africa by the recent multi-million rand upgrade by adding, "Our plant has undergone some radical changes in line with global leadership philosophies which are intrinsic to not only our brand but our heritage as well. One philosophy that has been used successfully in the plant in establishing optimal productivity is the use of Kaizen principles which have increased the capacity of our workforce."

In comparison to similar territories, South Africa is very much on par with its Isuzu Truck counterparts in successful emerging markets. "The fundamental driver of our solid performance is the AMT technology, which Isuzu brought to the MCV and HCV market in South Africa and is used extensively across our product range. In some cases one will find that AMT-enhanced models account for up to 70% of total sales in a specific range – that in itself, is testimony of the market's confidence in the Isuzu specific technology," added Uren.

In painting a picture of what success would look like for the business in 2015, Uren put



Craig Uren

a stake in the ground and said that his team would work towards achieving further good growth on the 4046 units sold last year and continue to drive product innovation and constantly seek opportunity in adversity.

On the subject of environmental impact, the company would continue with their responsibility and continue to conduct trials on products that run on green fuel sources and test hybrid models with selected customers in the local market.

Further social responsibility programmes will be implemented including substantial investment into local business in 2015 and 2016 which will have positive impact on the Isuzu SA business model. Developing local communities and promoting entrepreneurship programmes are on the cards and will be revealed in due course. 🌱

METRIC AUTOMOTIVE ENGINEERING CHAMPIONS USE of engineered replacement parts



The very real danger with replacement parts is that companies produce 'copycat' parts by duplicating the look of the original part. In contrast, IPD parts are engineered replacement parts produced under stringent quality control measures to ensure integrity and optimum performance.

"Therefore they not only resemble parts from the Original Equipment Manufacturer (OEM), but their performance under working conditions is identical to that of the OEM part," says Andrew Yorke, Operations Director, Metric Automotive Engineering.

As a local distributor of IPD engine parts, Metric Automotive Engineering has access to new part numbers released on a monthly basis to cover the popular Caterpillar® C Series engines. IPD is an international manufacturer of engine parts for Caterpillar® engines.

"We are very proud to be first to market with aftermarket parts of this quality," York says. Metric Automotive Engineering is one of South Africa's most comprehensively equipped diesel engine and component re-manufacturers.

"Since being appointed IPD's distributor in South Africa in 2008, we have been servicing an increasing number of customers who have recognised and experienced the significant cost savings associated with world-class quality replacement parts," Yorke says.

"The focus of both Metric Automotive Engineering and IPD has been on helping equipment owners to save money without risk to reliability. Essentially IPD products are Caterpillar® replacement parts but, unlike parts being sourced from the East, IPD parts are manufactured in a Lloyds accredited ISO 9001:2000 quality controlled environment."

Yorke says that Metric Automotive Engineering's association with IPD effectively transforms itself into a single source supplier in terms of its engine component rebuild/remanufacturing service and its engine parts supply.

"The major advantage for our customers is that they are able to source engine parts from an engineering company – the very parts which we use in the remanufacture of our own engines," Yorke says.

"This, in turn, gives them optimum confidence about the quality and integrity of the parts. We are not simply a parts supplier. As an engine



component remanufacturer, we have the necessary expertise and experience to be able to identify quality parts," Yorke says.

"While most other engine rebuilders need to buy in their replacement parts, we have the tremendous advantage of an in-house stockholding of high quality Caterpillar®-equivalent parts. This effectively positions us as a preferred supplier for heavy duty remanufactured diesel engines.

"By eliminating the middle man in parts purchasing, we are able to pass on a substantial cost saving to our customers, at the same time maintaining total control of quality throughout the remanufacturing process," Yorke concludes. 🌟

UD TRUCKS LOOKS TO MAINTAINING growth into 2015

The South African truck market delivered a subdued performance during 2014, growing a modest 2.04% on 2013's results, to conclude the year on 31 554 unit sales.

This is according to the latest combined results for 2014 released by the National Association of Automobile Manufacturers of South Africa (Naamsa), Associated Motor Holdings (AMH) and Amalgamated Automobile Distributors (AAD).

"I think the local truck market still managed to deliver a satisfactory performance, especially if one takes all the macro- and socio-economic challenges into consideration," said Rory Schulz, managing director of UD Trucks Southern Africa.

Looking at the year's performance of the various market segments against that of 2013, Medium Commercial Vehicles (MCVS) declined by 4.86% to 11 021 units. Meanwhile, the Heavy Commercial Vehicle (HCV) segment remained flat with a very slight 0.04% increase in sales to 5 476 units.

The Extra Heavy Commercial Vehicle (EHCV) segment had a good run, with year-on-year sales increasing by 7.68% to a noticeable 13 804 units.

"A recovery in the platinum mining sector and increased activities in heavy construction and long haulage were the main drivers of demand for extra heavy trucks," explained Schulz.

The star performer of the year turned out to be the Bus segment, with a significant 19.79% growth on its 2013 performance, logging 1 253 sales during 2014. "The phasing in of Bus Rapid Transit units in metros like Tshwane and Cape Town contributed significantly to the increase in new bus sales," said Schulz.

Mercedes-Benz remained the top selling commercial vehicle brand in South Africa, with a 16.35% share of the market (2013: 17.21%), followed by Isuzu with 12.84% (2013: 13%) and Hino with 12.77% (2013: 12.77%).

UD Trucks, in fourth position overall, managed to increase its market share from 9.96% in 2013 to 10.66% last year. In terms of growth, UD Trucks increased overall sales by 9.29%, outperforming the 2.04% industry average.

In the MCV segment, UD Trucks managed to

increase sales of its now discontinued U41 range by 3.96% to 657 units. The last unit of this legendary range was produced in October 2014, with more than 13 000 units sold since its introduction in 1996.

UD Trucks was also once again the top-performing HCV range in the market, with a 23.94% market share. The company's best-performing segment was its Quon extra heavy range, which grew by a significant 24.9% compared to 7.68% for the total EHCV market. This performance pushed UD Trucks to the fourth position in the segment, gaining ground from its 8.77% market share in 2013, to 10.12% in 2014.

During 2014, UD Trucks also continued to play a significant role in the export market. The brand's total sales in sub-Saharan Africa, excluding South Africa, increased by 44.68% to 544 units.

"The year 2014 certainly was another noteworthy year for the UD Trucks brand in the country," said Schulz. "Over the last number of years, we have spent significant time and resources to ensure that we offer the right type of products for our local customers, backed by the professional support of our 65 region-wide dealers. We believe that this renewed focus has been one of the reasons for our success in 2014."

The forecast for the truck market remains positive for 2015, as some macroeconomic factors are beginning to show signs of improvement.

The GDP is expected to increase slightly to 2.5%, a downward revision from previous forecasts, while some credit rating downgrades remain a concern. Meanwhile the Gross Fixed Capital Formation (GFCF) index is set to decrease marginally as investment in construction and non-residential buildings decline –an indicator that there will be a decrease in demand for construction-related truck applications.

Inflation is expected to ease due to lower crude prices while no interest rate hikes are expected until the third quarter of the year.

"Exchange rates remain a problem for the industry, with the effects of ZAR weakness in 2013 and 2014 to be felt through higher than inflation product price increases in 2015 by all



Rory Schulz, managing director of UD Trucks Southern Africa.

truck manufacturers," said Schulz. "We are also hoping that labour relations will be better after the prolonged industrial action in various segments throughout 2014."

UD Trucks, part of the Volvo Group SA, will launch its new Quester range in March this year - the first of a new generation specifically developed for the world of extra heavy transport. It is derived from a combination of the company's Japanese quality heritage and insights from the local market. The Quester range will not replace the company's current Quon range, but is expected to enhance its current product offering to the market.

The new Quester range will, according to Schulz, cut fuel costs and maximise uptime, giving fleet owners, quick dependable payback that will help them succeed in their business. The Group will also open a new multi-million parts distribution centre in Johannesburg during the first quarter of the year.

"UD Trucks has a proud after-sales care record in the southern African region as a result of our concerted commitment to provide our customers with the best possible vehicle availability and utilisation," said Schulz. "As part of the world's second largest commercial vehicle manufacturer, with its multitude of resources and technologies, the efficient and timely supply of quality UD Trucks parts remains one of our main priorities."

"With 65 franchised dealers already present all along the major routes and trade corridors in southern Africa, fleet owners are able to get complete support from UD Trucks, no matter where they operate in the region," concluded Schulz. 🌐

AFTER 20 YEARS, still no finish line for the Sprinter



On 23 January 1995 the first 500 Mercedes-Benz Sprinter vans left the plant in Düsseldorf. It was the beginning of a success story that will remain difficult to beat.

One should always be cautious in using superlatives. Nevertheless, the success story that began on that momentous day is one that would tempt even the most down-to-earth of us to wax lyrical. Indeed, this is the day that can confidently be described as marking the dawn of a new era for the van sector when 500 Mercedes-Benz Sprinter vans, the first of their type, left the plant in Düsseldorf to set off on an unprecedented journey.

The large van caused quite a sensation at the time: among one of its highlights, it was the first van to be fitted as standard with disc brakes on both front and rear wheels, as well as with the ABS anti-lock braking system. The motoring media were so impressed they voted the Sprinter the "Van of the Year 1995".

Two decades later and the Sprinter is still a true pioneer, having defined an entire segment, to which it has even given its name. Whenever the automotive press talk about the

major players in the world of vans, it's often referred to in terms of the "Sprinter class". This is hardly surprising as the Sprinter is one of the most successful vans in the world.

"Only the Mercedes-Benz Sprinter can offer unmatched reliability, perfect driving features and an innate ability to reinvent itself over such a long period of time. This is a vehicle that prides itself on being everything to everyone who purchases it: exceptional safety, impressively low fuel consumption, reliability and a widely-respected high resale value. These are just some of the key factors that contribute to the Sprinter being the most dominant player in the segment," says Nicolette Lambrechts, Vice-President: Mercedes-Benz Vans.

"What is even more exciting than celebrating such a significant milestone is the fact that the Sprinter not only has two decades of experience to tap into, but also the idea of the current and future Sprinter exemplifying impeccable workmanship, build quality of the highest standard and endless innovation," added Lambrechts. The year 2013 saw the arrival of the latest Sprinter in the market – a vehicle with which Mercedes-Benz Vans is once again setting new standards in terms of

safety and economy. In November 2014, just a year after its introduction, the 222 222nd new Sprinter was delivered into customer hands.

Although its appearance has changed over the years, the secret of the Sprinter family's success has stayed the same. The new Sprinter impresses with innovations in the fields of safety and economy.

It is the first van in its class to be made available with engines that meet the Euro VI emissions standard, proving that even the big boys on the road can be environmentally friendly and economical. Despite the engines on offer in South Africa adhering to Euro V emissions standards - due to the unavailability of appropriate fuel - the Sprinter still boasts operating the cleanest engine in the large van segment.

But it is not just thanks to its frugal fuel consumption that the new van is top of the class in the large vans segment, which the vehicle's distant ancestor once defined as the "Sprinter class". It also sets standards with respect to safety, loaded with various assistance systems such as COLLISION PREVENTION ASSIST, Blind Spot Assist and Lane Keeping Assist. 🌟

A first for FAW

AS IT KICKS OFF 2015



FAW Vehicle Manufacturers SA (Pty) Ltd has started the New Year with another "First". A mere six months after opening its plant in Coega to assemble FAW trucks locally, the company has dispatched its first five export units to the FAW dealership in Kenya.

On 16 January the five FAW J5P truck tractor units headed off to Transafrica Motors Limited based in Mombasa, Kenya.

Yusheng Zhang, CEO of FAW Vehicle Manufacturers SA, said: "Once again FAW is setting a benchmark for Chinese truck manufacturing locally.

"Not only have we managed to produce the best quality levels, comparable – if not better – than our FAW parent company in China, but we've been able to do so in a very short run-in period for a plant that only came on stream six months ago."

The Africa dealers who traditionally placed their orders on FAW China are moving their shipments to originate out of South Africa owing to the shorter lead time for delivery, the high levels of quality which some have come to verify personally at Coega in South Africa, and the reduced cost of sourcing FAW vehicles on the same continent.

Says Zhang: "We are already working on a special order for the FAW Tanzania dealership. What is significant is that the export destinations can more readily adjust some specifications to accommodate customers' requirements specific to their markets.

"In this way we anticipate providing FAW trucks to Africa customers which will delight them with personalised modifications, as well as provide them with our renowned robust and durable FAW trucks, tipper and mixer ranges."

The FAW J5P 6X4 380 HP truck tractor is a stalwart product for Africa road conditions.

The 55-ton GCM vehicle can cope easily with the region's dust and dirt challenges, as well as rough roads and slippery conditions. With its high payload capacity it will provide good return on investment for most any operation, such as mining, long haul, logging or the like.

The quality built from the Coega-based plant ensure that the solid chassis and frame continue to give transport owners the ease of driveability they have come to expect from FAW trucks.

The Kenya-based dealer, who has been a

firm believer in the FAW brand for over, 30 years indicated that they were delighted that the products were so easy to source.

They continue to provide service and parts back up throughout the region. Another advantage of the running FAW trucks is that they are easy to maintain and service, with excellent accessibility to spare parts if needed.

"The FAW Coega plant team have outdone themselves, proving that the 'Made in South Africa' badge can be worn with pride.

The original decision to build the FAW plant in South Africa was very significant from a global perspective, as it is one of the most important and largest investments made by a Chinese entity in South Africa to date. The USD 60 million investment needed for the Coega plant was financed by the China FAW Group Corporation, the China-Africa Development Fund (CAD-Fund) together with FAW Africa Investment Company LTD. This collaboration speaks volumes to the growing interest from global Chinese Industry in unlocking the true Africa potential.

"This export milestone, so soon after our inauguration, further cements our presence in South Africa," says Zhang proudly. 🌐

LIEBHERR ENGINES IN KAMAZ TRUCKS

impress in Dakar Rally



This year's Dakar Rally was a great success for the Kamaz Master truck racing team. Aside from occupying the whole of the podium, the Russian team also secured fifth place. The Kamaz team came first in the Africa Eco Race too, which took place at the same time. All trucks are equipped with powerful V8 diesel engines from Liebherr, which have once again proved their worth in tough desert use.

Torrid heat, dusty air and a challenging route across the Andes and the world's largest salt lake: The Dakar Rally through Argentina, Bolivia and Chile exposes drivers and vehicles to the most extreme conditions. The Kamaz Master truck racing team took to the start this year with four trucks – each of which was fitted with an 8-cylinder D9508 A7 diesel engine from Liebherr. Way ahead of the competition, the team led by driver Ayrat Mardeev was the first to cross the finish line after 44:42:01 hours. The driver colleagues Eduard Nikolaev and Andrey Karginov followed with their team members in second and third place.

The decision by Liebherr partner Kamaz – a Russian manufacturer of trucks and other vehicles – to install Liebherr engines was based on their trust in the well-developed and reliable technology. Vladimir Guba,

Technical Director of the Kamaz racing team, knows: "Success in racing depends not only on the performance of the engine but the probability of failure and repair times. Here, we place trust in the engines from Liebherr that have proven their worth in similar extreme conditions, above all in mining."

Robust technology and maximum performance

To engineer the components to be even more reliable and, at the same time, dynamic for special conditions, Liebherr worked closely with Kamaz to specifically further develop the drive system for the Rally 2015. In the race configuration, changes were made above all to the charge air system to achieve higher charging pressures. The consequence is optimal combustion of the injected fuel quantities whose volume has likewise been increased. Remarkably, no modifications were made to supporting structures of the engine, such as the crankcase and engine mounting. These have already been engineered sufficiently in the standard version. Even the lubrication system was adopted completely without change since the Liebherr V8 engine is generally designed to work up to 45°.

The engines, which are built at Liebherr

Machines Bulle SA in Switzerland, are distinguished by a maximum output of 770 kW (1,047 HP) and a highest possible torque of 4,500 Nm. The engines accelerate within 10 seconds from 0 to 100 km/h – and they achieve this despite a dry weight of about 1,400 kg in the racing version. The engine with common rail injection system from Liebherr has a displacement of 16.2 litres and thereby conforms to the rally regulations which, from 2016, limit displacement to 16.5 litres. The 8,900 kg trucks reach a top racing speed of 140 km/h.

Powerful diesel engines

Kamaz consciously opted for diesel engines from Liebherr: The powerful technology also impressed during the Africa Eco Race through Morocco, Mauritius and Senegal, which took place at the same time. With his Kamaz Master truck equipped with a Liebherr V8 engine, Anton Shibalov also came first in Dakar. 🏆



ALE HEAVY LIFT CONTRIBUTES TO THE South African economy's balance of power

By Pierre Sanson

With Eskom unsure of maintaining the future power requirements of the country, alternative methods of powering the economy have been the subject of much speculation and debate over the past few years. Fortunately, steps have been taken to remedy the situation and some of the projects on the table have seen signs of fruition and some even appear to be coming on tap as early as 2015.

One of the major developments has been in the area of concentrated solar power (CSP) where the construction of these facilities is well on the way to completion and which form part of South Africa's Renewable Energy Independent Power Producer Procurement Programme.

Besides the direct investment and the creation of an excess of well over a thousand jobs during the construction in South Africa only, the projects will inject significant socio-economic value into the rural South African economy in the vicinity of the plants by bringing an average yearly contribution of well over \$2.5 million of additional invest-

ments into the community. This new injection of capital investment has the potential of creating a wealth of permanent employment opportunities during the operational life of the plants in one of the poorest areas of the country.

Currently there are four major CSP projects under construction all situated in the areas of the Northern Cape which will have a combined output of over 300 MW. The projects are Bokpoort, near Groblershoop; KaXu Solar One near Pofader; Khi Solar One near Upington and Xina Solar One also near Pofader.

CSP is used to produce electricity (sometimes referred to as solar thermoelectricity, usually generated through steam). Concentrated solar technology systems use mirrors or lenses with tracking systems to focus a large area of sunlight onto a small area. The concentrated light is then used as a heat source for a conventional power plant (solar thermoelectricity). The solar concentrators used in CSP systems can also be used to provide industrial pro-

cess heating or cooling, such as in solar air-conditioning.

The Bokpoort facility, the largest of the projects, comprises a solar field, a power block, a thermal energy storage system and related infrastructure such as grid interconnection, water abstraction and treatment systems. The plant will be equipped with the largest thermal storage ever adopted for a solar power plant of this class and capacity to date, with a capacity of 9.3 hours. The solar fields comprise loops of parabolic trough solar collector assemblies which will absorb the heat from the sun. The solar collectors have the capability of heating the heat transfer fluid up to 393 degrees centigrade. The thermal-energy storage system consists of two tanks of molten salts and will provide an estimate nine hours storage. The Bokpoort project was the only CSP technology selected while the other projects are based on PV, wind and hydro technologies.

The construction of these CSP plants required major logistics support by virtue of



the size of the equipment required and the proximity of the sites to a port where the enormous machinery would be shipped and landed.

Transport to site was the next step in the chain and with ALE's South Africa branch having been active in the Heavy Transport and Lifting Services market since 2001, the contract was awarded to them for the transport of the heavy components for Bokpoort, Ki Solar One and KaXu Solar One.

ALE has the necessary project management and technical skills to offer their clients a comprehensive turnkey operation including shipping, barging, craneage, transport, on-site handling and installation. Their investment in the right equipment to perform every aspect of any operation is enormous.

ALE has the philosophy to work closely with their clients, to understand their particular needs and evaluate each job carefully, propose the optimum technical and commercial solution and perform each contracted task safely and efficiently.

ALE's involvement in the CSP project was the transport of all the heavy components for both sites. Also the staging of the evaporator panels and the installation of the 103 ton steam drum on top of the 205 m solar tower of Khi. Additionally, they installed the 19x 259 ton steam accumulators and the 2x 335 ton heat-exchangers.

The road from the Port of Luderitz to Upington encompasses a route of over 800 km with a varying terrain and temperatures, which also includes 60 km of dirt roads. Along the route preparations were made to accommodate the loads to the extent that three bridges and two culverts had to be specially propped up over an eight month period together with several sections of road works. This move was rated as the heaviest cargo ever offloaded at the port of Luderitz and transported on Namibia's public roads.

ALE, with its considerable, specialised fleet of latest generation of Self Propelled and conventional modular trailers was able to provide the necessary logistics to ensure the arrival of the equipment and components on site.

The vehicles used for this project were the FAUN Goliath 8x8 tractors each with an excess of 750 horsepower and used in tandem. At times the requirement was for three tractors depending on the load. Trailers were the newly developed trailers with hydraulic width adjustment systems which enables the spread of axle load required to adhere to the different weight/width restrictions for road transport found in different countries.

Specifically designed hydraulic beams fixed to the middle and to each end of the trailer deliver the width change without the use of a crane or lifting equipment.

ALE's South African branches form part of the global ALE business, yet locally based in Cape Town, Johannesburg and Richards Bay. The ALE branches were established to provide a service for infrastructure projects throughout Sub-Saharan Africa and have so far maintained its reputation in being a highly successful service provider in the following; comprehensive turnkey operation, including shipping, carnage, transport, on-sight handling and installation. Ale has the equipment, personnel and experience to successfully undertake major projects throughout the world.

ALE's South African branches are proud of their Health, Safety and environmental record and are strongly committed to maintaining this.

Ale strives to offer a high quality service to all their customers. The company achieved BS EN ISO 9001: 2000 certification in 1994 and is registered on the Norwegian Achilles system. The scope of the system covers transportation, installation and lifting of heavy, indivisible items worldwide. 🌐



POLICIES, EDUCATION AND TRAINING ARE ESSENTIAL to curbing substance abuse in the workplace

By Rhys Evans, Director of ALCO-Safe

“All staff members who are required to conduct tests need to be competent on the equipment to ensure a fair process is followed.”

All organisations are required by law to comply with the Occupational Health and Safety Act (OHSA), which specifies a zero tolerance approach to intoxication in the workplace. This includes both alcohol and narcotic substances. Not only do intoxicated employees pose a danger to themselves and their co-workers, substance abuse can also result in decreased productivity, health problems, increased absenteeism and a host of other ‘soft’ issues.

Breath alcohol detectors and drug testing solutions are thus often included in the essential equipment of many organisations, particularly those in hazardous environments such as mining, construction and manufacturing. However, equipment alone is simply not sufficient, no matter

how sophisticated. An effective substance abuse programme should always include the development of clear and fair policies, on-going education, and comprehensive product training.

South African courts have ruled that the prevention of substance abuse in the workplace is a management responsibility, which means the onus is on the employer to ensure that employees who are intoxicated do not commence with work. The right equipment is necessary to detect substance abuse and enforce zero tolerance. However, the process does not begin here.

Before any testing can take place, organisations need to develop a substance abuse policy that clearly outlines all of the procedures involved. This policy defines the



parameters for the company and employees to adhere to in order to create a safe and secure environment for everyone. The policy should describe the reasons for conducting testing, including OHS compliance, safety reasons, health concerns, risk and so on. The policy also needs to fully outline the testing procedure, including where the test will be done, who will conduct the test and the nature of the screening, whether this is random testing or compulsory testing for every employee on entry. The policy also needs to include a full explanation of disciplinary procedures should employees test positive.

In addition to developing a comprehensive substance abuse policy, awareness is also critical. Employees need to be made aware

of the policy, of the possibility that they may be tested and the consequences should they be found to be intoxicated, and they need to agree to adhere to it as one of their conditions of employment. When developing policies, it may be advisable to consult with a subject matter expert, as well as have the relevant unions on board. This prevents all sorts of issues in future, including allegations of unfair practice as well as lengthy and costly CCMA cases.

In addition to developing policies for testing, education should form an essential building block of any organisation's efforts to curb substance abuse. One of the most common challenges organisations face is that their employees simply are not aware of the harmful consequences of alcohol and drug abuse, both on their health and in their personal lives, not to mention at the workplace. In addition, if education does not form part of the process, including why the testing is being done and how it will be conducted, a negative mind-set will be prevalent among employees, and they will be resistant to the process.

Simple things like explaining that a breathalyser test in the morning does not mean the employee cannot have a beer or two the night before will go a long way towards improving attitudes towards the testing. In addition, emphasising that testing improves everyone's safety, and explaining that this is not just a way for the company to fire people, will be of enormous benefit. In addition, helping people to understand the financial consequences of alcohol abuse, as well as the propensity of alcohol to drive

physical abuse and aggression, can assist employees to understand the benefits of abstaining or reducing alcohol consumption. Education as to the consequences of substance is vital so that employees can make informed decisions regarding to their alcohol consumption.

Education can take many forms, from educational talks to distribution of pamphlets and booklets. However, whichever format organisations choose, they should be aware that education is an on-going process. It is not sufficient to have a single session during the induction of new employees. In addition it may be advisable to get a SHEQ representative or other expert to show employees how the testing equipment works, to demystify the process, and let people ask questions to ease their minds about the benefits of substance abuse testing.

In addition to policies and education, training the relevant staff members on how to properly use testing instruments is essential. All staff members who are required to conduct tests need to be competent on the equipment to ensure a fair process is followed. They also need to understand why it is important to conduct two tests with at least half an hour in between them in the case of a positive first reading, and how substances like breath freshener, mouth wash, cough mixture and so on can affect results. An expert service provider will be able to assist in this regard.

Substance abuse is a known problem in many industries, especially those that involve working with dangerous equipment. Ensuring a comprehensive process is in place from the start, which includes policy formation, on-going education and complete training, is essential in effectively ensuring safety, reducing risk, and enabling compliance with the OHS. 🌟

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LION ALCOLMETER® 500P

The LION ALCOLMETER® 500 and its printer are both housed in a compact and sturdy carry case. It can also be purchased and used on its own i.e. without the printer and other items.

LION ALCOLMETER® 600

TOUCH SCREEN DISPLAY SYSTEM to select operating modes, preventing language barriers. Allow data logging so that relevant details such as Names, Surnames and ID numbers of the test subject can be saved to each breath test

For more information regarding BREATH ALCOHOL TESTING visit our website at: www.alcoholtesting.co.za
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New Bobcat Telescopic Handlers at Intermat 2015

Linden Comansa launches in February 2015 her new 21LC335 flat-top tower crane, which is part of the LC2100 series. This new tower crane is the result of the review of the 21LC290, a model that Linden Comansa produced with success since 2002, and which will be replaced by the 21LC335. Both cranes feature similar characteristics in terms of range (up to 74 m - 242.8 ft), maximum freestanding height (64.5 m - 212.9 ft) and versions depending on the maximum load capacity (12 and 18 t - 26,450 and 39,680 lb).

The changes made as a result of this review have led to an important increase of load capacity with maximum reaches under 70 m (229.7 ft). For example, the 21LC290 18t with a 50 m jib (164 ft) can load 5,300 kg (11,680 lb) at the end of the jib, while the new 21LC335 18t with same jib length loads up to 6,600 kg (14,550 lb), almost 25% more. With this same 50 m jib configuration, the 21LC290 moved the maximum load of 18 tons (39,680 lb) up to 16.3 m (53.5 ft), while the 21LC335 moves the maximum load up to 19.6 m (64.3 ft), 20% more.

The tower sections of the 21LC335 are the S25, the same as the 21LC290, and the jib and counterjib sections are also the same as its predecessor. There have been modifications only on the cat head and the upper turntable, allowing customers who would like to convert their 21LC290 into a 21LC335 to do it by replacing these two elements and modifying the configuration of the counterweights. These changes have also allowed to simplify and shorten the assembly sequence of the 21LC335 in comparison to the 21LC290.

Doosan Portable Power at Intermat 2015

The Doosan Portable Power display at the Intermat 2015 Exhibition will include a number of important new products being launched at the show. They include redesigned and Stage IIIA compliant G40-IIIA and G60-IIIA generators, alongside several new portable compressors including the Stage IIIA compliant 7/53, Stage IV compliant 12/154 and 12/254 and 7/125-10/110 Stage IIIB Dual Mode models.

Providing 40 kVA and 60 kVA prime power, respectively, the G40-IIIA and G60-IIIA models are part of the new platform of generators from Doosan and share a common design with the G80-IIIA to G200-IIIA models launched over the last two years. The Yanmar-powered G40-IIIA and John Deere-powered G60-IIIA generators will both be available with electronic speed regulation (optional on the G60-IIIA model) providing, in addition to stability and better load take-over capabilities, a flexible dual frequency 50/60Hz working mode (optional for both models).

Like all Doosan generators, the new G40-IIIA and G60-IIIA models offer robustness and reliability, high performance and a

wide choice of features to meet the needs of every rental and temporary power application. The output performance stability of the generators is ensured by an optimised powertrain featuring a combination of the new Stage IIIA engines and Leroy Somer AREP alternators.

The new 7/53 portable compressor is a 36 kW Stage IIIA compliant replacement for the 7/51 model and has been redesigned to allow Doosan to keep this model in the Stage IIIA category, avoiding the need to transition to meet Stage IIIB regulations. The new features on the 7/53 portable compressor include forklift slots and a new bundled base option.

The 7/53 compressor has an intuitive, simple key-start sequence, ideal for rental companies because of the reduced risk of machine abuse by untrained operators. The user-friendly control panel offers an open layout of instruments and warning indicators. A folding lift bail reduces the risk of theft by keeping the lifting eye within the compressor enclosure. A built-in toolbox compartment offers ample storage space.



The 21LC335 crane comes standard with a Effi-Plus high speed hoist mechanism that reaches speeds of up to 150 m (492 ft) per minute, although there are other optional engines that can reach 228 m (748 ft) per

minute. Like the rest of Linden Comansa's flat-top cranes, this new model includes the PowerLift system, that allows to improve the load diagram up to 10% with reduced speeds.



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