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NEW! MAN LION'S URBAN

A ROAR SOON TO BE HEARD IN DURBAN

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COVER

The stylish MAN Lion's Urban will soon roam the streets of Durban as part of the public transport bus fleet.

REGULARS

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THE ONLY CONSTANT IN LIFE IS CHANGE

IF THERE IS ONE EXPRESSION THAT APPLIES TO UD TRUCKS, IT IS THIS: THE ONLY CONSTANT IN LIFE IS CHANGE

The jury is out as to whether the Greek philosopher, Heraclitus, actually said that "the only constant in life is change", or "change is the only constant in life". No matter; both have the same meaning anyway. However, there is one statement with which everyone agrees: UD Trucks and change have become synonymous.

Indeed, Nihon Diesel Industries – which became Nissan Diesel and then UD Trucks – has spent some of its recent years in a state of flux. The most tumultuous time recently was probably 2007, when the company was purchased by the Volvo Group. This came with massive changes – both around the world and here in South Africa.

Three months ago, the commercial vehicle manufacturer was rocked by yet another bombshell: Isuzu had acquired UD. Two months later, we heard that Gert Swanepoel, managing director of UD Trucks Southern Africa, would retire after 32 years with the company.

Swanepoel's replacement, we were told, would be Filip Van den Heede, a man with considerable experience in the commercial vehicle world. In fact, Van den Heede has been involved in the trucking industry and the Volvo Group for the past 22 years and was previously vice president of vehicle sales and marketing for UD Trucks International Sales.

> There are economic challenges, but we still believe that there is growth potential.

"This included responsibility for the southern African market. I have been working with Gert for the last four years. I was based in Singapore and I handled everything related to product launches, product strategy, pricing, marketing activities, brand positioning… I have been dealing with the whole South African team for some time now. I have also been working with the dealer council for the last three years," Van den Heede tells me during an exclusive interview (his first in South Africa).

Before his move to South Africa, he worked very closely with Swanepoel for "a couple of months". "We wanted to make it as smooth a transition as possible," explains Van den Heede.

He has also been working with some major customers. "We have been running some pilots with various South African customers and I have also been involved in those trials. So, I know this market fairly well," Van den Heede points out.

I ask him what motivated him to make the move to South Africa. "There were a couple of things. First, UD is a good brand with a long heritage, especially here in South Africa. Second, I believe it is a whole eco-system. We have a strong dealer network serving the customers, with 36 dealers and service agents in South Africa and 30 in other southern

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African countries such as Angola, Malawi, Mozambique, Mauritius, Namibia, Zambia and Zimbabwe.

"We also have a plant and a strong sales organisation with good fleet sales. It is a good mix. What appeals to me about this market is the fact that it is very competitive. I also like the fact that, with our product range, we can compete in all sectors of the market," Van den Heede responds.

Of course, this market is not without its challenges. "Sure, there is a lot of uncertainty in the country and this influences the behaviour of customers. You can see that in the latest Naamsa figures, which are exhibiting the buying-down behaviour of customers. There are economic challenges, but we still believe that there is growth potential. This is a country that needs transport for development.

"I find it interesting to note that this is a country that exhibits a lot of different standards. On the one hand, you can view it as a developed country with a lot of extremely professional fleet operators – much like Australia. For customers like these, we have the new Quon; the premium product with impressive safety features. On the other hand, we have the Quester, which is more of a workhorse," Van den Heede explains.

Marketing director of UD Trucks Southern Africa, Rory Schulz, concurs. "The region is somewhat of a dichotomy as you can drive by hi-tech logistical warehouses that support large international corporations, while at the same time trying to avoid potholes on the road. As a manufacturer, we must take these two worlds into consideration when introducing new products and technologies," he says.

This will continue to be a point of emphasis in 2020. The new managing director came to South Africa as a period of consolidation started for the company (versus the dramatic developments last year when the company launched no fewer than three new trucks, which is virtually unheard of within one year).

This will entail focusing on adding value to customers via service offerings such as telematics. "We have launched our telematics offering on the new Quon, Quester and Croner," Van den Heede reveals.

According to Schulz, UD's telematics systems offer the ultimate in connectivity. "We have real-time tracking. Customers can trace a vehicle's history. We can provide proactive support (vehicle health monitoring, preventative maintenance planning, remote customer assistance and fuel advice services, for instance). We can monitor driver behaviour and give reports pertaining to fuel utilisation. And the great thing is that this is here with us right now. It's not something that we will only get in the future," he stresses.

This year will also be a year of transition – with UD snuggling up to its new owner, Isuzu. I ask Van den Heede if he found this concept rather intimidating. "No, I'm not sure that it has created more challenges than before. I see a lot of opportunities with the Isuzu strategic alliance. If you put Isuzu and UD Trucks together, it will create opportunities – not only for the current technologies, but also for the future.

ABOVE: Flip Van den Heede, MD of UD Trucks Southern Africa.

"In South Africa, for sure we are competitors, but if you look at it globally, there are complementary synergies. UD is rather strong in heavy-duty sector. If you look at Isuzu, it is very strong in light-duty sector. So, there are, indeed, complementary aspects between the two businesses," he points out.

He also stresses that 2020 will not be a year of waiting around to see what happens. "Yes, we're in a year of transition, but we are assured that the two brands will continue to exist and that they will continue to operate as separate entities. All the plans that we have – be they for South Africa or globally – will continue to go ahead. We are not in a 'wait and see' mode. For us, it's a case of business as usual. Waiting is not an option; we won't waste this year. We are going to continue to serve our customers," he stresses.

So, it will be business as usual for customers. And, even though there won't be product launches galore, another busy year for the UD team...

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MAN LION'S URBAN ROARS IN DURBAN

THE STYLISH MAN LION'S URBAN WILL ROAM THE DURBAN STREETS AS PART OF THE PUBLIC TRANSPORT BUS FLEET OPERATED BY DURBAN TRANSPORT. MARISKA MORRIS TAKES A CLOSER LOOK AT WHAT THESE BUSES HAVE TO OFFER

MAN has dedicated the past few years to rebranding and extending its bus and chassis ranges to offer a wide variety of vehicles with some of the latest technology for nearly every passenger transport application. The flexibility of its range helped MAN Automotive South Africa secure a tender to supply Durban Transport with a fleet of 150 MAN Lion's Urban buses.

As a key public transport operator in the coastal city, Durban Transport had very specific requirements for its buses, such as a high-floor chassis to accommodate the higher boarding platforms and the use of anti-corrosive materials in the vehicle. With its wide range, MAN Automotive South Africa was able to tailor a bus to meet these specifications ex-Europe.

In saunters the MAN Lion's Urban with a MAN RR8/9 high-floor chassis. The vehicle boasts all the performance benefits of the high-floor chassis – complete with a Euro-5 engine – while providing the same clean, stylish and comfortable design found in the MAN Lion's range.

As Gary Aliphon, bus fleet manager at MAN Automotive South Africa, explains: "The MAN Lion's Urban was designed by our team in Munich, Germany, to match the design found on all of the latest MAN products. This same team recently won the prestigious iF Design Award for the fifth consecutive year."

In 2016, the MAN team won for its design of the MAN Lion's Intercity; the Neoplan Tourliner bagged the award in 2017; in 2018 it was the MAN Lion's Coach; the 2019 award went to the MAN Lion's City, and the MAN Lion's City E won in 2020.

When one climbs inside one of these buses, it's easy to understand the MAN team's repeated wins. Delegates at the Southern African Bus Operators Association Conference will recall the iconic clean, bright and open design that has become associated MAN buses. The modified Lion's Urban vehicles delivered to Durban Transport are no exception, as Aliphon notes.

"Some of the key features of the bus include modern design lines with better aerodynamic characteristics and segmented side panels in fibreglass that make the overall weight of the bus lighter. This also allows for a quicker turnaround of repairs in the case of an accident," he says.

These are but some of the design and performance features that Durban Transport looks forward to incorporating into its fleet. Head of the city fleet at the eThekwini Municipality, Malcolm Joshua, notes that passenger safety, driver comfort, reduced fuel consumption, lower carbon emissions and the

modernised design features were central to specifications for the city.

"MAN Automotive South Africa was the successful bidder on the Durban Transport bus tender. The company has a large footprint in the South African bus market. The brand is reliable, and the buses will greatly benefit the city," he says.

The two-by-two interior seating configuration in the MAN Lion's Urban ensures better passenger comfort and aisle space, while the full air suspension and kneeling function allow passengers to board the bus with greater ease.

Similarly, driver ergonomics were key with an instrument layout that ensures all the important information is visible at a glance. The design also includes front LED daytime running lights that ensure better visibility. The MAN buses are more environmentally friendly with reduced fuel consumption and maintenance costs.

"Our strategy as a city is to reduce our carbon footprint," Joshua points out. "These vehicles will contribute towards achieving this goal. The projected fuel consumption is also significantly lower than the existing buses in our fleet and we are looking forward to the reduced operating costs from the projected fuel savings."

This is thanks to the Euro-5 emission level of the six-cylinder engine without the need for adBlue (MAN PureDiesel technology) in the MAN Lion's Urban. The engine boasts

LEFT: The eThekwini Municipality celebrates the arrival of its MAN buses.

235 kW of power with 1 600 Nm of torque. While the standard MAN RR8/9 chassis boasts similar performance, there were some design elements specifically modified for the Durban Transport fleet.

"Some critical design elements were changed," Joshua elaborates. "Because of the corrosive nature of the Durban coastal climate, anti-corrosive materials were used in the design. The cooling system was also relocated away from the kerbside of the bus to improve engine cooling especially during those hot Durban summer days." The full 3CR12 structure on the MAN Lion's Urban has better anti-corrosive properties and is lighter and stronger than mild steel.

The MAN Lion's Urban buses will form part of the 550-bus fleet operated by Durban Transport and run in all major residential areas it services. Durban Transport also aims to keep its bus availability at 90 percent – an entirely possible feat with the reliable MAN buses forming an integral part of the fleet.

The buses will hit the road once the drivers have been trained.

MIKE FITZMAURICE is the CEO of the Federation of East and Southern Africa Road Transport Associations (Fesarta). He has 42 years of experience in the transport and logistics industry with several major companies in South Africa, as well as overseas exposure with some of the leading transport companies in six European countries. He runs Transport Logistics Consultants, which he established in 2004. In May 2015 he became CEO of Fesarta.

FUTURE CHALLENGES FOR ROAD FREIGHT MANAGEMENT

WITH SO MANY CHALLENGES CURRENTLY FACING THE ROAD FREIGHT INDUSTRY, CONTROL AND REGULATION STANDARDS ARE PARAMOUNT

The road freight sector in most of eastern and southern Africa is under extreme pressure, due to rising costs, deteriorating roads, a reduction in industrial outputs, and the ever-increasing imposition of more taxes and levies. The situation is aggravated by the lack of effective training at all levels.

In South Africa, the National Diploma in Road Transport Management no longer relates to managerial activities. The demise of the apprenticeship system and the revised institutional arrangements have diluted technical training standards, and the total lack of professionally developed heavy goods vehicle (HGV) driver training courses means that entry-level truck drivers effectively learn by "hit or miss" practise on the roads.

It must also be noted that the Professional Driver Permit (PrDP) has no professional content or training requirement. The current situation throughout eastern and southern Africa is that there are no industry entry requirements and no effective records of operators, their vehicles, drivers and operations in any databases that permit monitoring of performance quality.

In response to the foregoing, the RFS defines the elements of an operator registration system, which includes the requirement for a nominated Responsible Competent Person (RCP), and details of fleets and drivers for each operating centre.

This requirement will necessitate the creation of entry-level managerial training for qualification of the registered RCP Holders. This is a base requirement for the operator registration system. It is envisaged that the initial requirements for RCP registration will have "grandfather" clauses, but the intention is to ramp up the qualification as quickly as possible.

The courses will be developed in collaboration with the industry and must be practical and focused on international best practice to promote improved quality of operations for the future.

The creation of the operator register is in line with the principles of transport regulation in all modes and is a belated reaction to the failure of the Road Transport Quality System (RTQS), which was not effectively implemented in the 1980s.

It must also be noted that the current Tripartite Trade and Transport Facilitation Programme, covering all 26 countries in the region, includes the introduction of harmonised quality regulation. The system is based on the same principles as the RFS and includes operator registration, RCPs, and the development of monitoring systems that will hold the details of all operators in the region.

Registration in the Transport Registration and Information Platform and System will become the essential requirement for operators to cross borders, after the repeal of the current cross-border permit system.

Bilateral agreements will be replaced by the Multilateral Cross Border Road Transport Agreement between all countries in the region.

The "levelling of the playing field" will facilitate cross-border trade as envisaged in the African Free Trade Agreement.

For road freight operators, the development of the operator registers and requirements for nominated and registered RCP holders will present the need for preparation of training and development plans.

It is essential that the road freight sector prepares to give effective support and direction to the reorganisation of the regulatory framework to ensure that the results do support efficiency and do not have negative impacts on commercial viability.

@NLawGlobal

PETER LAMB is a director in the Norton Rose Fulbright admiralty and shipping team, based in Durban. A qualified attorney, Lamb has an LLM in shipping law from the University of Cape Town. He focuses on shipping, logistics and marine insurance law. Lamb is also able to advise logistics service providers, and users, on numerous commercial aspects and risk management, with a focus on Africa. You can read more from Lamb on the Norton Rose Fulbright *insideafricalaw.com* blog.

CYBER RISK AND SUPPLY CHAINS

NEW THREATS AND MORE SOPHISTICATED CYBER ATTACKS WILL LEAVE SUPPLY CHAINS MORE VULNERABLE THAN EVER, UNLESS A COMPREHENSIVE CYBER RISK MANAGEMENT SYSTEM IS PLACE

Global supply chains have benefited greatly from new technologies, which have led to greater efficiencies. Global supply chains and secure technologies are critical to global business operations, but they are also a high-value target for cyber criminals.

The traditional view of risk officers is through the first-party exposure: attacks against a company's IT infrastructure, malware and data breaches. However, most recent publicised attacks have been perpetrated by infiltrating a supplier's network, and using it as a gateway to the target's systems. The logistics sector forms an integral part of those networks.

The highest threat is through shipping and, to a lesser extent, logistics companies being an unintended victim of an attack, as was the case when A.P. Moller-Maersk famously fell victim to NotPetya malware in June 2017, which caused widespread disruption to its shipping and port operations.

These high-profile cases underline the importance of viewing cyber risk holistically, rather than as an isolated event, and of integrating supply chain exposures into the overall risk management strategy.

Cyber incidents can occur at any point along the supply chain and have multi-layered consequences. Various risk scenarios can be applied to companies involved in the global supply chain. We will focus here on a scenario where a logistics service provider can be the weak link in the chain.

Many supply chains rely on a variety of suppliers of different sizes across the world. The logistics sector forms part of those many components. Should one of the key suppliers' operations be compromised, due to a cyberattack on its systems rendering the supplier unable to perform its obligations (whether it is to supply components, or to provide logistic services), the delay caused by the breach and the ensuing business interruption would have a direct repercussion on the company's ability to deliver its final product and to meet customer demand.

The main consequences of this type of attack are delay cost (which may manifest itself in liquidated damages payable to customers); loss of revenue and profit; and potential reputational damage caused by the inability to deliver in order to meet customer requirements.

In the case of prolonged disruption, downstream customers and distributors may also exercise their right to terminate their respective agreements with the company, and the ability of the company to recover from the incident may be called into question.

Strategies to help mitigate this type of scenario revolve around vendor management and establishing contingency plans for critical vendors, including delivery times and minimum outputs required on short notice.

Companies are increasingly applying the principle of redundancy when designing or adapting their supply chains in order to identify vendors who can easily replace preferred providers should a crisis prevent them from delivering their usual output.

It is essential for logistics service providers to appreciate their role in the global supply chain. If a company does not have a proper cyber risk management system in place, it could easily become a liability to its customers. Logistics companies should see cyber risk management as a significant value add for their customers.

VIC OLIVER is one of this country's most respected commercial vehicle industry authorities, and has been in this industry for over 50 years. Before joining the FOCUS team, he spent 15 years with Nissan Diesel (now UD Trucks), 11 years with Busaf and seven years with International. Do you have a comment or thought you would like to share based on this column? Visit www.focusontransport.co.za and have your say!

E-TOLL DILEMMA!

TRUCK OPERATORS ARE ASKING SOME SERIOUS QUESTIONS ABOUT THE FUTURE OF THE E-TOLLS

The procrastination by the ANC and the other authorities involved in the decision of whether or not to scrap the Gauteng e-toll system has led to unfair competition between truck fleet owners who pay their daily Gauteng e-toll fees and those operators who refuse to pay.

While law-abiding truck fleet owners pay their daily e-tolls, many truck owners have never paid and others have recently stopped paying, due to the uncertain future of the Gauteng e-toll system.

The money spent on Gauteng e-tolls for a fleet of trucks using the these roads daily adds a considerable amount to the operating costs of a truck and a reduction in operating profits.

According to recent media reports and discussions with decision-makers involved with the Gauteng e-toll system, it appears that the ANC government has no intention of scrapping the Gauteng e-toll system until the debt has been settled.

However, with only an estimated 20 percent of the users now paying their fees, how long will it take to settle the debt?

Truck operators using the Gauteng e-toll roads are now asking some serious questions:

- Should law-abiding truck companies and other road users continue to pay their Gauteng e-toll fees?
- If the system is scrapped, will the truck companies and other customers that have paid their fees over the last few of years be reimbursed?
- With the large number of vehicles that use the Gauteng e-toll road network daily, it will soon be necessary to carry out some extensive and expensive road maintenance. How will future maintenance be funded if an acceptable solution is not found quickly?
- Fuel levies have increased every year. Where has this money gone? Has it been spent on bailing out the state-owned enterprises, which are riddled with corrupt allegations?
- Why has the ANC government not allocated some of the funds gained from the fuel price increases to the Gauteng e-toll system?

> Fuel levies have increased every year. Where has this money gone?

It is my opinion that a tough decision needs to be made soon – and adding a few cents to the fuel price appears to be the best solution.

If the alternative payment system of adding a few cents to the price of vehicle fuel had been implemented years ago, the Gauteng e-toll debt would by now be far lower, if not paid in full.

The inability to find a quick solution on how to settle the outstanding debt and where to find the funds to maintain the roads will have a very negative effect on the country's economy. The future decisions may be harsh and not acceptable to all Gauteng road users, but I believe that they need to be taken soon and implemented.

VAUGHAN MOSTERT lectured on public transport issues at the University of Johannesburg for nearly thirty years. Through Hopping Off, Mostert leaves readers with some food for thought as he continues his push for change in the local public transport industry.

WILL THE NEXT NEW WORD BE "DRYFSKAM"?

STRANDED ASSETS. JUST TRANSITION. SUNSET INDUSTRY. TEN YEARS AGO THESE TERMS WERE ALMOST UNHEARD OF. NOW THEY ARE PART OF EVERYDAY CONVERSATION. A MORE RECENT NEW WORD IS *FLYGSKAM*. I PREDICT THAT THE NEXT WORD WILL BE *DRYFSKAM*, WHICH NEEDS NO EXPLANATION

None of this is a concern for those who are buying bigger SUVs, driving at 300 km/h, spinning their cars and applying for another fuel station licence. But for those who are genuinely concerned and would like to make even a token contribution, we should start looking at a few simple things that will help to reduce the impact on the environment down the line, without reinventing the wheel.

The very least we can do – starting tomorrow – is to observe the speed limits. By doing so, every motorist will be making a statement about protecting the environment and will be helping to save about one-billion litres of fuel each year. That's R15 billion more in motorist's pockets, plus a reduction in the severity of accidents and other costs. (By the way, the blue-light brigade will also have to come into line.)

The next fairly easy thing to do would be to fix public transport, which currently contributes to our economic and environmental problems.

WHERE DO WE START?

We should not start with the minibus-taxi industry, as its business model is helping to sustain inequality. I have searched through hundreds of academic research papers and conference presentations over the years, but still have to read a single one pointing out that minibus-taxi users are overpaying R45 billion a year on taxi fares. No taxi passenger should have to pay more than a rail passenger would, for the same distance.

We should also not start with Metrorail. Having been run into the ground, it is currently under administration. A panel of "qualified" advisers is trying to get it back on its feet.

The Gautrain is also not a good place to start. Its business model matches that of the minibus taxis, in that it gives poor value for money. If one third of the effort and resources given to the Gautrain had been spent on introducing five new bus routes between Johannesburg and Pretoria, we would now have more to show for our trouble.

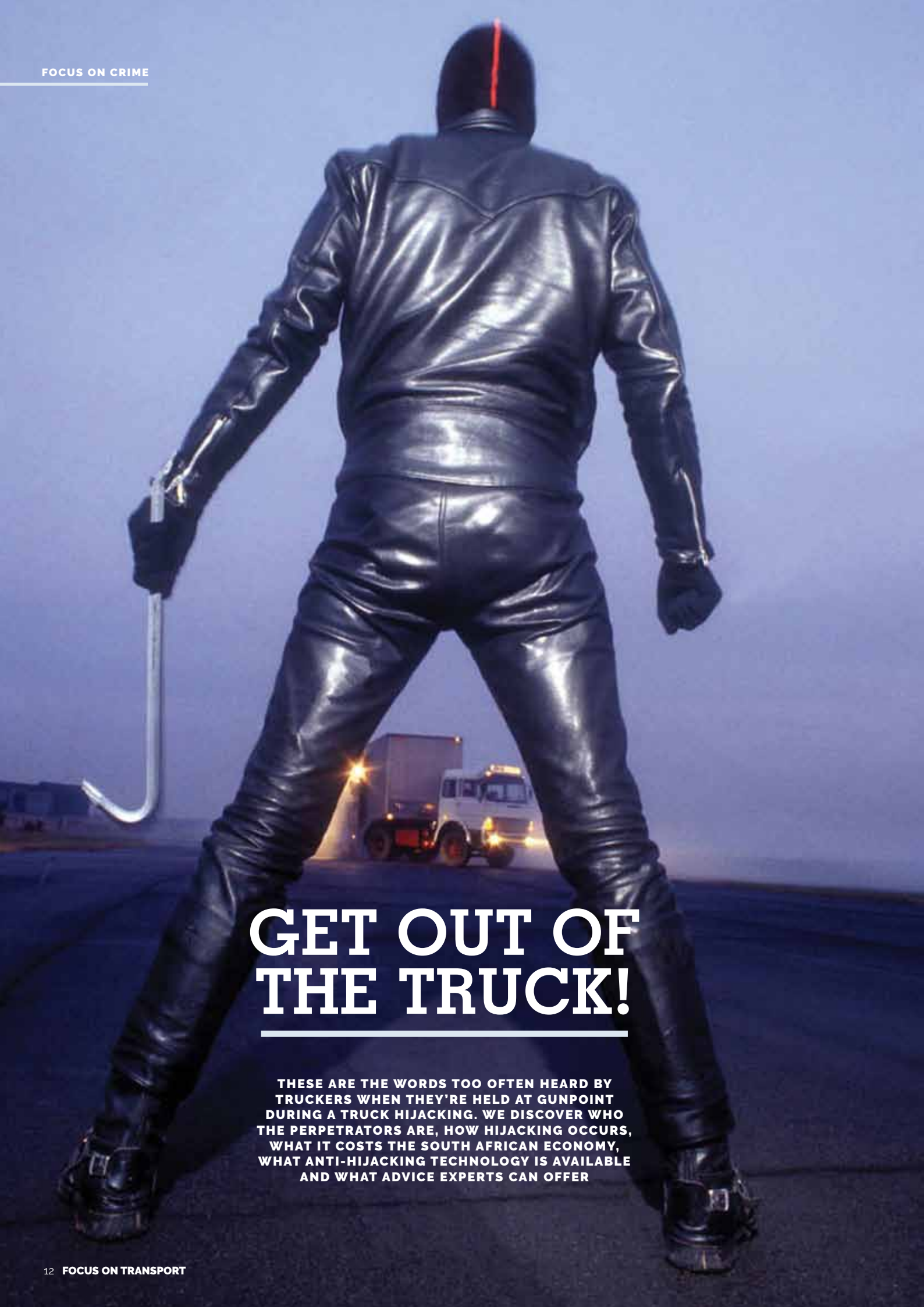
SO WHERE DO WE START TO FIX THINGS QUICKLY?

The most effective step would be to put all existing subsidised bus services under administration. Currently they are operated by a ragged mix of private companies, municipalities and provinces, most of whom are ineffective, poorly managed, inadequate and uncoordinated.

Each one has its own board of directors, who are doing nothing to improve services, or to raise passenger levels by cooperating with each other. I suggest starting with the board of Johannesburg Metrobus!

A single bus administration in each area would reorganise these services so that they could handle all their existing passengers during the peak period, while also providing space for quite a large number of people, who at present go to work by car. We won't need extra buses to achieve this, although we will need to operate more kilometres and employ more drivers.

We are in a hole. Let's stop digging deeper.



GET OUT OF THE TRUCK!

THESE ARE THE WORDS TOO OFTEN HEARD BY TRUCKERS WHEN THEY'RE HELD AT GUNPOINT DURING A TRUCK HIJACKING. WE DISCOVER WHO THE PERPETRATORS ARE, HOW HIJACKING OCCURS, WHAT IT COSTS THE SOUTH AFRICAN ECONOMY, WHAT ANTI-HIJACKING TECHNOLOGY IS AVAILABLE AND WHAT ADVICE EXPERTS CAN OFFER

There are no exclusions when it comes to choosing a victim in the complex business of truck hijacking. All trucks are potential targets. This is because the objective of most hijackers is to take the cargo.

Targeted cargo items are most often electronics such as laptops and televisions, and everything from household appliances to tyres, cigarettes, liquor and even bread. Many drivers transact on a cash-on-delivery basis, so these vehicles also become a target.

Hijacking to obtain the actual vehicle is less common, and fewer instances of hijackings occur with fuel tankers and vehicle transporter trucks.

Most truck hijackings are conducted by "professionals" who have a plan, says Charles Morgan, executive for operations at Netstar. An example of this would be when a truck is pulled over and the trailer containing the cargo is disconnected from the horse, connected to the hijackers' horse, and then immediately driven away.

Once the trailer is in a secure location, the cargo might be offloaded, or loaded onto a different trailer and moved again. The driver is usually kept hostage at a separate location until the hijackers believe they are safe. The only positive in this situation is that drivers are generally left unharmed if they comply with the hijackers' instructions.

WHO IS INVOLVED?

Allegations are often made that hijackings are "an inside job". According to experts, this can involve the drivers themselves and other staff of the trucking companies. While better screening of employees is helpful, an employee can be "turned" at any point if tempted or coerced. These days, members of the South African Police, Metro Police, private security companies and even military personnel can also be involved in hijacking operations.

HOW DOES IT HAPPEN?

Syndicates first utilise inside information from depots to establish load types, destinations and times of departure. Then the actual hijacking takes place, usually by way of forcing drivers at gunpoint to pull over and stop. "A common tactic is to place fake police blue lights on vehicles to stop trucks," explains Morgan.

According to Adv. Johan Jonckie from Arrive Alive, staging is another common tactic – a scenario is presented to look as normal and innocent as possible, for example, a police roadblock, a broken-down car, a hitchhiker, indicating an imaginary fault on the truck, or forcing a collision.

"Sophisticated criminals now deploy signal jammers, diversion tactics, infiltration teams and blackmail, and even plant employees in organisations to gain access to products or assets and obtain insider knowledge about routes and cargo," says Henry Smith, fleet sales director at MiX Telematics Africa. Criminals have also become increasingly more professional in terms of techniques and processes.

Hijackers also use the element of surprise. Adv. Jonkie says: "They will typically wait for the truck to slow down or stop naturally and assault the driver after gaining access to the vehicle using the element of surprise. Stopped vehicles with resting drivers are also particularly at risk, as are vehicles inside depots and yards."

Insights into the cases experienced at Netstar indicate that the majority of hijackings occur very late in the evening, right through to the early hours of the morning. This is typically to take advantage of quieter roads and the cover of darkness.

"Sophisticated criminals now deploy signal jammers, diversion tactics, infiltration teams and blackmail, and even plant employees in organisations to gain access to products or assets and obtain insider knowledge about routes and cargo

ANTI-HIJACKING TECHNOLOGY

Trucking companies have many sophisticated technology-based solutions available to them. "Fleet-tracking devices should be a primary tool in helping to combat hijackings," says Morgan. "A very important aspect to consider when choosing a tracking solution is to check if it has a method of combatting GSM jamming. Criminals use illegal GSM jammers in a large majority of cases to prevent tracking solutions from communicating with control centres – thereby 'blinding' fleet controllers."

By planning routes to be used, the potential time of arrival, and monitoring for this, personnel from a remote location can usually identify that there may be suspicious activities taking place.

Some tracking companies offer route-monitoring services where these activities, and other details, are monitored, and actions taken accordingly.

Panic buttons installed in the trucks are also a good way to raise the alarm. And using connected video-streaming technology in vehicles can help fleet controllers view current vehicle footage remotely.

SURVEILLANCE AND TRACKING

Tracking devices use communication networks, such as cellular networks, to communicate information to and from the tracking device. According to Morgan, this can

include the GPS speed, direction, ignition status, fuel levels, temperature of cargo area, and a multitude of other sensory information.

A host of commands can be triggered remotely for the tracking device to act upon, for example, the device can be used to switch outputs on the truck to open locks, to provide sound alerts and more detailed information.

Fleet owners can also install cameras onto their fleet vehicles for a more robust risk-mitigation solution. Cameras can be installed to face fuel tanks in order to monitor any theft or tampering; to face the driver to monitor driver behaviour; and to face the rear of the vehicle to capture any external triggers that may be useful in the event of an insurance claim, for example. The surveillance and real-time monitoring of all of these events takes place via control centres where data is analysed to help make accurate and timely decisions affecting the fleet.

IMPACT ON THE SOUTH AFRICAN ECONOMY

Smith says: "According to the South African Insurance Crime Bureau, truck hijackings currently cost the South African economy R3 billion a year."

Morgan explains: "Cargo theft, in particular, has a ripple effect on the supply chain that goes beyond the stolen goods. This includes increased insurance premiums for logistics businesses, decreased customer satisfaction or brand loyalty, loss in sales, stock replacement and shipping costs and unplanned downtime."

The increased costs suffered in the supply chain will

INFORMATION TO PROVIDE WHEN REPORTING A HIJACKING:

- Details of the vehicle – description, colour and markings.
- Load and cargo details – many operators know where the cargo will be headed, based on the type of cargo.
- Additional vehicle details – number plates can be replaced quickly, but VIN and engine numbers and data dot details are not so easy to remove.
- Modus operandi – include whether police vehicles are involved, how many suspects were involved, clothing worn, types of firearms and make of cars used.
- Date and time of the loss – often reports merely say "yesterday" or "earlier today". The exact time helps to determine the possible radius of movement.
- Tracking detail – by knowing which tracking/recovery service is involved, those operators can be contacted directly by the ground crew if the vehicle is spotted.
- Amount of fuel – knowing how much fuel was in the vehicle helps to establish whether the suspects will need to fill up, or how far they could have travelled.
- Demands, questions and/or commands – knowing what suspects wanted, asked and/or said, can indicate their intentions or where they might be headed.

ultimately impact the pockets of the consumer, as the cost of goods increases to offset the losses. In a country where disposable income is already stretched, truck hijackings can have a devastating social and economic impact.

HOW TO REDUCE THE RISK OF BEING TARGETED

Smith says the challenge is often that many commercial trucking operations are geared for profit and not necessarily for secure operations. This raises a question regarding the effectiveness and level of preparedness of many fleet operators' control rooms, fleet management systems, and driver and staff training to react in a crisis situation.

"The processes and risk-mitigation strategies within organisations need to be professionally developed in order to make coercion and attack as risky as possible for criminals," says Adv. Jonckie.

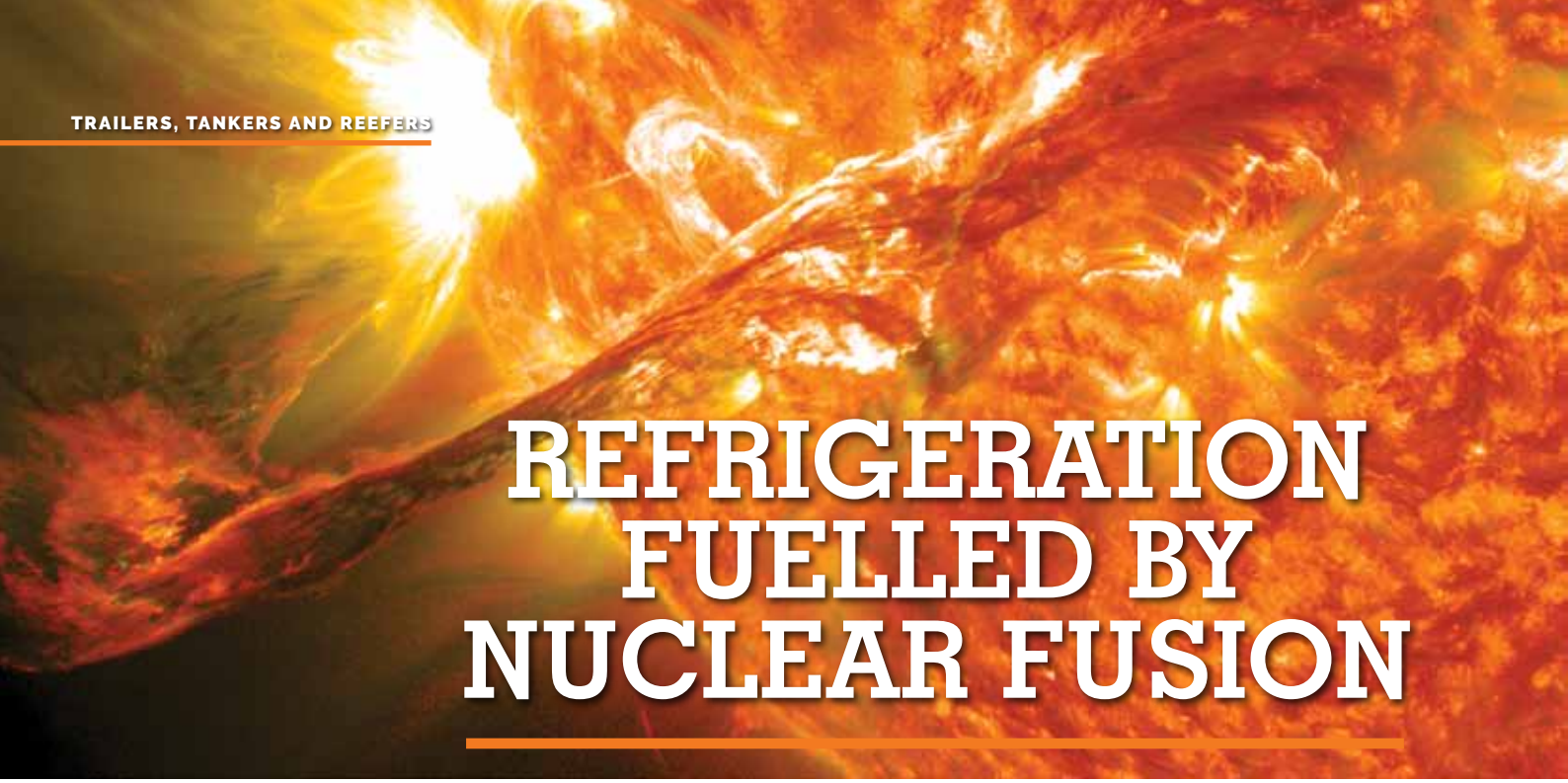
Preparedness is not only about what drivers need to do when they are hijacked, but also how to detect a potential hijacking scenario, what emotional and physical reactions to expect when falling victim to a hijacking, what to do to stay alive during a hijacking, and what to try to focus on to help in the post-event analysis and intelligence-gathering.

> When reporting a hijacking, it is imperative to provide as much detail as possible about the incident.

Drivers should be aware of the following:

- Consider every unscheduled stop a possible assault. No matter whether it is a police roadblock, collision, cattle or a broken vehicle – follow "assault protocol" and prevent an attack.
- Keep doors locked. The passenger door is the most common access point for hijackers.
- Do not pick up hitchhikers – not even women! In a recent attack, a driver passed out after being given a drink by a woman. He woke up five hours later, tied up in the field, and his truck was gone.
- Stay in touch with the control room. If a stop is planned, tell them where and for how long, and what other vehicles/people are present. List number plates if possible.
- If a hijacking occurs, do not resist. Very few hijackings (currently) result in serious injury or fatalities, but there have been many fatalities in cases where drivers resisted.
- Do not use the panic button for anything other than an emergency. This can result in panic alarms being ignored when there is a real emergency.
- Use the truck for protection if necessary – if any effort is made by a light vehicle to stop you, call the police or controller/tracking company for guidance and, if instructed to, use the truck as a defensive tool.
- Do not trust anyone. Hijackers come in all shapes, sizes, races and sexes. Be suspicious and stay alert.

When reporting a hijacking, it is imperative to provide as much detail as possible about the incident, especially when reporting on active hijacking and recovery groups, for example, on WhatsApp. Where there is a lack of information, there is a lack of forward planning. Operators who provide only basic details frustrate efforts and demotivate operators when vehicles are lost. F



REFRIGERATION FUELLED BY NUCLEAR FUSION

A COMPANY'S BOTTOM LINE IS A STELLAR WAY OF MEASURING EFFICIENCY – THE NAME OF THE TRANSPORT GAME. JACO DE KLERK DISCOVERS HOW NUCLEAR FUSION CAN MAKE REEFERS MORE EFFICIENT

Okay, so the heading and intro could be seen as some crafty "clickbait" ... but it's true, nonetheless.

Chris Jones (creator of the website *Space Facts* – space-facts.com) notes (on his page Sun Facts) that energy is generated from the sun when hydrogen converts to helium. This process takes place at the core of our closest star via nuclear fusion.

In short, millions of tonnes of hydrogen atoms crash together in the extreme temperatures and gravity of the sun, which forces them to break their atomic bonds and fuse to make the heavier element, helium.

"The temperature inside the sun can reach 15-million degrees centigrade. The temperature on the surface is closer to 5 600°C," Jones points out. He adds that our parent star has already burned off about half of its store of hydrogen, at around 4,6-billion years old. "It has enough left to continue to burn hydrogen for approximately five-billion years," he says.

It's no wonder that Georg Weinand, project manager of corporate publishing at *Cargobull News* (the in-house publication for Schmitz Cargobull, a German manufacturer of semi-trailers, trailers and truck bodies), reports that the sun is a virtually inexhaustible source of energy. He adds that every year our closest star radiates 10 000-times more energy than that required by humanity as a whole.

"A tiny part of this energy is now also used by Schmitz Cargobull for its S.CU transport cooling unit," Weinand notes. "Transport cooling units must be ready for use at all times. As a result of long idle times, especially during winter, or through additional loads such as a temperature recorder, discharging of the starter battery can occur, which can have serious consequences."

He adds that if a deep discharging occurs, the battery will be damaged and will need replacing. "With the new S.CU solar panel, such bothersome and costly situations can be avoided. The starter battery of the S.CU transport cooling unit is charged with the help of the solar panel and, as a result, remains operational for a longer period of time."

The solar panel also doesn't affect the trailer's overall height, as it is installed directly onto the cooling unit itself. "Thanks to the tilt angle of the panel, soiling and the accumulation of snow and ice are minimised, which means that its efficiency is not affected – even in winter," Weinand reports.

"Another advantage is that the solar module can be retrofitted on existing S.CU transport cooling units. Schmitz Cargobull has created a special retrofit kit that customers can order from their Schmitz Cargobull service partner and then have installed," Weinand adds.

Fusion-fuelled refrigeration would work perfectly in sunny South Africa. Thermo King, a brand of Ingersoll Rand, reports in the news section of its website, in an article titled: Winter is here! Learn why solar is more critical in winter than summer, that solar power is more critical during winter months and in colder climates.

The article states that it's a common myth that solar panels won't work during winter months and that modern solar panels are designed to produce power during cold and short winter days. "Even in the most frigid weather, solar panels turn sunlight into electricity, because the panels create energy from the sun's light – not the sun's heat," the article reads. "There are fewer hours of sunshine during the winter, but there are still plenty of hours to tap for a solar charge."

Cold winter temperatures put a hard strain on the batteries in equipment – such as the tractor, the battery-powered auxiliary power unit (APU), the refrigeration unit and the lift gates.

The news piece emphasises that electronics need more power to perform the same task in cold temperatures. "To make matters worse, batteries don't provide as much power or charge as efficiently in cold temperatures. To offset this issue, solar is a critical addition to any asset to ensure batteries are fully charged, every day, and that they remain warmer internally."

Another article on the company's website – Solar Panels: The ideal solution to save you money and meet your power

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needs – reports that Thermolite solar panels can help lower operational costs by reducing diesel APU run time by 20 to 30 percent. It states that this can extend battery life to five or more years. "With APUs, solar offsets daytime heat loads, helps maintain peak performance and provides a full battery bank, even in low light conditions," the article points out.

It goes on to say that solar power also offers a host of benefits for fleets running without APUs. These include reducing jump-starts, expensive road calls and the cost of replacement batteries. "Solar panels can also power diesel-fired heaters, keep tractor batteries healthy and ensure electronics stay powered up, even over the weekend," the piece reports.

ABOVE: Schmitz Cargobull has created a special retrofit kit so that its solar module can be fitted on existing S.CU transport cooling units.

The solar panels offer plug-and-play connectors and are peel and stick – so no holes have to be drilled when these are retrofitted.

The logistics service provider, Martin Brower, with offices in Brampton, Canada, is also impressed with the benefits of solar power. "With the solar panel, we can leave the reefer on cycle-sentry mode all year long, including winter, without the worry of a dead battery," states fleet and warehouse engineering manager Chris Chua.

"Previously, we'd run in continuous mode, burning fuel for no reason, just to ensure the battery would stay charged. We are also recording fewer engine hours on the reefer, which stretches out the warranty time – it now takes longer to reach the 15 000-hour mark. Both translate to financial savings and reduced emissions."

EFFECTIVE COOLING UNITS ARE ESSENTIAL

However, the additional benefits won't help if the cooling units are ineffective. "GRW assembles a European custom-made box body here in South Africa onto a proven GRW chassis," explains Stephan Albertyn, sales manager at GRW – a local transport equipment designer, manufacturer and service provider. "By June 2020, we will produce Ferroplast panels at our Cape Town facility to reduce cost and lead times."

Patented in 1978 by Schmitz Cargobull, ferroplast technology combines the increased insulation properties of NX-17 polyurethane hard foam with durable steel skins. This combination stops water from entering the panels, which means that there is no weight gain over time. "Ferroplast panel technology is the market leader all across Europe," Albertyn points out.

"GRW's trailers, tankers and reefers have a global footprint – serving a variety of industries across southern Africa, the Middle East, Australia, Europe and the United Kingdom," says Albertyn. "They are sought-after because our engineers configure the trailers to the unique needs of each client and their country of origin."

The company invests a lot in its research and development, as well as in its employees. "At GRW, we believe that a high-quality product can only be built by highly skilled individuals," Albertyn tells **FOCUS**.

"We invest a considerable amount of time and money in training and developing our people. All welders, for instance, undergo stringent in-house training to achieve coded status before being allowed to work inside the production facility."

He adds that two aspects on which GRW is not willing to compromise are quality and innovation ... and innovation is definitely increasing as refrigeration fuelled by nuclear fusion gains traction.

It will be interesting to see what solar power will do for the South African trailer, tanker and reefers industries when this technology becomes commonplace in the local market.

WHEN TO SPILL THE BEANS?

WHILE HAVING LIABILITY INSURANCE IS ESSENTIAL IN TODAY'S UNCERTAIN ECONOMIC CLIMATE, THE ISSUES AROUND WHEN TO GIVE NOTICE OF A CLAIM CAN BE CONFUSING

"Typically, an insurance policy stipulates that notice of a claim must be given as soon as possible, or within the time limit stipulated by the policy," notes Garth Rowe, principal claims officer at Aon South Africa – a provider of insurance and reinsurance broking, risk consulting and employee benefit solutions.

"While this may seem simple enough with a straightforward assets policy, liability insurance is markedly different," he points out. "The issues around when and why to provide notification of a liability claim often give rise to much confusion."

Rowe adds that in the case of a liability insurance policy, the insured is required to give written notice to the insurer as soon as practicable. "Not only of any actual claim made against it by a third party, but also of any circumstance that could potentially give rise to a claim being made by a third party in the future," he notes.

He points out that this requirement has nothing to do with whether the insured believes they are liable or not. "It has to do with whether the insured is aware that a claim could arise, irrespective of where the liability is thought to lie."

It is necessary to spill the beans, as a liability policy isn't used only to settle third-party claims where the insured person is found liable, but it also covers legal costs incurred when defending a claim by a third party.

"This form of indemnity arises where the policy provides for legal defence costs and where the insurer is of the view that the claim by a third party should be defended rather than settled," Rowe highlights. He adds that before the insured incurs any legal defence costs, the written consent of the insurer is usually required.

"The defence of a claim by an insurer is an important component of indemnity under a liability policy, and the cost to defend a claim from a third party could entail considerable legal costs," Rowe continues.

"Thus, if the insured does not notify the insurer of a circumstance that could give rise to a claim as soon as he or she becomes aware of that possibility, the insurer may decline to assist on the grounds of late notification when the letter of demand or a summons is served at a later date."

Insurers don't want to use this obligation as a means to not pay. They want enough time to investigate the circumstances to protect both the insured and insurer.

"In Thompson versus Federated Timbers 2010 JDR 1543 (KZD), the court pointed out that where a reasonable person insured in the same position would appreciate the possibility of a claim arising, the fact that the insured in question did not notify, cannot relieve it of the consequences of its failure to notify the insurer of the event in question," Rowe explains.

"In this case, the court relied upon an objective test for determining whether an insured should have appreciated the possibility of a claim arising."

He notes that in situations of liability, it is better to be safe than sorry. "The insured should capture all circumstances in respect of which he or she has an awareness of the possibility, however remote, that a claim might arise, and notify the insurer or broker in writing as quickly as possible in order to protect their rights under the policy."

Rowe concludes: "If there is any doubt, discuss the merits with your broker, who will be in the best position to provide qualified advice."

TIGHTER BUDGETS A WIN FOR USED VEHICLES

AS BUDGETS TIGHTEN, THE USED VEHICLE MARKET COULD POTENTIALLY BENEFIT AS BUYERS TURN TO MORE AFFORDABLE ALTERNATIVES. MARISKA MORRIS INVESTIGATES

Recent growth in the South African national gross domestic product (GDP) has been minuscule, which, in turn, has impacted on business and consumer spending habits. As budgets tighten and businesses and individuals opt for more affordable alternatives, this could benefit the used vehicle market.

GDP growth contracted 0,6 percent in the third quarter of 2019. The manufacturing industry is among those most affected with its growth slowing by 3,9 percent. This includes the vehicle manufacturing sector – a key contributor to the South African GDP.

According to National Association of Automobile Manufacturers of South Africa (Naamsa), the industry contributes 6,8 percent to the GDP, of which 4,3 percent is manufacturing and 2,5 percent retail.

The total automotive revenue in 2018 was R503 billion. The local new vehicle sales have been affected by the low growth in the economy, as consumers have become reluctant to purchase vehicles.

In July 2019, interest rates dropped by 25 basis points, while new vehicle price increases have remained under the inflation rate for the past two years.

Despite this, vehicle sales have been muted. According to the consumer credit reporting agency, TransUnion Africa, many consumers have opted to delay vehicle purchasing decisions due to the ongoing economic uncertainty.

Even used vehicle pricing slowed to 1,2 percent in the fourth quarter of 2019, compared to an increase of 1,6 percent during the same period in 2018. According to TransUnion data, the number of new vehicles financed fell by seven percent in the third quarter of 2019, compared to the previous year.

Kriben Reddy, head of auto information solutions for TransUnion Africa, believes this trend will continue. "The bad news for the industry is that local market conditions are not likely to change in the foreseeable future. The industry is trending in a downward direction and, unless certain structural changes take place in the economy, the picture is not going to change for the local auto industry," he says.

Used vehicle financing, however, grew by one percent. According to the TransUnion Vehicle Pricing Index (VPI), the used-to-new vehicle ratio increased from 2,08 in the third quarter of 2018, to 2,26 in 2019; thus, there were almost three used vehicles financed for every new vehicle.

A total of 86 675 used vehicles were financed in the fourth quarter of 2019, according to TransUnion. There are also shifts within the used market with consumers opting for older and more affordable models. Only 36 percent of finance for used vehicles was for vehicles under two years old, of which only six percent were demo models.

Most consumers are also opting for vehicles priced below R200 000. Reddy explains: "The percentage of vehicles being financed at key price points (below R200 000, between R200 000 and R300 000 and above R300 000) has been fairly consistent over the last six quarters. It shows that there has been no change in the purchasing power of consumers and their ability to purchase more expensive vehicles.

"People are continuing to spend less on cars and are opting for less expensive entry-level vehicles. The average loan size suggests that consumer buying power has effectively remained flat for the past six years."

The commercial vehicle market has seen similar trends with a decline in new vehicle sales. According to Naamsa data, there were 11 359 commercial vehicles sold in January 2020, compared to 13 340 in January 2019.

Eddie Visser from Edan Traders in Randburg, Johannesburg, points out that while the market might favour pre-owned vehicles, used vehicle dealerships still struggle – especially smaller businesses that provide finance. As part of the sales division, Visser notes that although there is a reasonable amount of business, it's tough, as the dealership provides vehicle finance and warranties.

"Edan Traders is a one-stop shop. We refurbish vehicles, service trucks and provide warranties," he explains. "The company has been operating for over 30 years and focuses on building a relationship with its clients. Reputation is very important."

Visser notes: "A well-established, reputable pre-owned dealership can offer its clients better service and peace of mind. In addition, Edan Traders provides trailer rental services to its clients, which helps to boost the business.

"Customers will buy a horse and rent a trailer for a period of time, and will possibly purchase a trailer later. Renting a trailer is cost-effective for smaller transport operators who might carry different types of loads. One week it might be mielies, the next soft-drink bottles."

With close to 300 vehicles of various sizes and models, Edan Trailers provides an all-round solution for transport operators on a budget. Among the most popular vehicles, according to Visser, are the Volvo trucks and vehicles with a Volvo engine (including Nissan and Renault). These are closely followed by Mercedes-Benz and DAF.

Even with its challenges, the used vehicle market can definitely capitalise on the smaller budgets of consumers and business, while manufacturers could benefit from the healthy export market.

According to TransUnion data, the export of vehicles and automotive components reached a record R178 billion, or 14,3 percent of total South African exports, in 2018. F

GREEN IS THE NEW BLACK

HOW CAN TYRE CHOICE IMPACT ON CO_2 EMISSIONS? THAT'S WHAT A GROUND-BREAKING NEW STUDY SET OUT TO DISCOVER. WE HAVE THE EXCLUSIVE STORY

Photography by Jean-Yves Martin

Experts agree that tackling climate change attributed to CO_2 emissions from transporting road freight is paramount. The Euro emission standards have been a great initiative, but more needs to be done, for example, optimising routes, reducing weight, aerodynamic fairings, driver-training, alternative fuels and electrification.

These all have varying levels of effectiveness and barriers to mainstream acceptance, including capital costs, government regulation or higher technical knowledge requirements.

WORKING TOGETHER

Obviously, even the most innovative and seemingly effective intervention to reduce CO_2 emissions is impractical if it puts the road transport operator out of business. How do we determine which are the best interventions? Getting all road transport industry sectors working together to reduce CO_2 emissions is the goal of the Centre for Sustainable Road Freight-South Africa (SRF-SA).

GREEN TYRES

Low rolling resistance tyres (green tyres) could reduce road transport fuel consumption and CO_2 emissions, and thereby justify their shorter lifespan. The choice of tyre should also include the cost of CO_2 emissions to society. This has been mostly ignored, but carbon taxes, an increased social awareness and the threat of trial by social media are driving decarbonisation efforts.

How much do low rolling resistance tyres actually save on fuel costs and CO_2 emissions? Measuring fuel consumption is dependent on many variables, such as driver behaviour, wind speed, vehicle maintenance and wheel alignment, so a controlled trial is needed.

PUT TO THE TEST

At the Gerotek Test Facilities in Pretoria, the SRF-SA conducted a comparison of low rolling resistance tyres versus conventional black tyres. Two Stralis AS750S48TZP Hi-Way 6x4 truck tractors (with similar mileage) were provided by Iveco, and Afrit provided two new T6 sliding-curtain tautliners.

Michelin funded the study and provided the control tyres, the X Multi, on vehicle A and the low rolling resistance tyres, the X Line Energy, on vehicle B. The diesel was supplied by Total SA.

Next, 17 pallets of cement bags from Lafarge were loaded onto each vehicle. On the first day, the trucks were run for eight hours at 80 km/h, two hours at a time, with 10- to 20-minute breaks in between, according to international best practice.

THE SWITCH

After simulating a full day's work transporting freight, the green tyres on vehicle A were fitted onto vehicle B and the black tyres on vehicle B were fitted onto vehicle A. The drivers were continually changed after each two-hour session. The wheel alignment and tyre pressures were checked throughout the testing, and the tyre wear was monitored from beginning to end.

MEASURING AND MONITORING

The SRF-SA is based on and linked to the Centre for Sustainable Road Freight (SRF) in the United Kingdom (UK) – a collaboration between Cambridge, Heriot-Watt and Westminster Universities and UK companies.

Expert fuel consumption monitoring was undertaken by Dr Xiaoxiang Na from Cambridge University, who programmed two loggers to tap into the vehicle CAN bus. The loggers recorded GPS data, CAN data from the engine (engine rpm, engine torque, fuel use, fuel rate, accelerator position, gear, brake/clutch/cruise control status, vehicle speed and odometer) and logged into the nearest weather station to record the ambient wind speed and direction, as well as ambient temperature.

Measurements of the drive tyre temperature were logged using infrared sensors. The most important fuel rate readings came from the CAN bus, and were further verified using fuel pump data.

The difficulty in using fuel pump measurements for fuel consumption is ensuring that the fuel is filled up to exactly the same level after each test. Martin Dammann from TruckScience suggested the use of a PVC tube, which was expertly fitted by the ELT workshop in Turffontein, as a sight glass.

THE RESULT

The CAN bus was checked at the start and end of each two-hour session to determine the amount of fuel used and to calculate the fuel consumption. The

and 10 percent (See Table 1). Readings were obtained after every second session, as the trucks were refuelled at midday and in the evening. A sight glass error occurred on vehicle B in the evening, as the PVC pipe fixed to the side of the tractor with duct tape shifted, due to the tape glue melting in the extreme heat.

THEY'RE COOLER!

The increase in tyre temperature above the ambient temperature is shown for the X Line Energy and X Multi tyres in Table 2. The X Line Energy tyre ran consistently cooler than the X Multi tyre. This is expected as the green tyre dissipates less energy, which results in a reduced increase in tyre temperature.

improvement in fuel consumption due to the X Line Energy tyres was between 8,0 and 9,8 percent (See Table 1). Weather and track conditions were not responsible for this, as the two vehicles ran at the same time on the same track.

The results were not due to a difference in the vehicles, as the wheels were also swapped after the first day's testing, and the improvement was seen after the tyre change. The drivers were changed after each session and were, therefore, also not responsible for the results.

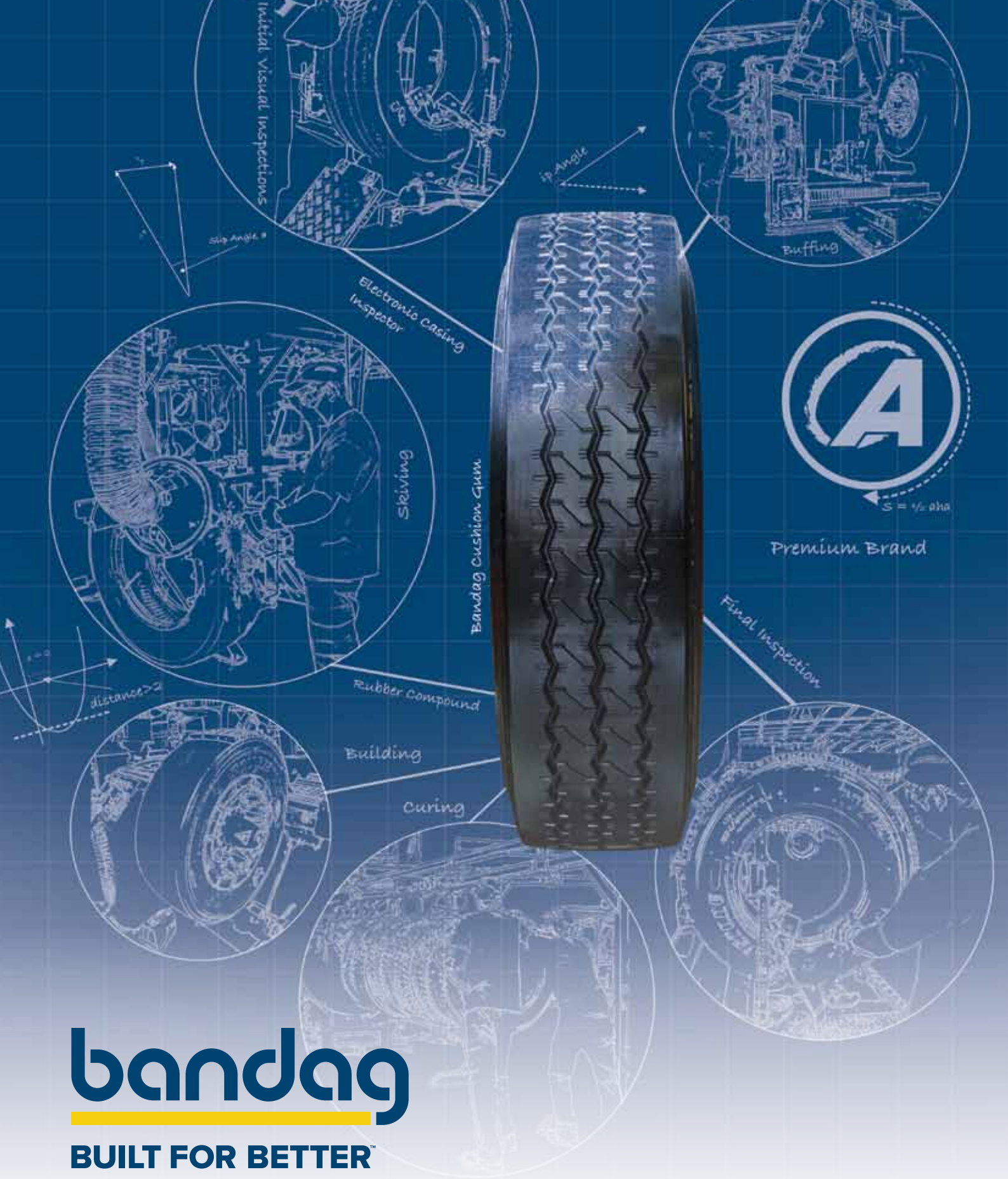
Furthermore, the fuel consumption improvement was calculated using the fuel pump data and confirmed the CAN bus results with measurements between 8,7

The SRF-SA is a recent collaboration between the University of the Witwatersrand, Stellenbosch University, The Council for Scientific and Industrial Research (CSIR), the University of the Western Cape, and Tshwane University of Technology, as well as industry players Michelin and Transnet. More industry players are needed though, especially truck original equipment manufacturers, trailer manufacturers, fuel suppliers and logistics companies.

THEY REDUCE FUEL CONSUMPTION

The X Line Energy ran 29-percent cooler on average than the X Multi tyre. Assuming that 33 percent of the energy losses in the trucks are due to rolling resistance (a reasonable estimate based on work by world trucking experts) and that the increase in tyre temperature is proportional to the energy dissipated due to rolling resistance, then the X Line Energy tyre will use 9,6-percent less fuel.

In summary, fuel consumption measurements using the CAN bus, fuel pump and tyre temperature, on a fully loaded superlink operated at 80 km/h, show that the X Line Energy



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tyre reduces fuel consumption over the X Multi tyre by at least eight percent.

OVERALL PROFIT IMPACT

Tyre purchase is very often driven by the tyre cost per kilometre. The tyre purchase manager can easily calculate the lifespan of a tyre model, and knows the tyre purchase price. The effect of tyre choice on fuel consumption is, however, far more critical and is often not taken into account when making a purchase decision.

The key is in understanding the overall profit impact. Because road transport profit margins are so low and fuel costs so high, an eight-percent improvement in fuel consumption has a massive effect on the bottom line of a road transport operation.

Professor Jan Havenga, of the SRF-SA, estimates that average profit margins in South Africa are around four percent and fuel costs make up 40 percent of the total costs of a road transport operation.

Therefore, it can be shown that even if the X Line Energy tyres have a reduced lifespan of 25 percent compared to the X Multi tyre, profits will be increased by 40 percent. A 40-percent profit increase and a conservative eight-percent CO_2 reduction makes running X Line Energy tyres a no-brainer on long-haul transport vehicles that don't go off road.

Vehicle and tyre maintenance coupled with regular wheel alignment and the correct inflation pressures, are key to extracting the full advantage of green tyres and optimising your fuel savings.

TABLE 1 FUEL CONSUMPTION TEST RESULTS

	Thursday, Oct 24				Friday, Oct 25			
	Session 1	Session 2	Session 3	Session 4	Session 1	Session 2	Session 3	Session 4
CAN data measurement	8,0%	9,0%	9,8%	8,1%	8,0%	9,3%	9,3%	9,2%
Fuel pump measurement	8,7%		Sight glass error		10,0%		8,6%	

TABLE 2 INCREASE IN TYRE TEMPERATURE ABOVE AMBIENT TEMPERATURE

	Thursday, Oct 24				Friday, Oct 25			
	Session 1	Session 2	Session 3	Session 4	Session 1	Session 2	Session 3	Session 4
Green Tyre	13,8˚C	20,9˚C	22,1˚C	20,3˚C	17,0˚C	17,7˚C	17,3˚C	15,8˚C
Black Tyre	25,4˚C	29,9˚C	31,3˚C	29,1˚C	22,2˚C	23,4˚C	22,3˚C	20,8˚C

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UPPING THE D-MAX 250'S GAME

ISUZU MOTORS SOUTH AFRICA IS MAKING ITS D-MAX 250 RANGE MORE APPEALING WITH THE INTRODUCTION OF AN AUTOMATIC TRANSMISSION AT AN AFFORDABLE PRICE. MARISKA MORRIS PUTS THE VEHICLE THROUGH ITS PACES

Nothing quite compares to the rush of getting a bakkie dusty on a dirt road, but performing in harsh conditions isn't enough anymore. Modern bakkies need to be multi-functional and provide the same comfort and convenience in congested cities as they do on dirt roads. To meet this demand, Isuzu Motors South Africa has expanded its D-MAX range with automatic models.

FOCUS tested the performance of the five-speed automatic transmission in the range on a two-day, 300-km trip organised by Isuzu Motors South Africa on February 10 and 11 in the Mother City.

On arrival, there was a selection of colours and models within the D-MAX range from which to choose.

After selecting a bakkie, drivers set out in convoy towards The Forum on Embassy Hill, via Rhodes Drive, for the business briefing where the Isuzu team explained the reasoning behind the introduction of the new transmission.

The automatic transmission serves two purposes. It provides more comfort for the bakkie owner and allows Isuzu Motors South Africa to continue to grow its market share by meeting the increased need for an automatic option. Isuzu already achieved a 15,7 percent share (up from 14,4 percent) of the total market in a segment that declined by 4,5 percent, and 24,5 percent of the "workhorse" segment in 2019.

The company is now targeting young buyers and those seeking more comfort. According to Isuzu's research into customer trends, the demand for an automatic gearbox increased from 14 percent in 2015 to over 34 percent in 2019 – more than double in only four years.

"The X-Rider Black places Isuzu in a good position with the young and upcoming buyer audience. We intend to keep building on this momentum going forward," Dominic Rimmer, senior vice-president of technical operations at Isuzu Motors South Africa, explains.

"Customer buying trends in South Africa are rapidly changing with a major upswing in demand for automatic transmissions, especially in congested cities such as Cape Town and Johannesburg," he adds.

To prove its point, Isuzu Motors South Africa took the convoy over Chapman's Peak, then along the N2 and through Stellenbosch (where roads are currently under construction) to Franschhoek – all in peak traffic. The automatic didn't disappoint.

The winding pass was no match for the 100 kW engine, and even in bumper-to-bumper traffic, driving the D-MAX with an automatic gearbox felt like a Sunday cruise. There is also an argument to be made for the other benefits of an automatic such as improved safety and fuel savings.

As there is no need to shift gears, the driver can focus entirely on what is happening on the road. There is no risk of stalling or burning the clutch and the automatic is easy to drive – even for the most inexperienced drivers. Depending on driving style, the fuel consumption on the

automatic is rated at 8,1 l/100 km. Even if the driver has a heavy foot, the fuel saving in traffic is significant.

While the bakkie needs to perform in urban settings, these vehicles are generally bought for one of two reasons: work or play. Both of these options will take the bakkie on some interesting adventures.

Day two of the D-MAX adventure took the convoy over the Franschhoek Pass onto the gravel roads between Caledon, Greyton and Villiersdorp.

With nearly 200 km of mostly dirt roads, it was great to see a more rugged side of the D-MAX's performance. It held its own on the sharp curves and loose gravel with the brake-assist systems and traction control working hard. In fact, partly due to the well-kept roads, driving the D-MAX on dirt felt just as comfortable as on tar.

The drive was smooth and effortless to a point where I had to keep a careful eye on the speedometer so as not to drive too quickly. Even speeds of around 80 km/h felt like no work at all for the D-MAX. This is clearly a bakkie that loves to be pushed.

This came as no surprise, as the D-MAX is built to be a durable and reliable workhorse. The D-MAX 250 Auto boasts a towing capacity of 2 100 kg for a braking trailer and a carrying capacity of just over a tonne on the rear load compartment. The choice of a five-speed automatic transmission was deliberate.

"The gearbox was developed to suit the performance characteristics of Isuzu's competent, reliable and economical 2,5-litre intercooled turbodiesel engine, thus giving our customers great performance matched to low running costs, superb comfort and outstanding driving convenience – particularly in bustling and congested city environments," Rimmer says.

Vehicles within the D-MAX 250 Auto range are affordable – with price-tags ranging from R402 200 to R474 700. The automatic transmission is available in the D-MAX 250 X-Rider, D-MAX 250 LE, D-MAX 250 Hi-Ride model and D-MAX Extended Cab variant.

If the five-speed version doesn't quite satisfy the hunger for performance, the D-MAX 3,0-litre with a six-speed automatic transmission was launched in 2018.

While the introduction of an automatic transmission into its 250 range is exciting and a big move for the manufacturer, it is a small part of a much bigger strategic plan, which the team was reluctant to divulge. All we know is that the next-generation D-MAX – launched in Thailand in October 2019 – is expected in South Africa in 2021.

Meanwhile, Isuzu fans and prospective customers can only remain on the edge of their perfectly manicured leather seats for more!

SHORT HAULS

ENGINE OIL – REUSE IT OR LOSE IT!

Global warming and environmental pollution have intensified our need to recycle our limited natural resources and to extend the use of our manufactured products. The lubricant industry is no exception, and currently in South Africa most of the used oil collected is recycled only into heating fuel. Internationally, however, especially in the European Union, there is a significant trend in the larger refineries towards re-refining used oil back to base oil.

The European Union's Waste Directive strongly favours re-refining over burning for energy recovery and, as a result, re-refined base oils could meet nearly a quarter of Europe's base oil demand in 2020. Following this example in South Africa would be invaluable.

However, Bubele Nyiba, CEO of the ROSE (Recycling Oil Saves The Environment) Foundation, says: "The international trend of refining oil back to base oil is exciting, but premature in a developing country like South Africa, because of the prohibitive cost of the technology and developing the necessary processes."

"Very few processors in South Africa have the capacity to re-refine back to base oil," he says. "FFS Refiners is the exception, and the company has invested in equipment that enables it to produce a very high-quality Group 1 SN 150 Base Oil (re-refined oil) that meets and exceeds international standards for this type of product."

RE-REFINING VERSUS RECYCLING

Nyiba explains: "Recycling is very different from re-refining. Recycling used oil generally means taking used motor oil and using it for a different purpose – most commonly to burn as fuel. In the lube oil industry, 'recycling oil' or 'reconditioning oil' usually refers to using commercial filtration systems to remove insoluble impurities.

"This method does not, however, remove any of the soluble contaminants. The resulting oil is generally used for fuel and is good only for one-time use. Reconditioned oil is not suitable for use in vehicles."

He adds: "Re-refining removes all impurities, both soluble and insoluble, and returns the oil to a quality suitable for use in vehicles. The quality of re-refined oil is equal to, or better than some virgin base oils, and motor oils can be re-refined many times."

THE USED OIL REFINING PROCESS

Pre-treatment of used oil involves dewatering or removing any water within the oil. Next, the oil is filtered and demineralised to remove any solids, inorganic material and certain additives present in the oil to produce a cleaner burner fuel or feed oil, which can be further refined.

The demineralised oil is then filtered to remove suspended fine particles (to solid waste) and run off to storage as a clean burner fuel. The next step is propane de-asphalting to remove the heavier bituminous fractions, producing re-refined base oil.

Following de-asphalting is distillation to produce re-refined base oil suitable for use as a lubricant, hydraulic or transformer oil.

The final step is blending additives into these three grades of oil products to produce final products with the right detergent and anti-friction qualities.

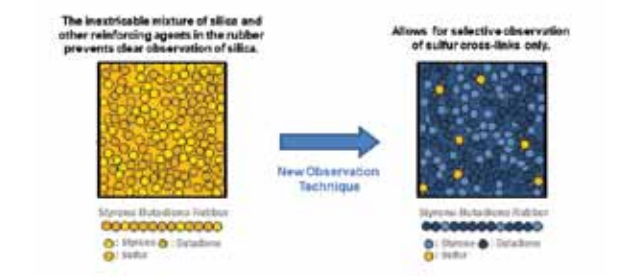
Although local demand outstrips supply for burner fuel, this is still an issue in terms of air emissions, as heavy and light furnace oils still contain impurities – the used-oil industry ultimately needs to move towards re-refining back to cleaner fuels. "The challenge is to make re-refining a sustainable option for processors," says Nyiba.

JAPANESE DISCOVERY TAKES TYRE MANUFACTURING TO NEW HEIGHTS

What if we could perform an intricate study of the make-up of rubber vehicle tyres in order to engineer the tyre manufacturing process to produce tyres with superior performance? This kind of detailed study has not been possible … until now

Sumitomo Rubber industries, in collaboration with Ibaraki University, has discovered a technique to study individual materials within tyre rubber, utilising a new particle beam microscope to observe, for the first time ever, the sulphur cross-link density.

This ground-breaking technique makes it possible to evaluate the actual rubber that is used in mass-produced tyres (rather than processed test samples), creating enormous potential for the acceleration of future applications in materials development.



The rubber used in vehicle tyres is made up of dozens of different materials, including polymers, for example, natural and synthetic rubber, as well as reinforcing agents like carbon and silica. These materials form complex, hierarchical structures within the rubber, and so, in order to improve overall tyre performance, it is necessary to gain a clearer understanding of these hierarchical structures by observing them individually.

In particular, the structures formed by sulphur cross-links, which give rubber its elasticity, have long been thought to be closely related to rubber's strength and the changes in its properties over time, for example, its degradation. However, until now, the details of these structures within rubber have remained a mystery.

CEO of Sumitomo Rubber, Satoru Yamamoto, says, "Through this joint research undertaken with Ibaraki University, we have already succeeded in observing the coarse and fine areas (or density) of sulphur cross-links within rubber, in vivid detail, for the first time ever."

While conventional observation techniques only provide image data that shows an inextricable mixture of sulphur and other reinforcing agents, this new technique generates clear images in which specific compound components, such as silica cross-links, or other reinforcing agents, are each assigned specific colours.

This image data can be used to come up with internal structures for tyres that will provide superior performance in terms of fuel efficiency, wear resistance, and more. Thus, this new breakthrough creates enormous potential for the material development process.

STATE OF THE COMMERCIAL VEHICLE MARKET, JANUARY 2020

The National Association of Automobile Manufacturers of South Africa [Naamsa] confirmed that aggregate domestic sales at 39 475 units showed a decline of 3 481 units or 8,1 percent from the 42 956 vehicles sold in January last year. Export sales at 11 373 units also registered a fall of 6 877 units or a decline of 37,7 percent.

Light Commercial Vehicles < 3 501 kg	**Total: 9 791**
Fiat Chrysler Automobiles South Africa	43
Ford Motor Company	1 792
GWM	172
Hyundai Automotive SA	250
Isuzu Motors South Africa	673
Iveco	0
Changan	24
JMC	19
Kia South Africa	136
Mahindra	381
Mazda South Africa	15
Mercedes-Benz SA	80
Mitsubishi	40
Nissan	1 861
Opel	16
Peugeot	4
Renault	4
Suzuki Auto	36
Toyota	3 927
Volkswagen SA	319

Medium Commercial Vehicles 3 501 – 8 500 kg	**Total: 503**
FAW	18
Fiat	0
Ford Motor Company	2
Hino	55
Hyundai Automotive SA	24
Isuzu Motors South Africa	76
Iveco	45
JMC	9
Mercedes-Benz SA	110
Peugeot Citroën South Africa	0
Tata	29
Toyota	72
VECV (Eicher)	1
Volkswagen SA	61

Heavy Commercial Vehicles 8 501 – 16 500 kg	**Total: 277**
FAW	43
Hino	36
Isuzu Motors South Africa	21
Iveco	0
MAN Automotive	3
Mercedes-Benz SA	37
Powerstar	18
Tata	40
UD	73
VECV (Eicher)	6

Extra-Heavy Commercial Vehicles > 16 500 kg	**Total: 758**
Babcock DAF	17
Daewoo	5
FAW	35
Hino	10
Isuzu Motors South Africa	21
Iveco	23
MAN Automotive	79
Mercedes-Benz SA	189
Powerstar	61
Scania	105
Tata	4
UD	91
VECV (Eicher)	2
Volkswagen	0
Volvo Group Southern Africa	116

Buses > 8 500 kg	**Total: 30**
Isuzu Motors South Africa	3
Iveco	0
MAN	7
Mercedes-Benz SA	10
Scania	3
Tata	2
Volkswagen	2
Volvo Group Southern Africa	3

Note: Mercedes-Benz SA reports only aggregated sales data. The company's commercial vehicle market split volumes are estimates based on historical trends and forecasting techniques. All figures are supplied by Naamsa.

IN THE NEXT ISSUE

FORESTRY AND AGRICULTURE

We profile one of South Africa's biggest forestry companies and find out what trucks they are buying and why.

AFTERMARKET

We take a look at the impact the new automotive aftermarket guidelines are likely to have on consumers and the automotive industry.

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Whether it is to improve driver behaviour or fuel efficiency, telematics is vital. **FOCUS** takes a look at these and other advantages of implementing telematics software.

TRUCK OR VAN TEST

We put one of the country's newest trucks and vans through its paces and give you the full rundown of its features.

LIGHT BRIGADE

We review the latest light commercial vehicles to be launched in the South African marketplace.

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Our wonderfully outspoken, knowledgeable and popular columnist, Vaughan Mostert, brings us up to speed on the latest developments when it comes to public transport..

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We bring you the very latest trucking news from all over the globe.

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Each month, we go face to face with one of the captains of the transport industry. This month, we chat to Roberto Cortes, CEO of Volkswagen Caminhões e Ônibus.

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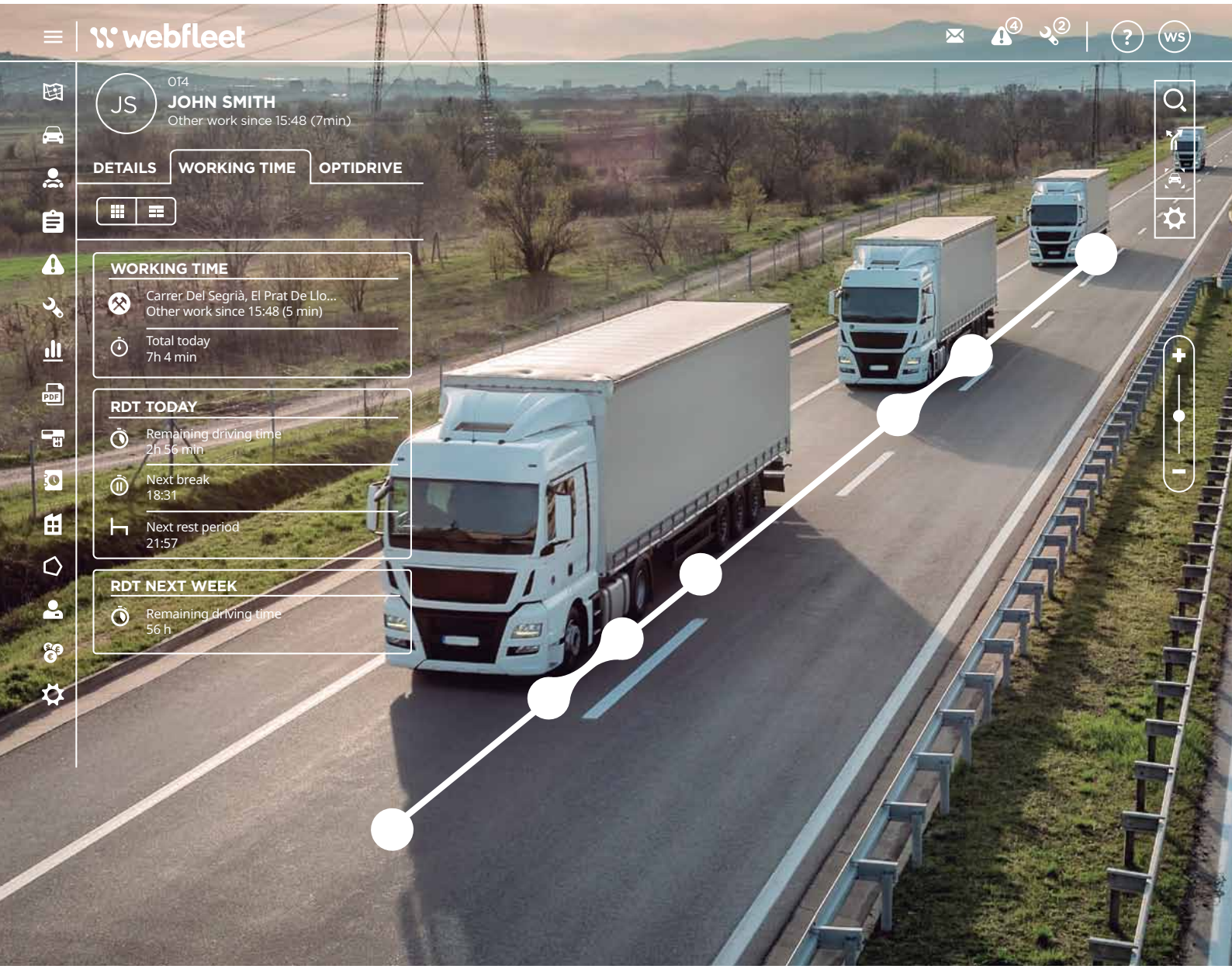

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