



VOLKSWAGEN CONSTELLATION - MAKES HEADWAY IN SA MARKET

ACCESS EQUIPMENT: Goscor Access Rental

MINING: Atlas Copco supplies 10 t hydraulic breaker

TRANSPORT: Iveco launches Daily van

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COVER STORY: VW Constellation makes headway in SA market Access equipment

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BAUMA 2016

world's leading sector event

Bauuma is the world's leading sector event for construction machinery, building material machines, mining machines, construction vehicles and construction equipment. Held every three years in Munich, it showcases the most up to date technology available from the global manufacturers of machinery.

One of the current market requirements for the most diverse types of construction machinery is efficiency – even in small spaces. 'Compact' is an often used keyword here. Among its cold milling machines, therefore, German manufacturer Wirtgen is also offering a 'Compact Class'. Its existing range of machinery has now been supplemented by the W 150 CFI front loader. The company claims that the new product combines the advantages of small milling machines – maneuverability, one-man operation and flexibility – with the front loader principle and the productivity of Wirtgen's large milling machines.

According to the company the W 150 CFI, with a working width of 1,5 m and a milling depth of up to 330 mm, is particularly suitable for larger construction sites where space is limited, such as in city centers. When maneuvering under these conditions, the machine's sophisticated visibility concept in combination with its camera system are said to be helpful.

There is a continuing expectation for modern construction machinery to help speed up production processes on construction sites. This is where automatic controls integrated at the factory, are finding their way into in-

creasing numbers of construction machines, come into play. Thus Caterpillar and Zeppelin, for example, are showing a new assistance function with semi-automatic shovel control for chain excavators at Bauma. Using the 'CAT Grade with Assist' system, the driver references his shovel cutting edge to a known height spot, enters a height offset and can begin to prepare the fine level automatically with centimeter-perfect accuracy. Throughout the process the shovel is carried along at a constant cutting angle. As the driver cannot press the shovel cutting edge under the set level in automatic operation, he avoids digging too deep. This saves unnecessary additional excavation of material and follow-up work. According to the manufacturer, Assist displays its strengths specifically in situations where it is difficult for the driver to estimate the height, for example in canal construction or building pit excavation.

Komatsu Europe is also assisting drivers with automatic solutions: in Munich it is introducing the new D85EXi/PXi-18 dozer with intelligent machine control. Using this equipment, both the rough cut and the fine leveling can be carried out in automatic operating mode. The system senses and controls the load adjacent to the blade and automatically optimises the penetration depth of the blade. In contrast to the retrofit solutions available on the market, this technology too is integrated into the machine back at the factory. According to Komatsu, dozers equipped with intelligent machine control can achieve substantially improved operating efficiency – especially if an accurate final fine level has to be guaranteed.

For drivers, automatic controls also mean increased comfort. In general, working comfort in the cab and the process awareness resulting from it are increasingly becoming the focus of attention for construction machinery manufacturers. In the experience of British manufacturer JCB, the CommandPlus cab in its wheeled loader flagship 457, which has been optimized in terms of comfort and visibility, has proved ideal in practical conditions. This is why the company has now also equipped its medium-range machine segment with it: at bauma, four more wheeled loader models featuring the cab, in which the B-pillars are placed at the same width as the rear, will be on show. This results in a large interior with very good visibility thanks to a panoramic front windscreen. 'Command Driving Position' is the name given by JCB to the driver position with its re-engineered pedals, an adjustable steering column and seat-mounted hydraulic levers. Full-color LCDs show the operator screens of the loader and act as a monitor for a rear-view camera.

In the 'Components' category of the bauma Innovation Award a new high-strength fiber rope for lifting applications is nominated that Liebherr has developed together with Austrian rope manufacturer Teufelberger. It is up to 80 per cent lighter than steel ropes and, in addition, has a longer service life. Due to the reduced weight of the rope, working loads can be increased with no change in the gross vehicle weight. Fitting and removal is also simplified, as the fiber ropes can often be fitted by hand and without auxiliary reeving winches on the crane. Furthermore, lubrication of the ropes is no longer required. At bauma 2016, Liebherr is presenting the rope, which is about to be launched onto the market, in a technology pavilion on its exhibition stand in the open-air exhibition ground.

In general, cranes continue to be a rich field for new developments and refinements. Accordingly, among other products the American company Terex, which specialises in lifting and materials handling solutions, is showing its new 'Boom Booster kit' for the Superlift 3800 crawler crane at bauma. The welded steel structure consists of up to seven sections, each 12 metres long, for direct mounting onto the crane. The Superlift 3800 crane can thus achieve a maximum hook height of 174 m and, in this configuration, lift loads of up to 80 tonnes. In the opinion of the manufacturer, the upgraded multifunctional crane is especially well-suited for the construction of large wind turbines where lifting heights of more than 140 m are required.

Pierre Sanson, editor



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By Pierre Sanson

<https://youtu.be/byfAyo5GMym>

VOLKSWAGEN CONSTELLATION RANGE MAKING HEADWAY IN SA MARKET

Manufactured in Brazil and forming part of MAN AG's multi-brand truck and bus portfolio, Volkswagen (VW) heavy and extra heavy commercial vehicles are gaining market share in emerging economies in Africa, following the success of the brand in Latin America.

MAN Latin America (ML) is the largest truck manufacturer in Latin America. It has led the truck market in Brazil for 10 consecutive years and is a leading supplier of commercial vehicles and bus chassis for growth markets, with one of the most advanced production facilities worldwide for trucks and buses. The VW Constellation range of workhorses has been specially engineered to meet the demands of niche trucking applications in southern Africa.

"The VW Constellation range is extremely versatile, coming in both truck-tractor and rigid derivatives, with both 6x2 and 4x2 axle configurations, making it the ideal choice for the medium and on-highway distribution segments," says Dave van Graan, Head of Truck Sales, MAN Truck & Bus South Africa. "Predominantly, our VW customers to date

use the VW Constellation for volume van, dropside, tautliner, refrigerated and car-carrier applications. This clearly demonstrates both the volume and weight-carrying capabilities of the range."

Citing reliability and fuel economy as key attractions of the range, van Graan adds that the Constellation range has been optimised through prudent engineering of various driveline components to broaden its appeal to the road freight industry in South Africa.

The range has established itself over time in South Africa and MAN Truck and Bus has taken note of customer feedback to make improvements where necessary. Axle upgrades, along with wheelbase optimisation on all models, make the range more versatile and efficient, especially for medium to long-distance distribution applications, as well as the tipper market.

The VW Constellation range includes the 19.320 4x2 truck-tractor and rigid-chassis freight carrier derivatives: the 13.180 4x2 freight carrier, the 15.180 4x2 freight

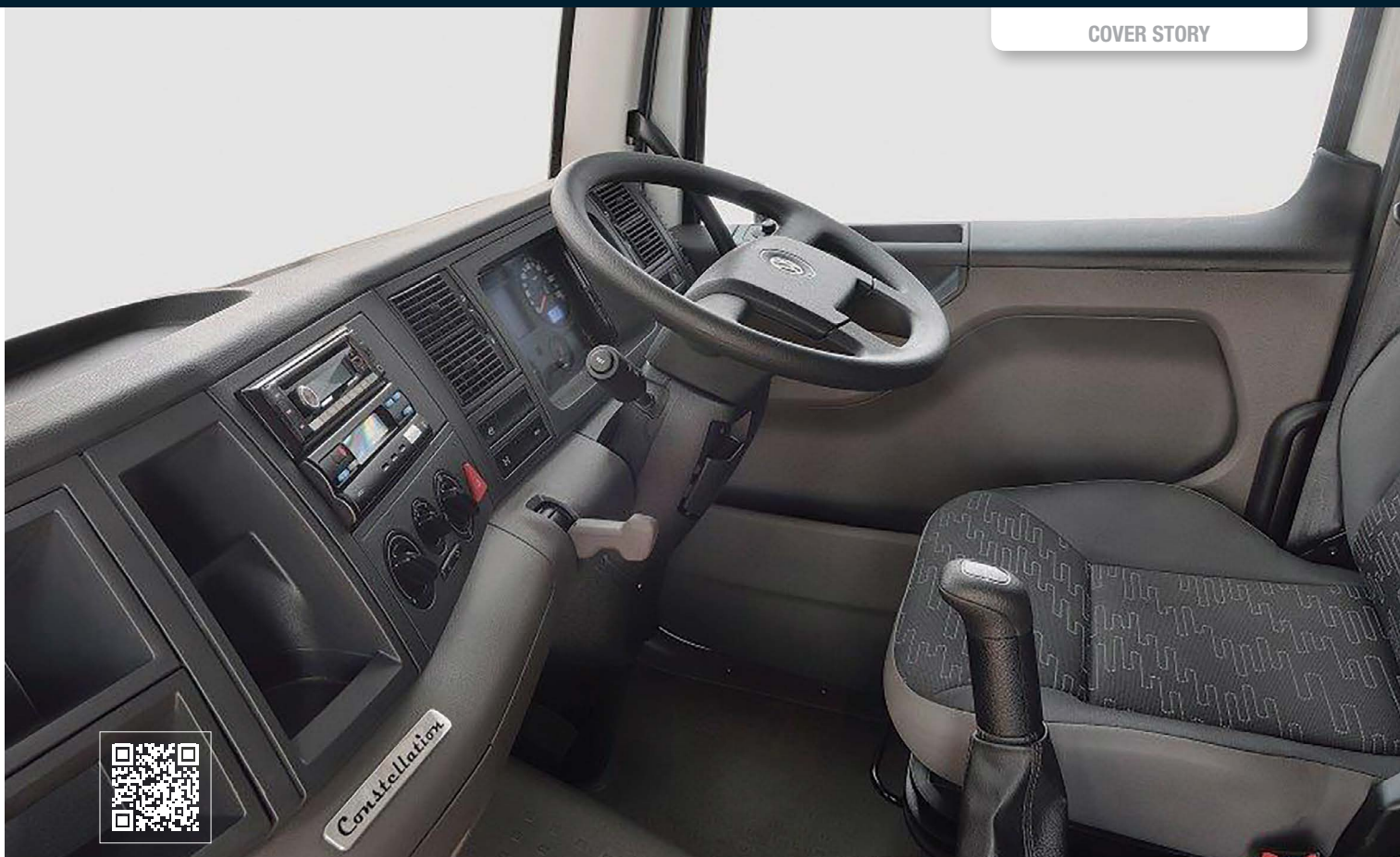
carrier, the 17.250 4x2 freight carrier and the 24.250 6x2 freight carrier.

According to Livingstone Mulaudzi, Head of Product Management at MAN Truck & Bus South Africa, "The VW Constellation range has great potential to service a number of niche applications in both medium and long-haul distribution applications. The VW Constellation 19.320 has a gross combination mass of 44 tons, which puts it ahead of most rival 4x2 truck-tractors as far as payload and drawing capacity are concerned."

MAN is targeting the removals segment as a key new market, as well as other 'volume-based' cargo hauliers.

"The VW Constellation 24.250 freight carrier has a longer wheelbase at 5.819 m. This provides a better platform for various truck bodies making it the ideal solo freight carrier unit. It is also specified to tow a draw-bar trailer, which makes it an attractive option for operators seeking optimum payload productivity, like long-haul pantech applications," adds Mulaudzi.

Equipped with mechanical suspension and a tag lift-axle, the VW Constellation 24.250 also sports a dual-speed differential that delivers 'fast' and 'slow' gear ratios for better traction under load, explains Mulaudzi.



<https://youtu.be/xcxLJ2ZoW7s>

"Recent upgrades in product specifications include anti-lock braking system (ABS) and low roof sleeper cabins for the 17.250 and 24.250 freight carrier derivatives as standard. All VW Constellation derivatives have a high level of in-cab appointments for driver comfort, which in turn improves vehicle productivity. The ease-of-diagnosis for engines and electronics enables rapid servicing turn-around times," Mulaudzi adds.

Specified for regions around the world that are not equipped with the latest hi-tech workshop equipment, the VW Constellation range is finding favour in sub-equatorial African operations, primarily owing to its reliability, robust chassis and 'easy-to-fix' driveline, based on the Cummins ISBe Turbo Intercooled power-plant and Eaton FS 6306 B Manual Transmission.

"The VW Constellation truck range is growing in stature because it is a 'fit for purpose' vehicle, tailored to meet the specific needs of niche applications. As a business tool, it strikes the optimum balance between price and lifecycle cost. Fuel efficiency, reliability and ease of servicing effectively keep its total cost of ownership low and predictable, making it an attractive proposition for specialised on-highway operators in southern Africa," concludes van Graan.



"MORE YOU DON'T NEED, LESS YOU DON'T WANT"

GOSCOR ACCESS RENTAL

helps Mr Price build new national distribution centre

Goscor Access Rental has been appointed as the preferred supplier of access rental equipment to assist with various materials handling requirements during the construction of Mr Price's new national distribution centre (DC) in Keystone Park, Hammersdale, KwaZulu-Natal. The rental company also solved a problem that has plagued the MEWP (Mobile Elevated Work Platform) industry for years, with an ingenious in-house-designed bracket for the safe and efficient lifting of piping.

Goscor Access Rental Durban has secured a two year rental equipment supply contract and, with 22 rental machines operating on the Stefanutti Stocks/Mr Price site, the company is extremely proud of being part of this prestigious project.

"Understanding the magnitude of the site, we knew that the project would be too large to manage remotely so we established a site office to ensure top notch service throughout the two year construction period," says Goscor Access Rental Durban's Branch Manager, Shirly Smit. We appointed our technical sales expert, Michael Spoelstra, as the Site Agent for Goscor Access Rental. His responsibilities include managing machines on site, client liaison, site inspections, quotes, health & safety, machine deliveries, accounts, payments, operator training and breakdowns."

Spoelstra has been actively involved on site for the past six months, dealing with multiple sectors of the construction industry. He describes the Stefanutti Stocks/Mr Price site as 'a masterpiece that is being put together piece by piece by the best in the business'. Mr Price elected to build its 68 000 m² DC in Keystone Park, which is one of Durban's largest industrial developments, covering some 1 000 000 m². The Stefanutti Stocks/Mr Price site has already been the recipient of two awards, an MBA (Master Builders Association) Regional Award as well as a Stefanutti Stocks Group Award 2015.

A variety of Genie diesel boom lifts, including the 22 m and 27 m straight boom and 15 m to 25 m articulated boom lifts and the Genie SX150 super booms lift with a reach of 48 m have been operating on site. Goscor Access Rental also supplied Genie diesel and electric scissor lifts. Despite some

adverse weather conditions, Spoelstra says that the Genie access equipment is proving itself to be the robust and reliable quality brand it has become known for, pushing on through wind, rain and blistering heat.

"With over 22 of our rental machines on site, we have kept all clients working at full speed with little downtime and when a breakdown has occurred, the situation has been resolved immediately. We are conducting daily operations with a mind of pushing boundaries and going the extra mile to provide our clients with first class service." Spoelstra adds that Goscor Access Rental worked round-the-clock throughout December 2015 to ensure that it were always on hand to meet the client's lifting requirements.

Stefanutti Stocks is one of South Africa's blue-chip construction groups and is well known for its stringent health & safety regulations and Spoelstra says the access rental machines are constantly under the spotlight during this high profile build. "When the project commenced on 19 June 2015, we faced the challenge of lifting piping and steel safely and effectively. A Fire Protection Systems contractor used our access rental equipment to lift its fire protection piping, ranger and hydrant pipes, mains, braces and brackets. The resident Stefanutti Stocks Health & Safety Officer, Gabriel Chetty, raised concern about the risk factor involved in lifting loose ranger and mains fire piping, which carry a weight of 80 kg in a basket to heights of 25 m."

Spoelstra came up with a solution in one week. His idea was to engineer steel brackets, which he aptly named 'Ranger Brackets', to brace the ranger pipes so that lifting would be carried out in a safe and productive manner at very low risk. The brackets met all the necessary safety requirements and were fitted to the basket. Spoelstra reports that with the Ranger Brackets in place, the piping was lifted efficiently and safely without any interruptions. The high risk factor on the Mr Price site was eliminated and costly downtime was avoided. The speedy and innovative design of the Ranger Brackets bears testament to Goscor Access Rental's endeavours to provide service excellence as well as outstanding custom relations.

"This simple yet effective bracket has



sparked major interest amongst other clients in the industry," says Spoelstra, confirming that Goscor Access Rental Cape Town has placed orders for Ranger Bracket sets. "This bracket can undoubtedly be used throughout the fire installation industry as a tool to ensure preventative measures whilst lifting pipes in MEWP applications."

In conclusion, Spoelstra says that the Mr Price Site is a huge success, not only in terms of the numerous rental machines operating reliably on site but also the solid and professional relationship that have been established between Stefanutti Stocks and Goscor Access Rental Durban.

With a 500+ workforce, the expected completion date for the first stage of the construction of the Mr Price DC, which is valued at approximately R450 million is 31 July 2016. The second stage which will run for an additional 12 months will comprise mechanical fitment racking shelving and state-of-the-art mechanised stock control and stock picking systems to the value of some R500 million.

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SKYJACKS

invests in new rental fleet



SkyJacks, part of the global rental equipment and industrial services group, Waco International, is expanding its Aerial Work Platform (Cherry Picker) rental fleet and has recently awarded a contract for the supply of new Scissor Lifts and Mobile Boom Lifts to Zhejiang Dingli Machinery in China.

The deal was concluded in January 2016 by Stephen Goodburn, CEO of Waco International and Xu Shugen, Chairman of Zhejiang Dingli Machinery Company.

"Dingli products are sold in 80 countries across the globe including Germany, the USA, Australia, New Zealand and Japan," says Goodburn. "I was extremely impressed with the capacity of the factory and the quality of machines being produced. Dingli products have international safety certifications such as European CE issued by TUV in Germany and ECM in Italy, ANSI in the USA and AS/NZS 1418 in Australia."

Commenting on the new fleet, SkyJacks Managing Director Alistair Bennett says that SkyJacks has ordered all its new Dingli

booms with load cells as standard. "This is a safety critical item and SkyJacks will be the only rental company in South Africa to have load cells fitted on new machines as standard."

He goes on to say that the JCPT1614DC model with a working height of 16 m will give SkyJacks the compact electric scissor with the greatest working height currently available in South Africa.

Gregory Bloom, Sales Manager at SkyJacks says that although the company currently has a wide range of diesel and electric booms, scissors and trailer mounts in its rental fleet, the new Dingli machines will greatly increase SkyJacks' ability to service its customers.

He adds that SkyJacks recently opened a training school that offers Unit Standard Training for Aerial Work Platforms and Telehandlers, as required by the Driven Machinery Regulations 2015.

In addition to its Aerial Work Platform fleet, SkyJacks has, over the years, designed,

manufactured and installed suspended platform systems for mines, power station boilers, bridges, industrial plants and buildings. SkyJacks is a proud partner of Sky Climber® in Belgium and the sole distributor in Southern Africa of the world-renowned Alpha and Compact hoists.

SkyJacks is a Level 2 BBBEE contributor with branches in Johannesburg, Durban, Cape Town and Nelspruit.

"This is a safety critical item and SkyJacks will be the only rental company in South Africa to have load cells fitted on new machines as standard."

HYDRO SCHEME

cleared for danger

In order to eliminate the chances of freak accidents, complying with operational compliance procedures is a prerequisite for a hydro scheme. Skyriders recently assisted engineers with two shaft inspections at a hydro scheme in South Africa.

The hydro project was established to deliver energy to the national grid at peak demand times using hydroelectric power. It consists of an upper and a lower dam, each capable of holding about 22 million square metres of water. During peak times, the water is released from the top dam, passing through the shafts into the bottom dam. In times of low demand, the shafts are used to pump the water back again.

A three-man team from Skyriders assisted with inspections of the shafts from 8 to 10 December 2015. Skyriders marketing manager Mike Zinn explained that since all construction on the project had been completed, the next step was to hand over to an engineer for inspection. "We assisted with getting the engineer into each shaft safely, with the final visual inspection of the shaft concerned and by removing possible hazards such as debris and sand bags, which could cause damage."

Inspection of the whole shaft and its entire depth was undertaken using rope access gear such as rope, headlights and battery-operated spotlights for clear visibility. "The shafts were over 700 m long, 6 m in diameter and with 25 degree slopes. Although it was not easy getting inside the shafts, the project was finished on time," adds Zinn.

Skyriders boasts extensive experience in all rope access applications. Its technicians are trained in various fields of rope access expertise. Zinn highlights that two senior technicians with Level 3 IWH certification, the highest level of rope access training, and one Level 2 technician, were sent out for the project. "One senior technician went down into the shaft with the engineer while the other two technicians were on standby rescue outside."

Skyriders also provides structure inspections and installations, high-pressure cleaning, waterproofing, bolting/steel erection, welding, concrete inspection and repairs, and non-destructive testing. Owing to its cost-effectiveness, flexibility and speedy expertise, Skyriders has become the preferred supplier of innovative height-related solutions.



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GOSCOR HI-REACH

makes agri work-at-height safe and easy



At this year's Nampo, farmers can look forward to viewing two agricultural workhorses from Goscor Hi-Reach's stable of premium brand work-at-height machines; the Hydralada Mobile Elevating Work Platform (MEWP) and the compact rough terrain Genie telehandler.

Recently introduced to the local agricultural market by Goscor Hi-Reach, the tough, heavy duty Hydralada Maxi 540 is ideal in its design for working at height in orchard environments such as mango, avocado, litchi, etc. The machine's excellent lift capacity enables operators to work up to seven metres high while the low tail profile makes it the perfect choice for work in restricted spaces. The Maxi 540 is economical to operate and service and is easy to transport to the job site. "The Hydralada is a big productivity factor in pip and stone fruit picking," notes Goscor Hi-Reach Managing Director, George Landsberg. He adds that alongside branch pruning and training, this compact and versatile machine can also be used for general maintenance work-at-height around the farm, warehouse, and packing store, etc.

With a maximum lift height of 5.79 m, the Genie GTH-2506 compact telehandler can be used for general lifting and carrying purposes on and around the farm. This 4x4 machine's three power-assisted steering



modes – front wheel, crab and coordinated steer – provides exceptional manoeuvrability to take care of various materials handling tasks quickly and efficiently.

Landsberg affirms that special Nampo pricing will be available on all Goscor Hi-Reach's show machines as well as on current stock. "We are adding further value to our show portfolio by offering free floating forks on the Genie telehandler. Pricing on the Hydralada

will include a free 54 kg picking/harvest bag as well as a Hydraloppa pruning kit which consists of a hydraulically operated power pruner with a powerful 40 mm cutting capacity," concludes Landsberg.

Goscor Hi-Reach's agricultural products will be on display at Nampo 2016 alongside two other companies from the Goscor Group - Goscor Power Products and Bobcat.

GOSCOR ACCESS RENTAL EQUIPMENT

raises the Mall of Africa

Goscor Access Rental (GAR), part of the Goscor Group of Companies, has to date rented out a total of 95 access equipment to support construction work currently under way at the Mall of Africa in Midrand, Johannesburg, testimony to the company's teamwork, dedication and belief in their equipment and service.

GAR is a market leader in the supply of a wide range of mobile lifting equipment and systems to the Southern Africa market. According to the company's general manager, Nici Verster, they faced some challenges in securing the project. "Our success in being appointed as the preferred rental equipment supplier is the result of a tremendous team effort, perseverance and good customer relationships."

"Following several calls and visits to the site, we finally got hold of the correct

decision maker but as he was on a tight schedule, I only had five minutes to pitch our business." The real breakthrough came when Verster sold a GTH2506 telescopic handler to the customer on behalf of Goscor Hi-Reach; GAR was then requested to supply a few tele-handlers and not long after, requests for other equipment started coming in. To ensure uninterrupted uptime for the customer, GAR has assigned sales representative, Johan Oosthuizen to the site to look after the customer's requirements.

Covering an area of 115 000 m², the Mall of Africa will be the largest shopping mall ever built in South Africa in a single phase. This crowning glory of South Africa's strong shopping centre industry will be the heart of Midrand's Waterfall City development, located between South Africa's administrative capital, Pretoria, and its economic capital, Johannesburg. Valued

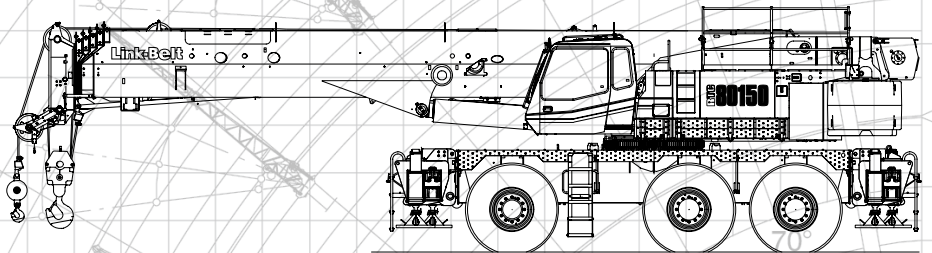


at R5-billion, this super-regional mall is scheduled for opening in April 2016.



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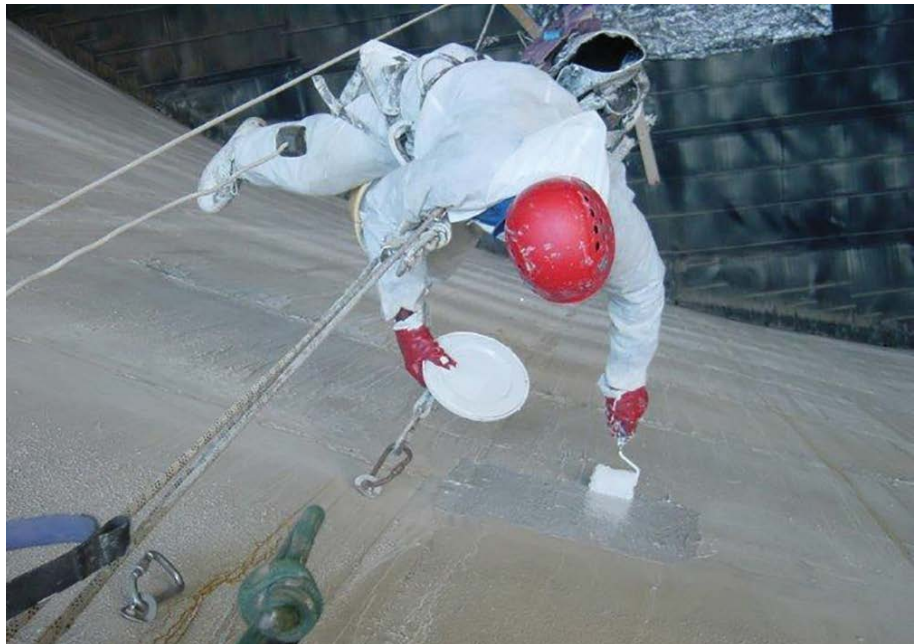
SAFETY FOR MAINTENANCE WORKERS

at height

A stagnating economy has resulted in industrial companies looking for cost-effective means of maintenance that will not interfere with their desired output. Skyriders, a leading provider of rope access-aided maintenance, ensures that companies still get the job done efficiently, while saving money.

Safety is paramount in any job carried out in the industrial sector and even though rope access has been proven to surpass many traditional means when it comes to safety, much still needs to be done to educate the sector. Skyriders marketing manager Mike Zinn explains that rope access presents flexibility when working at heights. "It allows for one to reach all sides of a big structure and quickly get the job done. All Skyriders technicians work with two ropes attached to them to ensure safety. The second rope acts as a backup and is attached to a device for extra safety."

Skyriders, has done maintenance and non-destructive testing on silos, smoke stacks, boilers, and many other structures where height or confined spaces are a consideration in the industrial sector. Its scope of work includes concrete inspection and repairs, steel erection, protective coating, internal and external maintenance of civil structures, inspection on



the smoke stacks in the cooling towers and many more.

Skyriders technicians receive training to be qualified for level 1, 2, and 3 IWH rope access certificates. The company has a zero fatality rate, thanks to its strict safety regulations and adherence to the correct procedures. "We ensure that our technicians are well trained, the equipment is in order and senior staff are

present onsite, monitoring everything," notes Zinn. According to Zinn, there is currently a steady uptake for rope access services in South Africa, and he is confident that it will continue due to the challenging economic climate. "Operations will look for more cost-effective solutions for maintenance work. With rope access, the man on the rope is the man doing the work, which brings more benefit," he concludes.

SKYJACK'S LATEST ROTATING BOOM

L inamar Corporation's (TSX-LNR) Skyjack division showcased the SJ30 ARJE articulating boom at Bauma 2016, the world's largest construction equipment show. The SJ30 ARJE is a unique machine for Skyjack – it is the company's first electric boom, it's also the first boom to feature a rotating jib, and to have a direct electric AC drive.

"From the outset Skyjack identified two key parameters for these electric booms. Along with offering competitive reach specifications, Skyjack's 30 ft electric booms also feature exceptional drive and duty cycle performance," said Corey Connolly, Skyjack product manager. "Drive from an AC electric source means that activities like loading and unloading trailers is easy, and increased duty cycles maximize the amount of work possible from a fully charged machine."

Perfect for tight spaces, the SJ30 ARJE comes

in it at just 1.19 m (47 in) wide and features a working height of 11 m (36 ft), up-and-over clearance of 4 m (13.1 ft), a 1.55 m (61 in) turning radius and maximum weight capacity of 227 kg (500 lbs).

"A lot of manufacturing and warehouse facilities have narrow and confined spaces that require up-and over access. With its narrow dimensions and zero tailswing, the SJ30 ARJE is ideally suited for their needs in the 30 ft and under reach zone," said Connolly. "The SJ30 ARJE is a perfect complement to our electric scissor lifts, that are limited to the up-and-over clearance of their extension decks."

Easy to maneuver

Following Skyjack's easy-to-use and simply reliable philosophy, the company optimised the drive on the SJ30 ARJE to offer 35% gradeability to make navigating jobsites, as well as loading and unloading from a trailer, a lot easier.

"The SJ30 ARJE also offers exceptional duty-cycle performance," Connolly said. "Optimizing the battery size and charger, along with drive and lifting functionality, the SJ30 ARJE will go further and higher on a single charge – while also keeping charging times down."

As with all Skyjack machines, the SJ30 ARJE was designed around the simply reliable philosophy. The SJ30 features SKYCODED™, Skyjack's dependable relay based control system; SKYRISERT™, Skyjack's true vertical rise system; and EASYDRIVETM™, Skyjack's exclusive direction sensing drive and steer controls. The use of off-the-shelf parts leads to ease of maintenance and reduces downtime for repairs.

"This product really helps to fill out our product line and fills a demand customers have been asking for in our line," he said

DELIVERY OF FIRST NEW KOBELCO EXCAVATOR

since returning to SA



(Left to right) Ryan Upfold (owner), Ken Shipley (ALS Cartage) and Corne Coetzer (GM Toyota Tsusho Africa)



The first Kobelco excavator has been delivered to Upfold Plant Hire in Port Shepstone since Toyota Tsusho Africa has been appointed as distributor for South Africa. Delivery took place last year December.

The owner of Upfold Plant Hire were so impressed with the Kobelco SK210LC-8 that he

purchased a second unit in February this year.

What impressed him the most about the machine was the fuel consumption produced by the Hino power plant, far less than any of the other machines he has ever owned. The power of the machine was also a big motivator as the first unit were supplied with an

intermediate dipper arm he was a bit sceptical about the breakout forces but the to his surprise there were almost no difference compared to his older machines.

The speed and balance of the machine he believe to be impressive and made a difference in production cycles.

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CASE 885B SERIES MOTOR GRADERS

for improved performance and enhanced productivity



“Enhancements to the Case 885B series of motor graders include the flexibility of a torque converter lock-up system for efficient transmission, a roll-away mouldboard plough for lower fuel consumption and a re-designed cab, with a larger field of vision for enhanced safety and greater operator comfort,” says Brenton Kemp, managing director of CSE Equipment – the Capital Equipment Group (CEG) of Invicta Holdings Limited. “Case Construction Equipment continuously improves the performance and design features of its extensive range of earthmoving equipment to meet market requirements.”

Case 885B series graders have low fuel consumption and turbocharged, high performance Common Rail Tier 3 engines.

Case offers ZF types of transmission with a torque converter lock-up system that provides an increase in torque of up to 70% for heavy tasks that require extra traction, and can be locked for less demanding work.

When lock-up is engaged, the transmission operates in direct-drive mode, with electronic shift change for the six forward and three reverse gears. This mode, with increased fuel efficiency, does not require extra torque and is therefore ideal for levelling and spreading.

When lock-up is disengaged by the operator at the push of a button, the transmission reverts back to working with the torque converter.

Lock-up engages automatically to match torque and engine speed – as long as the pre-set electronic transmission module parameters are met.

The Case de-clutch system, which is activated when the operator applies brakes, improves handling speeds for tools, including the blade, ripper and scarifier. This system directs all engine power to the hydraulic system as at that moment, the engine is disengaged from the transmission. As a result, loss of power during operation

is prevented and fuel economy is improved.

Another advantage of this transmission system is the option of operating in automatic or manual mode. The operator is able to manually shift gear or opt for automatic control.

The Transmission Control Unit (TCU) manages all the input of data provided when the transmission is operating and ensures optimum performance, extended service life of the machine and improved operator comfort. The transmission has a diagnostic system that detects potential problems and displays them as error codes on the panel or via a laptop connection.

Case 885B series grader axles have been designed for improved traction on the ground. The front axle has a welded steel structure with high resistance cast iron components. The straight line geometry offers 580 mm ground clearance over the machine's entire length. The wheel lean angle is 12° to the right or left, with up to



15° of oscillation to be able to cope efficiently on irregular terrains. The cast iron tandem type rear axle has a welded steel plate structure that enables safe operation in difficult conditions. Tandem oscillation is 20° to each side.

The hydraulic system of this series is designed for complete precision of movement and blade control. When ground resistance is high and the hydraulic system pressure needs to be increased, the load sensing system reduces hydraulic flow since the machine needs force and not flow.

Brakes are oil bath cooled self-adjusting, multi-disc with one circuit to each side of the rear axle. This ensures precise stopping power and extends service life of components.

The orbital valve hydrostatic steering is powered by a gear pump and provides a steering angle of 48° to both sides. The turning radius is 7,250 mm, which enables the operator to perform tasks efficiently in restricted areas, with faster steering.

The ROPS/FOPS feature offers maximum safety and protection against roll over and falling objects. Both open or closed cabs are mounted on the rear chassis, which enables manoeuvring from the rear, as well as direct control over the degree of frame articulation.

The new design of this series is more rounded, with an improved glassed-in area that provides greater all round visibility. The spacious cab has re-designed ergonomics for more space and improved comfort. All controls are positioned for easy access and fast control.

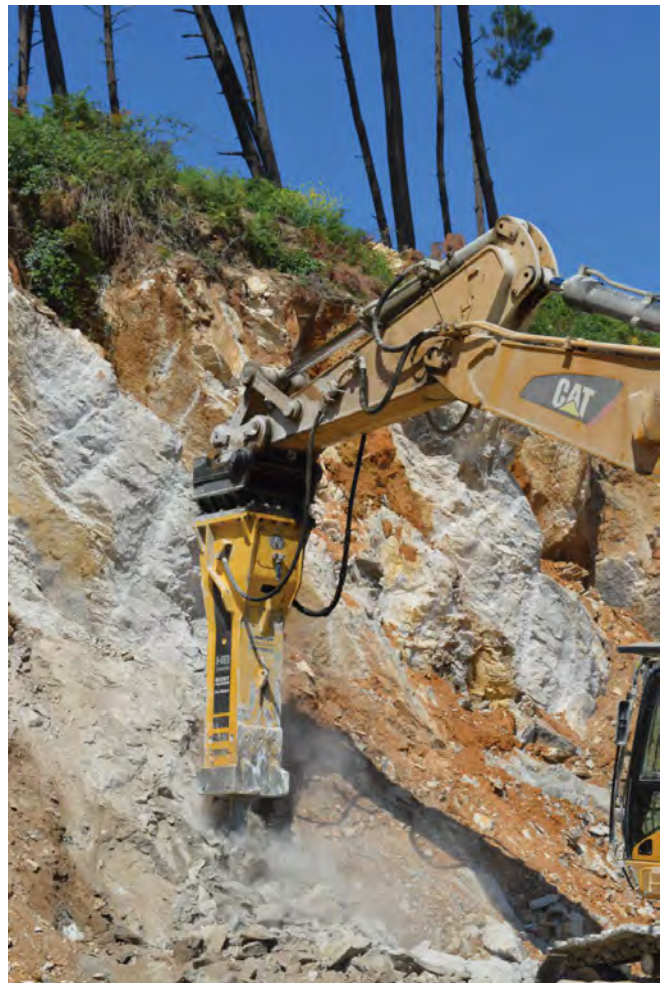
The 885B series grader mouldboard, which is manufactured from score resistant, high carbon content steel, is shaped for material roll-off. The design of this robust mouldboard, with a multi-radius roll-away profile, minimises mechanical load, ensures effortless cutting, lower fuel consumption and extended component life. The blade circle has an unrestricted 360° rotation angle for optimum flexibility during operation.

The series has been designed for minimal downtime and reduced maintenance requirements.

Brakes are oil bath cooled self-adjusting, multi-disc with one circuit to each side of the rear axle. This ensures precise stopping power and extends service life of components.

TEN TON TWINS BREAK GROUND

at Northern Cape Mine



One of Atlas Copco Construction Technique's longstanding mining customers recently ordered two HB 10 000 10 t hydraulic breakers to increase productivity at its Northern Cape open-cast mining operation.

The mine which produces iron ore/various grades of manganese ore has been a key account for Atlas Copco for over 15 years. Impressed with the high performance and durability of the five Atlas Copco HB 7000 7 t hydraulic breakers that have been in operation at the site for over a decade, the mine ordered two HB 5800 (5 t) units to meet its surface mining applications, including rock breaking after blasting as well as secondary breaking and crushing of rocks before the material moves into feeders.

According to Atlas Copco Construction Technique Area Sales Manager, Amanda Roets, the superior efficiency, excellent performance and unmatched reliability of these heavy hydraulic breakers contribute

to increased productivity and improved production on the mine. "In addition, features such as low noise and vibration levels which enhance operator safety and comfort, and the fact that they have a low impact on the environment, played a fundamental role in the mine's decision to order the two 10 tonners," says Roets. "With these two heavy weights, which are the first 10 t hydraulic breakers Atlas Copco has supplied in South Africa, a total of nine hydraulic breakers is currently operating at the iron-ore mine.

The 10 t breakers' larger tool diameter creates a bigger footprint and the units have a larger handling capacity and deliver a more powerful hit rate, meeting the mine's requirement for improved productivity.

The powerful HB range has an operating pressure of between 160 and 180 and a maximum hydraulic input power of 159 kW. "Our HB range features an automatic start/stop function for convenience and safety," explains Roets. The breakers have an En-

ergyRecovery system automatically utilising the piston recoil energy to increase performance without additional hydraulic input and to lower vibrations, making the job easier and more efficient. The hydraulic breakers are suitable for a wide range of carriers including wheeled and crawler excavators; 120 ton excavators are recommended for the HB 10 000.

Atlas Copco Construction Tools are certified according to ISO 9001:2008, ISO 14001:2004, and OHSAS18001:2007. "Our hydraulic breakers conform to the provisions of EC Directive 2006/42/EC (Machinery Directive) and 2000/14/EC (Noise Directive)," says Roets.

Atlas Copco transformed the construction and mining industries when it first introduced the innovative hydraulic breakers more than five decades ago. With end-user productivity and total cost of ownership top of mind, Atlas Copco has continued to refine these breakers to deliver on its brand promise of Sustainable Productivity.

BOOYCO LAUNCHES APS

for surface mining applications

Booyco Electronics has extended its electronic safety equipment offering having recently launched its Asset Protection System (APS), which is specifically aimed at enhancing vehicle and operator safety in surface mining operations. In combination with its underground pedestrian detection system (PDS) technology, the company now offers the mining industry a turnkey, fully integrated surface and underground safety solution for machinery and personnel.



Having secured its forefront position in the PDS field years ago, Booyco Electronics is determined to replicate this success in surface applications. "Our current surface solutions were developed using our underground VLF systems but work optimally for pedestrian speeds and movements, rather than fast-moving vehicles," Martin Vermaak, chief operating officer at Booyco Electronics, says.

Designed for easy and effective communication between vehicles, the APS transfers information between users via a new, in-house designed and developed human machine interface. It incorporates a high definition LED screen and high-level controller with "massive computational power" to operate quickly at high speed.

"Because our system can process a large amount of data really quickly, it meets the requirements necessary for vehicle-to-vehicle safety protection," Vermaak continues. All forms of system communication are exchanged with the operators using icons, making it easy to use and understand; a significant advantage for users who are illiterate. Additionally, messages can be provided via a pre-recorded voice programme and can be customised to any language, which "encourages adoption and prevents alienation of the system as well".

Protocol and redundancy measures have been incorporated to ensure the system continues working, despite a faulty sensor, for example. Importantly, Vermaak notes, "if the system loses GPS signal, we can still determine where a vehicle is relative to other vehicles by accessing recently compiled information. Wireless internet (Wifi) capabilities provide users with the option to download data for incident analysis and can even aid in productivity by drawing comparisons between scenarios and vehicle operators. The system can be customised to suit specific requirements, without impacting on or changing the primary software design.

"By providing both surface and underground safety system applications which are completely integrated and can operate via a single interface, the resultant economy of scale and shared equipment functionality enables us to reduce capital costs and risk management for our customers," Vermaak highlights.

Having completed the first APS prototypes at the end of 2015; taking customer requirements, previous lessons learnt and failure mode testing into account, Booyco Electronics has already commenced with its first on-site trial tests and has already received its first order.



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BABCOCK LIFTING THE LOAD

for Sasol One shutdown

Babcock, a trusted and leading supplier of plant and engineering support services to the energy, process, mining and construction industries in Africa, provided 50 cranes for hire and delivered support services for what was the biggest plant shutdown to date for Sasolburg Operations' Sasol One Site. The annual shutdown, which commenced at the end of February and lasted until mid-April 2016, was in line with a statutory requirement for petrochemical industries across the globe to shut down equipment for inspection and repair according to a pre-planned schedule. During the shutdown, equipment was overhauled to ensure both process and equipment integrity.

Sasolburg Operations produces ammonia, ammonium nitrate, catalyst, ethylene, mining chemicals, phenolics, solvents, wax and also utilities and electricity generation across 18 production units including a cobalt catalyst manufacturing plant, an ethylene purification unit, butanol and acrylates plants, and a gas-fired power plant. On the Sasol One Site production was largely suspended for the duration of the shutdown while over 27 000 maintenance tasks took place requiring 50 cranes, 100 rigging teams and over 3 300 additional people on site, from general workers, welders, boilermakers, pipe fitters and mechanical fitters to electricians, engineers, surveyors, safety personnel, project managers and finance managers. Babcock will be provided a range of cranes with capacities of between 8 and 500 tonnes which were utilised in all the rigging activities. Other maintenance tasks that took place during the shutdown include engineering, manufacturing, sandblasting, painting, cutting and welding, X-ray, lifting, excavation, rigging and civils activities.

Babcock has been providing plant hire and support services for Sasol's shutdowns for the past 20 years, says Johan Coetzee, Area Manager at Babcock's Plant Services business. "We supply cranes and construction equipment directly to Sasol, as well as other local and international service providers involved in the Sasol shutdowns, for both the Secunda and Sasolburg operations. We were awarded the maintenance contract at Sasol One in Sasolburg, and our scope of work has extended to all Sasol divisions including Sasol Mining and Sasol Group Technology."



Co-ordinating a project on this scale requires months of planning, says Coetzee. "Our Plant Services MD, Ian Kendrick, is involved from the start and we have numerous strategy meetings with Sasol to ensure we have all the information about the what, where, how and when we need to do the task. We allocate personnel, equipment and resources to the job and draw on personnel and skills from within our plant division and from our other branches and divisions if required. We move equipment into place, and we focus on safety, ensuring clear communication and planning every step of the way.

"All equipment is serviced, certified and inspected to be up to standard and ready to work. All personnel are competent, qualified, appointed and trained on what we need them to do. Toolbox talks, daily, weekly and monthly meetings, with clear communication and feedback, keep everyone who is involved adequately informed. All potential deviations are noted, and an action plan, with a responsible persons list, and task due dates, is formulated to prevent delays. We work closely with Sasol so that we know exactly when and what service is required, to ensure that we deliver on time," concludes Coetzee.

THE BASICS

of soil compaction

On a recent visit to a supplier we hit some traffic on Atlas Road because of road maintenance taking place to the side of an intersection. After the rains the potholes and road surface in many areas had deteriorated as a result of old repairs lifting and new ones developing, since hydraulic forces worked on any weak spot available. Although the traffic was an inconvenience, see repairs being carried out was heart-warming.

As we drew abreast and waited for our turn to go I could not help but watch the work that was being carried out and I was dumb-struck at what was happening. The team had made a neat rectangular cut of approximately 5 m x 2 m and was breaking up the damaged layer, spreading it evenly in the repair area and then compacting this with a walk behind roller. On this, I assume a layer of tack and asphalt was to be placed as a sealer.

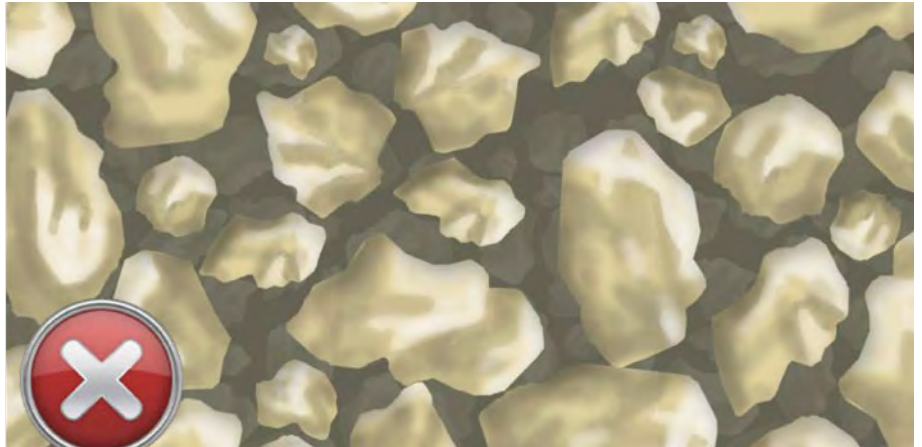
That all seems to be correct you may think however, the layer being compacted, although relatively well graded and mixed, was being compacted DRY. So the repair was definitely not going to last much beyond the next rains as the basics of compaction were being ignored.

What then are the basics of compaction? First, the reason for compaction is to reduce air voids and increase friction, thereby creating a higher bearing capacity and more stable material and thus a more reliable stable layer to traffic. What that asphalt was going to go on clearly did not meet those requirements.

There are many factors that influence compaction, such as the soil type i.e. non-cohesive (gravel, sand, stone) or cohesive (mud, clay, silt) soils, particle size, shape and distribution and the fracture surface characteristics and finally moisture content at time of compaction.

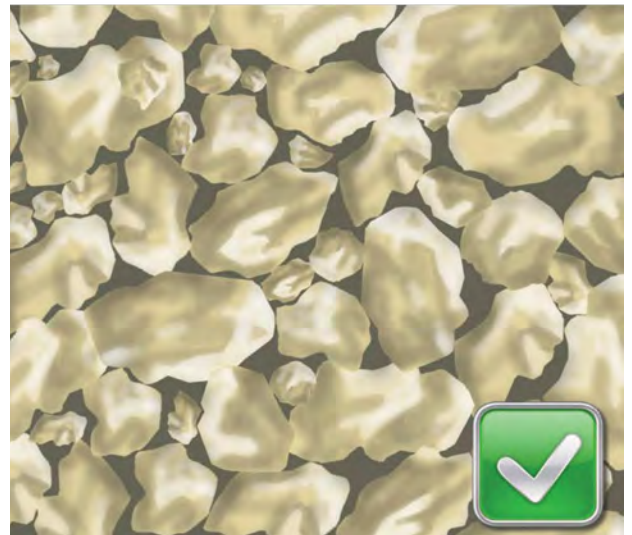
Moisture content has a decisive influence on compaction as it acts as a lubricant during compaction and is thus one of the more important aspects of compaction.

The repair team was clearly not aware of this fundamental basic and although the material was a mixture of base material and damaged asphalt they were breaking it down creating a homogeneous mix, spreading it evenly and so forming a relatively



well graded layer ready for compaction. Compacting it dry was defeating all their worthy efforts and rendering the repair, on completion, short lived.

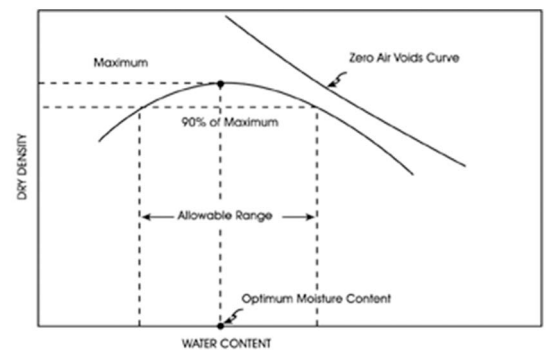
Compaction needs to take place at OMC (Optimum Moisture Content). If the water content is too low, the lubricating effect is very low and the frictional resistance of the individual grains to each other is very high. The soil is then in fact very hard to compact.



If, on the other hand, the water content is too high, high water pressure builds up in the soil during compaction, which impedes or resists the compactive effort and again makes the soil difficult to compact.

If the water content of a soil is the same as the OMC the best compaction result can be achieved. This is when the water acts as a lubricant between the particles but does not interfere with compaction.

Carrying out all the desperately needed repairs on the smaller damaged pieces of our roads does not realistically allow for all the required material tests to be done in determining the soil characteristics and OMC. However, compaction does not have to take place at exactly OMC as there is an allowable range within which optimum compaction can take place.



The teams carrying out these repairs need to be educated in the Basics of Compaction and the importance thereof to ensure that the repairs are more durable than just lasting from one rain to the next. The costs of continual repairs degrade the base layer so that it becomes unsuitable and ineffective as a stable base for surfacing and so the cycle will continue.

With acknowledgement to WIRTGEN SOUTH AFRICA

DRIVING A SWEET DEAL

in the sugar industry

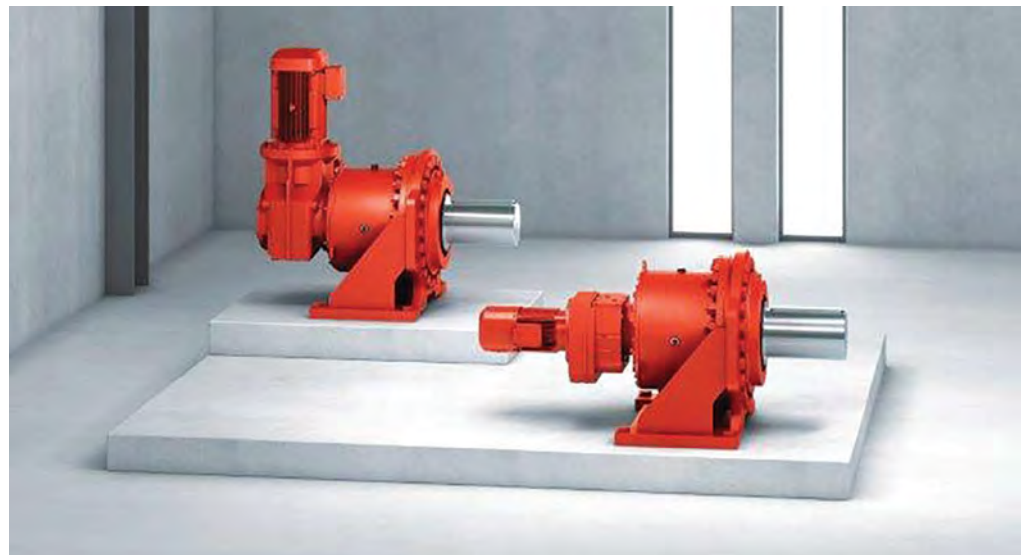
“While we predominantly supply geared motors and industrial gear solutions to multiple sugar mills across Southern Africa to increase capacity and sugar extraction, we also provide unique drive engineering solutions, as factories require varying options for sugar production.”

Advanced drive solutions dramatically improve productivity and energy consumption efficiencies in the sugar industry, and SEW-EURODRIVE tailors its motor and gearing offerings to best suit sugar producers.

SEW-EURODRIVE branch manager, Jonathan McKey, notes that the company is focused on producing energy efficient drives that maximise the load and capacity of mills and refiners in South Africa, Mozambique and Swaziland.

“While we predominantly supply geared motors and industrial gear solutions to multiple sugar mills across Southern Africa to increase capacity and sugar extraction, we also provide unique drive engineering solutions, as factories require varying options for sugar production,” he explains.

The company’s range of geared motors are used in numerous applications, such as; horizontal crystallisers, filters, clarifiers, conveyors, batch pans and mixers, as well as in the packaging department. This has enabled SEW-EURODRIVE to optimise assembly and delivery times and after-sales service.



“Sugar producers generally require a reliable solution with a short lead time. Our extensive geographic footprint and comprehensive product offering ensure we are able to assemble the highest-quality, custom-designed solutions, in the shortest possible turnaround time,” says McKey.

What’s more, SEW-EURODRIVE also provides full field service and support to ensure optimal performance of its geared mo-

tor components. “We have service teams that support clients onsite and at all our branches nationwide. This value-added, all-in-one solutions offering has played an instrumental role in our ongoing growth in the sugar industry,” McKey concludes.

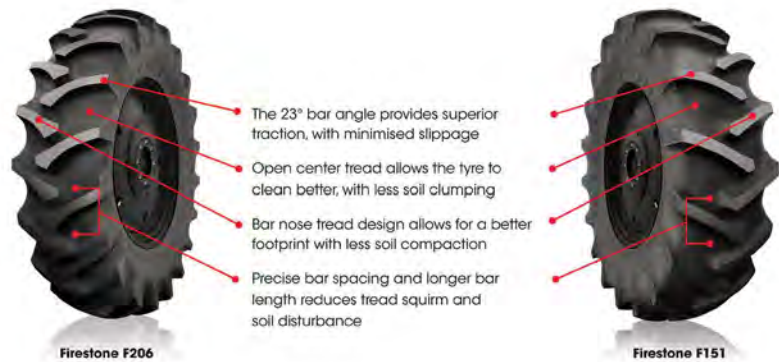
FIRESTONE UPGRADES ITS

tractor tyres

Bridgestone, has announced a series of upgrades to its Firestone F151 and F206 tractor tyres. The tyre company said the new specification tyres are tailored to suit the abilities of modern, more powerful tractors.

“Both models are available in a wide range of sizes, and all except the F206 15-30 LOG (already available in ten ply) are manufactured with extra plies to increase load ratings,” says Bridgestone General Manager of Marketing, Tony Burns. “The ply rating is increased by two plies for the majority of sizes while the F206 14-28 is raised from six to twelve plies. This provides for a substantial hike in the tyre’s load rating.”

The increased ply count of the upgraded tyres means higher tyre pressures are required, and Bridgestone has advised users to consult Bridgestone Commercial dealers to ensure vehicle operators and maintenance staff are aware of the amended pressures.



While it is commonplace for tractor tyres to feature tread bars set at 45 degrees from the axle line, both the F151 and F206 feature a 23 degree bar angle. This allows an increased tyre footprint which reduces ground pressure and soil compaction. It also reduces soil disturbance when working in previously ploughed fields.

The larger footprint enables better torque transfer on powerful tractors, reducing wheelspin and giving a more constant vehicle speed in challenging field conditions.

This has additional benefits such as lower wear and fuel consumption, more accurate operation, and reduced operator fatigue.

“Firestone is South Africa’s leading brand of tyres for agricultural equipment, and we’re confident the upgraded F151 and F206 will provide a competitive edge for farmers looking to get the best out of their modern tractors,” Burns concludes.

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DURA EQUIPMENT

provides more economies in used plant

By Pierre Sanson

Used equipment has always attracted a stigma, mainly in the area of reliability. The dynamics of the business, especially in the past 10 years have become somewhat complex. The oversupply of used plant of some years ago appears to have abated and there is an apparent swing in fortunes as the price of new equipment continues to rise. Buyers of new equipment are therefore forced to take a serious look at used equipment, especially in areas where a write-off can be considered at the end of a contract.

In order to obtain guidelines before committing to a purchase, used equipment buyers should check new prices first as the specifications and special options fitted to new machines may give the wrong impression by inflating the price and making it difficult to arrive at a comparative value.

Apart from the used equipment refurbished sold and backed by the manufacturers themselves, there are very few reliable used equipment dealers who back their refurbished plant and provide extended support to their customers. There are perhaps more than 50 used equipment dealers in the country so prospective customers are encouraged to do some research before buying.

Dura Equipment Sales, since the company opened its doors seven years ago, has become a supplier of choice when it comes to the supply of a wide range of refurbished equipment brands to customers in the mining, materials handling, road-building, forestry and agricultural sectors. Dura commenced business with machines that had come off hire from West Rand Plant Hire which they refurbished. With an initial stock of seven units, they have built their business to the level that to date they have sold some 3000 units.

The decision to buy equipment is an important one for any company, as it usually represents a significant investment. Dura Equipment Sales partners with its customers not only in choosing the most appropriate equipment for their applications, but also by providing after sales support throughout the purchasing period. This philosophy has been proven time and again and is attracting attention in the market-



place, with an increasing number of local operations sourcing quality pre-owned machines from the company's line-up.

"Dura has a stringent refurbishment policy and all the machines that come in for refurbishment are thoroughly assessed and evaluated in order to ascertain whether it is economical to refurbish them or not. If their condition does not warrant a rebuild they are stripped for spares", says Ernest Human, Marketing Manager.

"We've built this company on long-term relationships – with our customers, suppliers and stakeholders – underpinned by integrity, honesty, product knowledge and reliability. Our customers are at the centre of everything we do and we never compromise. We embrace technological change and the market has come to expect the best possible equipment from us at an affordable price that is backed by superior after sales support. We encourage first time buyers when we can advise them on their requirements and ensure that the machine they are buying will suit their application and not merely become a used machine entering their service", continued Human.

Drawing from a combined 80 years of experience in the earthmoving industry, the Dura Equipment Sales management team has the knowledge and ability to meet all construction and earthmoving equipment

needs in the African market. Many machines are being used throughout the rest of the continent, making it truly viable.

The company's used equipment line-up covers the full spectrum of earthmoving equipment: TLBs, wheel loaders, excavators, dozers, graders, rollers, telehandlers, cranes, concrete equipment, and ADTs, as well as low beds, skid steers, tippers, trucks, water trucks and specialised equipment. Currently there is a high demand for the TLBs for the agricultural sector where farmers have to dig trenches to assist with water problems.

Added to this, the needed infrastructure is also in place for the machines to be well maintained, with workshops and spray booths available onsite. Used parts can also be sourced from Dura Parts should the need arise for replacement and, aside from selling quality used equipment, the team also buy pre-owned machines from clients.

"Dura Equipment has four well established branches throughout the country; KZN, Gauteng, Cape Town and Northwest, each equipped to conduct refurbishment to the stringent policies as laid down by the company. This has eased the work load on the head office facility and increased the potential of each branch in their respective areas," says Human.



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VANGUARD OVERCOMES IMPOSSIBLE ROADS

to move transformers to DRC

International heavy-lift, specialised transport and plant installation company Vanguard tackled a challenging contract to relocate 15 transformers for power generation into the African continent.

Vanguard applied its specialised equipment, including its prime movers with heavy-duty modular trailers, to transport these 110 tonne transformers. It has also installed nine of these units – each of which measures 5,3 m long, 4 m wide and 4,85 m high – on site in the southern part of the Democratic Republic of Congo (DRC). The remaining six transformers will be installed this year.

Dennis Scholfield, Vanguard executive manager, said the complexity of the contract included lifting over 20 power lines along the route to allow the specialised transport through. This was done in conjunction with the country's national electricity company, as the power supply was required to be temporarily cut while the lifts were conducted.

"While the road surfaces were generally in good condition, there were numerous small towns along the way where congestion posed a challenge," he said. "It was also difficult at times to control the faster traffic, as our convoy travelled at a regulated 40 km/hour."

On arrival at the site, the transformers were off-loaded onto stools in a temporary lay-down area utilising Vanguard's hydraulic lift system. The company boasts the largest range of these lift systems which can handle weights from 60 tonnes to 800 tonnes, in southern Africa. The equipment, ideal for use in inaccessible locations, includes the versatile 'Power Tower' gantry systems.

"The off-loading on site was also conducted smoothly despite difficult circumstances," said Scholfield. "The uneven loading site was worsened by torrential rains and soft ground conditions that are not ideal for heavy loads."

Once the foundations were ready, the transformers were lifted and loaded onto Vanguard's self-propelled modular trailer (PST), offloaded, slid onto the plinth and placed into final position. The PSTs are another highly specialised aspect of Vanguard's offering, augmenting its range of equipment to provide increased on-site



payload. With capacity in excess of 1000 tonnes, they can be steered remotely by an operator and are perfect for load-in and load-out barging operations.

Scholfield paid special tribute to the drivers and the team for their commitment and professionalism.

"Everyone in our team has 10-15 years' experience, and receives intensive in-house training at Vanguard – so they are all well-skilled in the diversity of tasks that we tackle," he said. "But beyond that, they display tenacity under very challenging conditions – including sky-high temperatures, violent thunderstorms and a punishing daily schedule to keep the job on track."

As part of a second operation on the site, Vanguard was tasked with relocating the dozen old 140-tonne transformers into a storage area using its hydraulic jack and slide system.

For this contract, Vanguard made use of its heavy-lift facility in Walvis Bay to discharge the vessel and off-load the transformers into a temporary storage facility, ready to be re-loaded for transport. Covering a gruelling 3 000 km journey from Namibia to the DRC, Vanguard has successfully negotiated both the Kapolowe River bridge and the Lualaba River bridge, following intensive coordination with stakeholders to secure the necessary permissions.

"This is the first time that loads in excess of 90 tonnes have been transported by road into the DRC. Previously, the transformers

being replaced were brought by rail from Angola," said Scholfield. "We began our planning as far back as August 2014, to allow for optimal preparation, as this was an extremely challenging route."

To ensure the highest levels of safety, Vanguard even discussed load-bearing capacity with the builders of one of the bridges.

"This led to a decision for us to cross that bridge only after 10 pm, when the concrete was at its strongest – having cooled from the intense daily temperatures experienced in the DRC," he said.

Vanguard has successfully negotiated challenging routes into Africa, and provided engineered solutions in countries including Angola, the DRC, Kenya, Ivory Coast, Namibia, Zambia, Mali, Madagascar and Uganda. In Mozambique, a previous contract entailed the transportation of a replacement transformer 2 300 km from Johannesburg to north-western Mozambique, planning and executing the move in three weeks – this despite poor infrastructure and a steep mountain pass.

With over 40 years in the business, Vanguard has become a dominant player in heavy lifting, relocation and installation of complex machinery on a local and global scale, offering turnkey mechanical and engineering services to conduct this work professionally and safely. Finding solutions for specialised transport into Africa is top of its agenda.

IMPERIAL FAST AND FRESH

maintains efficiency with FleetBoard

By Pierre Sanson

Imperial Logistics, a division of the diverse Imperial Group, is a global leader in end-to-end logistics and supply chain management that moves business and industry innovation, inspiration and foresight, enabling customers to grow in an efficient, proactive and cost efficient manner. Imperial Logistics resides in the Consumer Products division, which provides integrated supply chain solutions to a wide range of FMCG and retail companies. This division distributes to top end mid-market and smaller retail environments.

Choosing the right partners is a vital element in the efficient management of the Imperial Fast and Fresh fleet, which has become a market leader in the provision of multi-temperature, cost effective distribution solutions for leading retailers.

With Woolworths as the main distribution partner, important parameters had to be set by Imperial Fast and Fresh to ensure there were no grey areas in the delivery of high-end food products.

Mercedes-Benz South Africa proved to be the ideal vehicle supplier. The telematics supported services provided by FleetBoard enable fleet managers to manage their vehicles, keep an eye on the ability of their respective drivers to drive economically, and monitor driving style. The results produced by the FleetBoard system enable the company to rate drivers individually, thereby encouraging in-house competitiveness which automatically raises the level of driving skills to a point that each driver wants to be the 'best of the best'.

Imperial Fast and Fresh and its association with Mercedes-Benz trucks has proved that the support of FleetBoard service has allowed them to lower costs and improve efficiencies by the daily monitoring of information such as driver patterns, telemetry, refrigeration modes, tracking systems and maintenance cycles, all contributing to the highest delivery levels that have been achieved with Woolworths.

Achieving these delivery levels could not have been achieved without the input and dedication of the drivers. The company has an in-house training programme which is coupled to a rewards programme, giving



Rowlands Peters (National Sales Manager FleetBoard) with Pieter Adriaanse, Marshall Hendricks and training staff

drivers ample opportunity to achieve the highest levels of driving expertise. With more than 600 drivers in its fleet, Imperial Fast and Fresh, using FleetBoard, is able to calculate drivers' scores, using information such as fuel consumption, driver habits and time management in order to apply the rewards programme.

Imperial Fast and Fresh can be justifiably proud of the level of driving excellence achieved by its drivers, not only locally but also internationally through the FleetBoard Drivers League. Pieter Adriaanse and Marshall Hendricks of Imperial Fast and Fresh in Cape Town have proved their worth and in 2015 achieved international recognition when they emerged as the two leading drivers in South Africa on the FleetBoard programme.

In 2015, a total of 19 439 drivers representing 359 companies from 18 European countries as well as from Brazil and South Africa competed against each other in the FleetBoard Drivers League.

The competition runs from June to October and is about achieving the best score for driving style in every day trucking routine as determined by the FleetBoard operating analyses. Each month contestants competing at National level have the opportunity to secure victory in the

categories: 'Best Driver' and 'Best Team'. At the end of the five month competition, the best overall driver and the best overall team of a nation were determined. Prizes are awarded to the best drivers of each country.

When a driver takes the wheel, he or she is not only concerned with the delivery of the load on time but also in driving in an especially fuel-saving manner. Fuel saving ensures personal scores are composed of factors relevant to wear, fuel consumption, defensive driving, changes in speed and braking behaviour.

Drivers have to drive at least 4000 km per month to qualify, so the higher their score, the better their ranking. The bar is set high for all drivers concerned. The object of the competition is to motivate and stimulate drivers to integrate an economical driving style into their everyday work and to continuously improve so that they can overtake their competitors in the Drivers League and eventually become winners.

It is interesting to note that the winning German driver achieved a score of 9.92 whilst the three leading, participating South African drivers scored: Marshall Hendricks 9.95; Pieter Adriaanse 9.92 and Jack Graham 9.83, placing them at the highest international level.

FAW PLANT NEARING 100 VEHICLES

in local exports



On the export side of its business FAW Vehicle Manufacturers SA (Pty) Ltd has registered 90 units built locally for export into Africa.

In February this year, another 10 FAW J5 tippers units left the local Coega-based production plant for Tanzania.

A growing number of African truck dealers who traditionally placed their orders on FAW China continue to move their orders to originate out of South Africa owing to the shorter lead time for delivery, the high levels of quality from the South African plant, and the reduced cost of sourcing FAW vehicles on the same continent.

Cheng Zhang, Marketing and Strategy Manager, and spokesperson for FAW Vehicle Manufacturers SA, explains: "There are many advantages to sourcing FAW products from our South African base – the most important being time-to-market in African countries, and of course for the SACD and AU, the added advantage which comes from the import/export duty agreements," he adds.

From the cost point of view, the African buyer can save complete vehicle import duty from 25% to 40%. Another advantage of importing through FAW locally is that customers can get their vehicles within 30 days of order; much sooner than from China, which normally requires three months between order placement and delivery.

FAW SA says it plans to support sales in

almost all the right-hand drive African countries. "However, our plan is to assemble the left-hand drive vehicles to supply to the African Union countries in future, where they too can get duty advantages.

The Tanzania dealer noted that its best sellers were the FAW 6x4 truck tractor and FAW 6x4 15m³ tippers. The FAW J5 6X4 tipper has proven to be a stalwart product for African road conditions.

FAW vehicles 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 provides good return on investment for most any operation, such as mining, long haul, logging or the like.

The quality levels coming from the local 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. Another advantage of the running FAW trucks is that they are easy to maintain and service, with excellent accessibility to spare parts if needed.

For aftersales support, FAW SA is already supplying parts to those African dealers who import SA-spec models. Some dealers who import African-spec models from FAW, still source their parts stock from China directly, because the purchase process is familiar to them and uptime is not affected.

FAW Vehicle Manufacturers SA (Pty) Ltd has

indicated that it constantly considers which of its global truck offering in medium, heavy and extra-heavy ranges are feasible for building locally.

"However, we remain circumspect about drastically changing our local production complexity by adding too many different models to be produced at our Coega-based plant. It remains in our interest to keep our production plant simple, and to continue to maintain the highest levels of quality, rather than chase huge production diversity without adequate up-skilling and possibly a loss of focus on our core value – quality at a fair price," affirms Zhang.

FAW's expansion into Africa continues to increase demand for FAW support in customer workshops and customer technical training. FAW SA gives African dealers full technical support where needed. "Besides it is much more efficient than sending technicians to China to get trained or to wait for FAW China to come to Africa to sort the technical problems," adds Zhang.

Feedback thus far from FAW dealers in Africa is extremely positive. They have voiced satisfaction with the quality workmanship and the superb attention to detail evident from everyone at FAW Vehicle Manufacturers SA (Pty) Ltd.

"FAW Vehicle Manufacturers SA (Pty) Ltd remains positive about the future and the growth plan that has been formulated for the FAW brand in Africa," concludes Zhang.

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15.180 FD
4x2 6m³

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4x2 6m³

28.280 FD
6x4 10m³

35.340 FD
8x4 15m³

Mixers

33.330 FC
6x4 6m³

35.340 FC
8x4 8m³

All FAW vehicles are durable and tough, built locally in Coega to international standards. FAW tippers can handle the toughest of environments with ease - dust, stones and uneven terrain, challenging entry/exit slopes. Supporting FAW's uptime promise is a host of aftersales back-up services, and maintenance and parts supply through a wide dealer network.

FAW provides purpose-fit mixer trucks that can conquer the rigors of any building site. There are few mixers to match FAW strength and long-lasting working capability. FAW mixer models are easy to drive and offer exceptional durability because of a strong chassis frame, the robust materials and quality standards applied in the manufacture of the truck, the drivetrain and the mixer body.



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MERCEDES-BENZ VITO MIXTO –

a van for all seasons

By Pierre Sanson



The new Mercedes-Benz Vito van can be described as the benchmark for versatility in mid-sized vans. Offering tangible external strengths, great intrinsic values, maximum benefit and low costs, the Vito is the real professional among mid-size vans with a permissible gross vehicle mass of between 2.5 and 3.2 t. With rear-wheel, all-wheel and front-wheel drive, the Vito is uniquely versatile. Having a payload of 1369 kg, the range comprises the panel van, Mixto and Tourer minibus families.

I was recently provided with a test vehicle by Mercedes-Benz South Africa to evaluate and experience if the manufacturer's claims for the vehicle were up to expectations. The Vito delivered to me was the 111 CDI Mixto version, complete in a five-seat configuration and resplendent in red. The appearance of the new Vito suggests self-confidence and distinction. With its stylistic features, the van fits seamlessly into the large family of commercial vehicles from Mercedes-Benz.

Climbing into the Vito using the well-positioned step was a breeze, despite the elevated seat. Well-contoured seats for the driver and passenger have a large cushion and backrest to provide excellent lateral support, even for the largest driver.

Now completely redesigned, the cockpit of the Vito is functional in terms of ergonomics. The layout is clear and uncluttered and the finish is of exceptionally high quality for a vehicle of this class. A big advantage is the amount of stowage space around the cockpit, ideal for drivers who are required to make multiple deliveries and take care of their paperwork as well.

The Mixto combines the advantages of a panel van with those of the people mover, which I believe likes to be referred to as the Tourer. The Tourer sees Mercedes-Benz opening an entirely new chapter in passenger transport as it can be tailored to accommodate all types of passenger transport. With the three-passenger seat fitted the Tourer is able to accommodate a family

with all its sporting gear, including bikes in complete safety and the equipment well secured.

The front-wheel drive Vito 111 CDI Mixto has a transverse-mounted, compact four-cylinder engine with a displacement of 1.6 litres and an output of 84 kW. Power is transferred via a six-speed manual transmission which is designed for maximum fuel economy. The gear lever is well positioned and falls readily to hand, requiring minimum effort to change gears through the smooth operation of the gearbox.

Performance of the Vito 111 CDI Mixto was exceptional, not only in the urban environment but on the open road as well. There was always enough power on tap to execute any manoeuvre, whether overtaking on the freeway or keeping up with traffic in town. There were moments when there was a slight hesitation in acceleration below 2000 rpm as a result of turbo lag but living with the vehicle for a longer period would hone the driving skills to overcome



this. A major feature of the vehicle is the hill assist which prevents the vehicle from rolling back when taking off on a hill. During the test I experienced high wind on the open road and the Vito with the Wind Assist feature was able to maintain its directional stability without any fear of drifting off line. Also contributing to the low wind resistance factor is the design characteristic of the body with a Cd coefficient of only 3.2.

The ride quality of the Vito 111 CDI Mixto is good and the light feel of the steering with electromechanical power assistance that changes to the kinematics, ensures a positive feel at all times without being too heavy despite the front-wheel drive configuration. The front axle and engine are mounted more rigidly in their sub-frame. The drive unit is therefore isolated from vibration with this variant.

The independent rear suspension on semi-trailing arms and coil springs on the Mixto is set for high loads while a comfort suspension is available as an option. Even

with the standard suspension, the Mixto did not compromise on the ride comfort at any time, whether empty or loaded.

Access to the interior of the Mixto is provided by three large generously sized doors with low sills, making loading and offloading of goods effortless. The side doors are well balanced and slide in both directions with little effort.

The new Vito is certainly at the forefront of the market as far as mid-sized vans are concerned. The front-wheel drive concept has not detracted from the practical value of the Vito as its comfort and robustness is still prevalent in the vehicle, which is a well balanced economical and functional means of transport.

Adding further to the practical aspects of the Vito are the service intervals which have been extended to 40 000 km or two years across the range and service plans have been extended to 5 year/120 000 km (Previously 5-year/90 000 km).



VOLKSWAGEN CRAFTER

adds a new dimension to urban deliveries



The new Crafter from Volkswagen Commercial Vehicles has shown some significant improvements over previous models. With a sharpened design, optimised interior and the latest generation of the fuel efficient TDI engines, which significantly reduce fuel and maintenance costs, the Crafter has stepped up a notch against its rivals.

Thanks to the new four-cylinder common rail diesel engines, the fuel consumption and CO₂ emissions have been significantly lowered. As a result, fuel and maintenance costs have been decreased substantially. Other important parameters have also been improved: the vehicle's maximum payload has been increased by nearly three per cent on some derivatives. The 20 000 km service intervals allow for the new Crafter to be efficiently utilised for an extended period.

The Crafter was first launched in South Africa in April 2007 and, to date, it has sold over 4000 units, which makes it the second best-selling Medium Commercial Vehicle (MCV) Panel Van in South Africa.

The technically and visually perfected Crafter raises the bar in the segment of medium commercial vehicles (3.5 to 5.0 metric

tonnes allowable gross weight) to new, more eco-friendly and cost-effective levels. Improvements are primarily due to the vehicle's exceptionally efficient new 2.0-litre TDI engine with common rail direct injection. It replaces the 2.5-litre TDI engine that was used in all previous Crafter versions with 6-speed manual gearboxes. The new four-cylinder engines are available with two power outputs: 80 kW and 120 kW and both are mated to a 6-speed gearbox.

The Crafter 2.0 BiTDI with 120 kW illustrates just how fuel-efficient the new engine is: it consumes just 8.9 l/100 km (equivalent to 235 g/km CO₂); this represents a fuel savings of up to 1.5l/per 100 km compared to the now replaced previous model. The engine, with a technical configuration similar to that used in the Amarok and T5, develops a maximum torque of 400 Newton metres thanks to bi-turbo charging (+50 Nm); this maximum torque is already available from 1 800 rpm and enables impressive driving performance in all situations.

Exceptional fuel-efficiency and large power reserves also characterise the power level of the 2.0-litre TDI. Compared to the equally powered five-cylinder engine with 2.5-litre engine displacement, its maximum torque

is available over a broader rev range. In the case of the 80 kW version, 300 Newton metres are continuously available from 1 500 to 2 250 rpm. The new Crafter with the 80 kW engine consumes 9.6l/100 km of fuel (equivalent to 253 g/km CO₂).

The Crafter also gets a gear shift indicator to aid the drivers to select an ideal gear for fuel economy.

Besides being kind to the environment, the Crafter's four-cylinder engines also safeguard owners' budgets for fuel and maintenance. Along with reduced fuel expenses, expenditures for maintenance and vehicle operation have been significantly reduced; this is primarily attributable to reduced service costs. As usual, Volkswagen Commercial Vehicles provides a 12-year body protection (anti-rust) warranty on the new Crafter.

The lightweight four-cylinder engines and other measures have reduced the new Crafter's kerb weight in practically all versions. This has a direct, positive impact on maximum payload. In some versions, it is possible to load up to 44 kg more cargo – nearly three per cent more – and for many businesses this is a decisive factor.



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THE NEW IVECO DAILY RANGE

makes its award winning debut in South Africa



The latest incarnation of the Daily range, first launched in 1978, has reached South Africa. The new range was crowned 'International Van of the Year 2015', streets ahead of the other shortlisted finalists, by a judging panel representing the top European commercial vehicle publications.

The Daily range boasts no less than four market-leading features: largest volume (20 m³), highest horsepower rating (205 HP), greatest payload (4 174 kg) and most sophisticated full automatic transmission, the 'Hi-Matic' ZF 8-speed.

As well as these standout benefits, the latest range has been redesigned from the ground up, resulting in 80 per cent new architecture and a myriad of improvements over the preceding models.

The new range, which includes both van and (single-cab and double-cab) chassis variants, is available in a variety of wheel-base ranging from 3250 mm to 4750 mm (accommodating body fitment of up to 6190 mm in cab chassis), with GVWs spanning 3600 kg to 7200 kg and in single and dual rear wheel configurations (depending on model). This results in exceptional versatility for use in a wide variety of applications.

Combined with improved efficiency, low-

er servicing costs, and reduced lifecycle costing, the new range sets many new benchmarks in the South African medium commercial vehicle market.

Powering the range are two core direct-injection Iveco diesel engines, a 2.3 and a 3 litre, both them delivering market-leading power and torque outputs.

The 2.3 litre powerplant features turbo-charger with wastegate and intercooler producing 126 hp @ between 3000-3600 rpm, torque is rated a 320 Nm @ between 1800-2500 rpm. The 3 litre offering is also turbocharged using a wastegate system to produce 150 hp of power and 350 Nm of torque from 1400 to 2600 rpm whilst a variable geometry system and intercooler to produce power of 170hp @ 2900-3500 rpm and torque of 430 Nm @ between 1400-2600 rpm.

Also available is a twin turbo version of the 3 litre which offers increased power of 205hp @ between 3100-3500 rpm and hefty torque output of 470Nm @ a low 1400-3000 rpm.

In addition to these engines' impressive power and torque figures, the latest Daily range is also more fuel efficient than the previous generation by up to 5 per cent thanks to the adoption of low friction pis-

ton rings, use of high-grade, low viscosity lubricants and reduced drag coefficient, especially in van models.

The new Daily range introduces an industry-first 8-speed ZF 'Hi-Matic' full automatic transmission until now only available in high-end luxury vehicles. This exceptional transmission provides the operator with an effortless driving experience courtesy of a self-adaptive shift strategy that results in correct gear selection and shifts that take less than 200 milliseconds.

The version of the Hi-Matic used in the Daily has been strengthened for light commercial vehicle applications and was extensively tested for the climatic conditions prevalent in South Africa – the unit features an external cooler and an independent transmission support for improved durability and cooling power.

To assist in reducing fuel consumption, the Hi-Matic features both 'Eco' and 'Power' modes. When Eco is selected, the transmission changes gears at lower rpm, while Power mode holds the vehicle in each gear for longer for even crisper acceleration should it be required.

Additionally, thanks to its 8-speeds, the widest ratio spread of any automatic van transmission available in the market, the



engine will always be operating at its optimal speed.

Operators using the new Daily van outside of urban and metropolitan environments where minimal gear shifting is required may opt for the 6-speed synchromesh double overdrive, manual transmission. This alternative to the 'Hi-Matic' provides smooth engagement via the single dry plate, hydraulically-controlled clutch, while manual gear changes using the ergonomically-designed, dash-mounted shifter are light yet precise. As a guide to fuel efficient driving, gear shift indicator in the driver display area gives the driver guidance on the most appropriate gear for the driving situation.

With many Daily drivers and owners expected to spend long periods on the roads, Iveco engineers have worked to equip the new model with an extensive array of active and passive safety features.

While some light commercial vehicle competitors provide a front disc/rear drum brake set-up, the new Daily provides the superior stopping power of disc brakes 'all-round'. Adding to the braking equation is

ESP9 (Electronic Stability Program), which incorporates Iveco 'Hill Holder' technology to ensure that there's no rollback when starting on an incline. Additionally all vehicles also feature Stability Control and Trailer Sway Mitigation which sees the Stability Control intervene when instability in the trailer or caravan is detected. Other safety features of the standard ESP 9 system include Anti Slip Regulator, Adaptive Load Control, Hydraulic Rear Wheel Boost, Hydraulic Fading Compensation, Roll Movement Intervention and Roll-Over Mitigation. Passive safety features include both driver and passenger airbags; a unique standard offering in the South African market.

Low level fog lamps with cornering function are available. The cornering function automatically activates the fog lamps on bends casting light into the direction the driver is steering.

Heavy traffic, start and stop driving and long work days are often the norm in modern business; it's therefore essential that the driving environment is as comfortable and stress-free as possible.

Seating in the new range has been lowered by 15 mm for easier entry and egress into and from the cab the steering wheel has also been reduced in size to provide a more car-like feel. An increased windscreen height has resulted in improved visibility while the dashboard has been completely redesigned with emphasis on intuitive placement of all dials and controls.

Helping to provide car-like comfort and manoeuvrability (10.5 metre turning circle for the single wheel vans and class leading turning circle across the entire range) is independent front suspension (double wish-bone with transversal leaf spring or torsion bar depending on variant) along with parabolic rear suspension.

The new 'QUAD-LEAF' front suspension provides excellent vehicle control and strength (1900 kg standard maximum load), while the 'QUAD-TOR' system (standard on all 50C & 70C Vans) is even more robust adopting torsion bars instead of leaf springs for an axle weight rating of 2100 kg.

Other benefits of the new range include improved soundproofing and a more efficient automatic climate control system featuring 'EcoMac' technology. Similar to an inverter in a household RC system, EcoMac optimises the operation of the unit compressor to precisely meet the actual cooling and heating needs, delivering just the right in-cabin temperature and reducing fuel consumption. The air conditioning, standard across the range, ducts conditioned air through the glove compartment and this airflow can be controlled to turn the glove compartment into a virtual fridge for the driver.

4-speaker audio systems are fitted as standard across the range featuring FM/AM tuner; mp3 player; mp3 player with USB drive via USB input on the dashboard, AUX input. Bluetooth connectivity with radio and phone controls on the steering wheel is also available. The unit also features an integrated 4x20 W amplifier.

Elsewhere in the cabin are generous storage areas including purpose-designed compartments to hold phones and tablets. A modern and attractive instrument cluster displays all of the vehicles' necessary operational information.

The Daily range is available in a choice of nine attractive exterior colours.

DAIMLER TRUCKS LAUNCHES FLEET TEST

with electric truck from Fuso



Dr Wolfgang Bernhard, Member of the Board of Management of Daimler AG Truck & Buses with Fritz Kuhn, mayor of Stuttgart.

Daimler Trucks, the world's leading truck producer, recently launched the first fleet test for emission-free, electric trucks in Germany. Dr Wolfgang Bernhard, Member of the Board of Management of Daimler AG, responsible for Daimler Trucks & Daimler Buses, and Marc Llistosella, President and CEO of the Mitsubishi Fuso Truck and Bus Corporation (MFTBC) and Head of Daimler Trucks Asia, handed over the five battery-powered Fuso Canter E-Cells to Stuttgart's mayor, Fritz Kuhn, and the Hermes Logistics Company today.

Daimler Trucks' Fuso brand is the leading producer of partially and all-electric light-duty trucks. The Daimler Truck branch invested in 2014 and 2015 in total 2.5 billion Euro in research and development with the focus on connectivity, safety and drive efficiency. Within the efficiency topic electric mobility of course plays a major role. The Mitsubishi Fuso Truck & Bus Corporation (MFTBC) invested 40 million Euro in the development of electric driving so far.

Over the next 12 months, the Municipality of Stuttgart will test four 6-tonne Fuso Canter E-Cell in a tough everyday working environment. Two vehicles with hydraulic tipper bodies are to be deployed in road construction and landscaping. Two vehicles with box bodies will be assigned to municipal furniture transport and waste disposal operations. Another Canter E-Cell will carry

out parcel deliveries in urban traffic for the Hermes Company.

Dr Bernhard noted at the handover ceremony: "Today's combustion engine is highly efficient, eco-friendly and, above all, clean. In long-distance transport it will remain the only option for a long time to come. In urban short-radius distribution, a partial switch to electric trucks will become technically feasible and economically viable within a few years' time. With this fleet test, we are making a small yet important contribution to urban mobility in Stuttgart. Daimler Trucks is pushing ahead with the further development of this technology. Together with the Municipality of Stuttgart and the Hermes Company, we are taking a key step towards market maturity today."

Marc Llistosella emphasised: "We at Fuso have acquired extensive experience in the development of local emission-free commercial vehicles. I am firmly convinced that the Canter E-Cell will now proof its strengths in the German climate and in the topographically very demanding area of urban Stuttgart. The Canter E-Cell offers our customers transport services which are not only environment-friendly, but also economical. Our test in Lisbon revealed savings of around 1000 euros per 10 000 km in comparison to diesel trucks."

Stuttgart's mayor, Fritz Kuhn, observed: "Sustainable mobility is a key issue for

cities and electric mobility is an important element. This is where the Municipality of Stuttgart is showing the way. We've decided to make a change to our fleet: all new cars purchased by the Municipality will be electric. I think this sends out a very strong signal. So we're also very happy to test the four Canter E-Cell vehicles in day-to-day city traffic."

"Daimler and Hermes are united by a long and joint tradition in the promotion of alternative drives", explains Dirk Rahn, Managing Director Operations at Hermes Logistics Group Germany. "As a pioneer in the industry, we as a company were among the first to test the early electric vehicles under real-world conditions. We are similarly proud today to be using the new electric 6-tonne truck for our parcel deliveries. The project is part of our long-term climate protection programme, under which we intend to systematically halve the CO₂ emissions of our fleet by 2020.

We are very pleased to have found, in Daimler Trucks, a renowned partner for this project."

In the course of an initial fleet test in Portugal, the Canter E-Cell has already proven its merits in short-range delivery operations and urban transport. During the year-long test from June 2014 to June 2015, eight vehicles were in service with customers in Lisbon. With ranges of over 100 kilometres,



Fuso Canter – E-Cell

the vehicles exceeded the average daily distance covered by many trucks in light-duty short-radius distribution. On the basis of the prevailing costs of diesel and electricity during the test period in Portugal, operating costs were lowered by up to 64 percent in comparison to a conventional diesel truck.

Fuso is pushing ahead with the further development of this drive technology while the current customer trials are still in progress. Fuso's engineers are already working on the next generation of the Canter E-Cell – with the firm goal of making it even more suitable for everyday use and more economical.

At the centre of excellence for hybrid vehicles in Kawasaki, Japan, Daimler Trucks possesses more than 40 years of experience in the development of alternative drive systems. The engineers at the "Global Hybrid Center" were also responsible for developing the battery-electric, local emission-free Canter E-Cell, in close cooperation with the colleagues at the Tramagal plant. The electrically powered light-duty truck was premiered at the IAA Commercial Vehicles show in 2010. The current test fleet was manufactured on a prototype production line at the Fuso plant in Tramagal, Portugal.

Fuso is the leading manufacturer of partially electric light-duty trucks. Some 3500 Fuso Canter Eco Hybrids are in service with customers around the world. The handling strategy for the Canter Eco Hybrid is based on the vehicle starting up and moving off in quiet, electric mode. Then, at a speed of around 10 km/h, the diesel engine cuts in. Below this speed, it also runs at idle to supply power to the ancillary assemblies.

Another strength of the Canter Eco Hybrid is its load capacity. The additional weight resulting from the hybrid drive amounts to only around 150 kilograms. This means a load capacity of up to 4.8 tonnes for the 7.5-tonne model as a chassis with cab.

Daimler Trucks Asia's headquarters and the largest plant are located in Kawasaki, near Tokyo.

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DAIMLER TRUCKS

leads in commercial vehicles connectivity



Connectivity is when everyone communicates with everyone and everything else, to the benefit of all parties involved. This is also when all those participating in this tight-knit communication network receive the correct information at the right time and in the right place. In essence, connectivity represents the future of logistics, particularly in the context of the complex movement of goods within a closely intertwined economy comprising diverse specialised operators. Connectivity provides the platform for the seamless organisation of flows of goods and commodities. This is where trucks play a decisive role as the backbone of goods transport.

At a recent conference involving a large number of the world's automotive press in Dusseldorf, Germany, Daimler, the world's leading truck manufacturer, demonstrated its technological leadership in the field of connectivity and systematically consolidating its worldwide lead in connected trucks. Daimler Trucks is driving the systematic connectivity of its vehicles ahead with all parties involved in the logistical and transport process. The completely connected truck initiates a radical change in transport which will make road goods traffic even more effective and efficient – not only for drivers, haulers and vehicle manufacturers, but also for society as a whole.

In future, it will no longer be sufficient to optimise individual flows belonging to the value chain. These flows require a network to exploit available synergies to the fullest. In this process, the truck becomes an element of the Internet of Things. An object, the added value of which grows as a result of interconnection with other objects and devices – for the benefit of all those involved.

Through V2V and V2I communication – Vehicle to Vehicle and Vehicle to Infrastructure – connectivity can prevent gridlocks, markedly reduce fuel consumption and emissions and further lower the number of traffic accidents. Society benefits from enhanced safety and a reduced strain on resources and the environment. Companies draw benefits from optimised logistic processes, saving time and cutting costs. The strain on truck drivers as they go about their demanding work is relieved considerably. In a nutshell: the intelligent, fully connected truck is the success formula for companies, drivers and society alike. Daimler Trucks is systematically developing and expanding its corresponding services and technologies.

While connectivity has only recently become a buzzword for the logistics sector, Daimler Trucks has been offering networking and telematics services for many years:

- Connectivity within the engine, between

engine and the transmission, between the drivetrain and the route ahead has long been the basis for even lower fuel consumption and emissions.

- Connectivity provides the foundation for ever more effective fleet management – through market leader FleetBoard, for example.
- Connectivity is the essential basis for the continually self-optimising truck which travels intelligently and autonomously along the motorway to its destination – more safely and economically than ever before.

The next advances on the road to connectivity followed swiftly in a different field – telematics. Daimler again was at the forefront of this development. Introduction of the FleetBoard telematics system onboard a major customer's vehicles began in 2000. For the first time, the truck became a fully integrated element of the logistic transport chain. Route planning, continuous positioning, the transmission of vehicle data – FleetBoard connected driver and vehicle with the outside world.

The development of FleetBoard continued apace. In 2004, FleetBoard presented an interface for the integration of data into forwarding agents' own software systems and unveiled the DispoPilot as a mobile handheld device for logistics management, navigation and scanning.

FleetBoard has since become an integral part of daily operations for haulage companies. Its on-board computer provides the platform for the transmission of diverse items of data, such as error codes in connection with breakdowns. Today there are some 180 000 vehicles on the road with FleetBoard. The Stuttgart-based company currently employs over 200 people and is represented in 40 countries around the world.

In the key commercial-vehicle market of North America, Daimler Trucks North America is stepping up its activities in the area of networked services through its stake in Zonar Systems Inc., a leading developer and provider of logistics, telematics and connectivity solutions. Daimler Trucks North America and Zonar have maintained a partnership for the last five years that began with the market launch of the 'Virtual Technician' remote diagnostics system and continued with the development of the all-round solution 'Detroit Connect'.

In coordination with the 'Virtual Technician', 'Detroit Connect' complements Zonar's 'Ground Traffic Control (GTC)' using a GPS satellite network to determine the exact location, the speed and the fuel consumption of a truck or a whole fleet from any internet-enabled device, e.g. an on-board tablet.

'Detroit Connect' is the first telematics solution in the USA and in Canada to be able to determine the cause behind fault messages during the journey. Used in more than 185 000 vehicles, 'Detroit Connect' has already clocked up billions of kilometres.

Autonomous driving is essentially possible without full-scale connectivity in the form of V2V – Vehicle to Vehicle – communications, as demonstrated by the Highway Pilot, Daimler's system for autonomously driving trucks. The Highway Pilot is kept closely in touch with its surroundings by radar and camera systems, however. No autonomously operating truck is permitted to move an inch without this secure connection to the world outside of the vehicle.

The autonomous truck in the guise of the Mercedes-Benz Actros with Highway Pilot or its North American counterpart, the Freightliner Inspiration Truck, scans its immediate and more distance surroundings with extreme precision by means of camera and radar systems, applies multisensor fusion to analyse the data and adapts its posi-

tion on the road and its speed accordingly, independently of other vehicles. To this end, the Highway Pilot combines the functions of the familiar adaptive cruise control and lane departure warning systems and additionally incorporates steering intervention.

For the first time, it controls the truck's lateral guidance and performs longitudinal guidance. Only with this lateral guidance function – which is without parallel in the field of commercial vehicle development – can the truck be kept safely in the middle of its lane automatically.

The Highway Pilot functionality is currently limited to motorways. This natural territory of the long-haul truck lends itself to autonomous driving. At a later stage, autonomous driving is also conceivable away from these truck routes, on roads with oncoming and crossing traffic.

Connectivity enables vehicles to inform one another of their destinations and directions of travel, their speed, their position on the road to centimetre accuracy and the slightest changes in speed and direction. This makes their behaviour calculable, enabling the safe coordination of distances between vehicles and even high speeds.

Highway Pilot Connect represents an initial further development of the autonomously driving Actros with Highway Pilot by means of connectivity. Connectivity plays a key role here. Interconnection enables two or more trucks to form a platoon observing the tightest safety distance of 15 m while maintaining the same speed. The close distance between the vehicles reduces drag, resulting in a substantial lowering of fuel consumption and emissions – on average by up to seven percent for all vehicles in the platoon.

Today, the trailing vehicles no longer 'blindly' follow the leading truck. As every member of the platoon, including the leading vehicle, is equipped with the Highway Pilot, the platoon essentially consists of autonomously driving trucks that team up temporarily for practical purposes – road-bound goods transport in its most efficient form. A vehicle can pull out of the platoon at any time, and appropriately equipped trucks can join the platoon at any time.

Connectivity ensures that all the vehicles respond immediately to unforeseen events: if

one truck has to brake, for example, all the vehicles behind it will also brake automatically. The reaction time is only one tenth of a second – a fraction of the time that elapses before a driver responds to an event.

The available technology enables all members of the platoon to be kept informed about the driving situation of the entire platoon at all times. A camera on the leading vehicle records the driving situation ahead of the vehicle, for example, and relays the image to monitors on board the following vehicles. Members of the platoon are equally able to see their own positions within the platoon on their monitors at all times.

Daimler Trucks is already technically capable of demonstrating the diverse functions of platooning on the road and in flowing traffic today with Highway Pilot Connect.

PPC shifts gear in anticipatory mode, always selecting the appropriate speed on uphill and downhill stretches and driving better than even an excellent driver ever could on a permanent basis. Data additionally enhance safety, by means of timely warnings and active intervention. They determine whether a driver's braking and acceleration are appropriate to the given situation. On the basis of these data, drivers can be provided with tips on their driving style. They are rated and can be supported with driver training.

The connectivity, which permanently links the driver and vehicle with operations planning, with consigner and consignee, with other vehicles and with the infrastructure, as well as with other drivers, friends and family heralds the start of a technological and sociological revolution. Truck drivers remain in touch with those closest to them while on the road. Although they are alone in their cabs, they can contact friends or family at any time.

The transportation of goods by truck is becoming safer and faster, more environmentally-friendly and more humane. In short, it is taking on a whole new quality. In the face of increasing flows of goods, a highly strained infrastructure and a sensitive environment, this offers good prospects for all parties concerned.

Smart communications open up an even broader scope of possibilities than this, however, as trucks serve as data collectors while on the move, and in future they will

CONTINUED TO PAGE 38

also become data distributors. In the context of V2I (Vehicle to Infrastructure) communication, trucks can pass on current traffic information and weather data and updates on road conditions. This benefits all other road users.

Provided they have connectivity on board, they will receive precise data in real time on the route ahead and suggestions for alternative routes when necessary – and in a much faster and accurate manner than conventional radio traffic information could ever do. The scope of the information can extend far beyond classic traffic jam warnings - weather bulletins and warnings of rain, snow or icy roads can be derived from the combination of data on traffic density, speed, windscreen wiper activation, temperature and traction.

Information can be relayed selectively to different user groups. V2V comprises data between road users within a localised area, V2I between vehicle and infrastructure for the purposes of forwarding and processing. Full connectivity also means enhanced safety. When V2X messages to all relevant road users record, identify and pass on every vehicle movement and every instance of a stationary vehicle, unforeseeable events no longer arise.

Connectivity results in perfect traffic coordination and maximum use of the available road capacity. Current statistics show how necessary this is: 568 000 traffic jams were recorded in Germany alone last year, with road users spending 341 000 hours in traffic jams. This represents a vast waste of resources for the economy as a whole. By receiving and passing on information about their movements, fully connected trucks can provide one another with warnings about traffic jams and unnecessary waiting times, while the entire population of such vehicles can prevent many traffic jams from the outset.

Connectivity and coordination between individual navigation services and public traffic management enable timely and foresighted route planning. Individual routes can be configured to achieve a perfect balance according to given priorities on the basis of the parameters distance, journey time and driving time, fuel consumption/emissions and costs.

While even connectivity will not be able to banish traffic jams entirely from overstrained roads, the incidence of traffic jams will be reduced substantially.

And should anything untoward ever happen, the truck will automatically activate an emergency call, which will also be relayed to the traffic system, leading to corresponding information for other road users on the route concerned. And in real time, as opposed to radio traffic information at the top of the hour.

Connectivity enables transport processes to be managed more efficiently. The departure check for a truck can be carried out by smartphone at the push of a button, for example.

Once the freight has been unloaded, in future it will be possible to book new jobs automatically via route exchanges. In combination with the FleetBoard telematics system, this will ensure full use of the truck's capacity without overstraining the driver and will reduce ineffective empty runs. This offers potential in particular for small and medium-sized fleets – ultimately, the identical number of trucks can transport more goods, thus also helping to reduce CO₂ emissions.

And all this would be possible without the use of paper – shipping and customs documents would be unnecessary. The vehicle coordinator's paperless office duly gives rise to the paperless cab, with less bureaucracy, less misunderstandings and above all more time.

Connectivity of commercial vehicles will thus lead to a general refinement of transport and logistics. Punctual and efficient transport operations will no longer be left to chance or dependent on incalculable general conditions, but will lend themselves to substantially more effective planning than is the case today.

Platooning offers additional efficiency benefits. Autonomously driving trucks will seek appropriate partners for this purpose on their route automatically. Plannable journey times also lead to plannable times at ramps and loading doors. The irksome waiting times which are common today will no longer arise, as loading bays and slots will be booked in advance.

The marked improvement in the plannability of operations and procedures will stimulate business and the economy as a whole in the face of growing transport volumes.

The driver's workplace will change. Autonomous driving, including the additional platooning function with optimised dis-

tances between participating vehicles, is already feasible today with the familiarly highly functional workplace on board a Mercedes-Benz Actros. This variant demonstrates the normality of the Highway Pilot and Highway Pilot Connect, far from the realms of science fiction.

The truck becomes an intelligent vehicle which also attends to its driver's needs. "Attention Assist" is already able to warn drivers when they begin to show signs of drowsiness, by reference to the vehicle's movements. And the FleetBoard Driver.app provides tips on sporty exercises to help keep drivers fit.

These are all foreseeable steps, rather than futuristic visions. Daimler Trucks is in the vanguard here, setting a fast pace. In 2014, the Mercedes-Benz Future Truck 2025 was the first autonomously driving truck on the road. The Freightliner Inspiration Truck and the Mercedes-Benz Actros with Highway Pilot followed just one year later - both approved for road use. They are supported by telematics service provider FleetBoard, which provides the interface between the truck and the outside world for haulage companies, consigners and consignees alike.

Connectivity has long become reality. Its further development and the new possibilities which it opens up every day give rise to interesting prospects for the future. 30 years on, what began as a vision engendered by creative engineers embarking on the Prometheus project in 1986 is the status quo, opening the door for a new innovation push Online, on the Internet of Things, with the trucks from Daimler.

Dr Wolfgang Bernhard, Member of the Board of Management of Daimler AG, Daimler Trucks & Buses in his opening address, emphasised that transporting more goods in the future would require innovative solutions, saying: "For efficient logistics, real time data are essential and our trucks supply this data. Therefore we are investing around half a billion Euros by 2020 to connect our trucks with their environment and develop specific new applications. This will enhance our customers' performance to operate their businesses in a safer and more environmentally friendly manner. FleetBoard and Detroit Connect will help to leverage previously unharvested potential in road transport- both in the highly developed triad markets and in the emerging economies of Africa, Asia and Latin America".

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SANDVIK LAUNCHES NEW GENERATION OF COMPOSITE ROLLERS

Sandvik HR185, the latest generation all-composite roller, is a low-weight, low-noise innovation that answers customers' needs for a superior conveyor component. The new composite rollers deliver significantly more value than competing steel rollers, from lower cost to corrosion resistance in wet and high-salt environments. They are safer, quieter and more economical.

The composite shell material used in Sandvik HR185 rollers is up to 70 percent lighter than the shell used on traditional steel rollers and up to 40 percent lighter than other plastic shell materials on the market. This significantly lower weight enables safer, easier handling and helps reduce the risk of injuries that can occur while installing new rollers or replacing failed rollers during maintenance. In addition, should a roller reach the end of its service life and stop rotating, there is no steel end cap to damage the belt, reducing the risk of belt damage.

Sandvik HR185 rollers are also ideal for noise-sensitive applications, including export terminals and conveying installations near populated areas. They generate more than 50 percent less noise than traditional steel rollers. The natural dampening effect of the composite means Sandvik HR185 rollers minimise noise impact on the surrounding environment.

"In addition to improving safety and increasing productivity, Sandvik HR185 rollers can reduce total cost of ownership by up to 20 percent", says Chris Mitchell, Global Product Line Manager, Sandvik Mining. "They require less time and manpower to install and maintain and their reduced power demand due to a lower rotating inertia means savings in electricity costs. A large, non-rotating end cap covers up to 90 percent of the roller face and helps to limit damage to seals and bearings from dirt, rocks and other material build-up at the roller face further extending the roller life and reducing costs."

Despite their light weight, the new Sandvik HR185 composite rollers deliver durability in demanding medium to heavy duty conveying applications. Suitable for high speeds and large tonnages, the rollers are available in diameters from 152 millimetres to 178 millimetres with bearing sizes from 6306 up to 6310.

FLUID COUPLINGS FOR POWER TRANSMISSION APPLICATIONS IN PLATINUM MINING



The most widely-used hydrodynamic power transmission technology in modern platinum mining is fluid couplings. Voith's high-quality range of hydrodynamic technology-based power transmission solutions are available to this sector at a considerably reduced cost.

This follows Voith having successfully achieved cost optimisation on a global scale following a year-long focus on internal optimisation processes, such as commercial manufacturing, business costs and rationalisation.

According to Voith South Africa Area Sales Manager Gary Allison, quality has not been compromised at all. "There has been absolutely no compromise on quality in terms of materials, processes and manufacturing. Instead, we used advanced algorithms to determine where smaller components could be used to lower cost, without affecting performance."

The hydrodynamic principle of a fluid coupling makes it easy to gently accelerate driven machines. Fluid couplings limit torque, provide load sharing, and dampen torsional vibrations. This protects the drive system from damage even under extreme operating conditions, while reducing downtime and ensuring an uninterrupted production process.

"Our drive solutions are reliable and specifically tailored to each drive system, from individual couplings to complete driveline solutions. The transmittable power ranges from 300W up to 6MW, making our fluid couplings ideally-suited to the platinum sector," adds Allison.

Despite a sluggish market, Allison is optimistic that Voith can achieve long-term growth in the platinum sector. "Projects are



currently very limited, as there are no new mines or shafts being built. This is globally-driven due to commodity prices. Companies have to optimise their resources to stay afloat, and this is where our cost advantage plays a major role."

What also sets Voith apart from the competition is its aftermarket service. "In tough times, operations need to be able to rely on suppliers that provide full back-up and on-site product support when required. This forms part of our value-added service offering, which is a major driver in maintaining contracts, while winning new ones when markets turn," Allison concludes.

Voith Turbo, a Group Division of Voith GmbH, is a specialist in intelligent drive solutions. Customers from highly diverse industries such as oil and gas, energy, mining and metal processing, ship technology, rail and commercial vehicles rely on advanced technologies from Voith Turbo.

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