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### What Follows is Important

The name Asian Trucker suggests that we mainly deal with trucks. But the front end of business is usually only half of what is needed. Unless it is a rigid truck, one needs to add a semi trailer. Interestingly, the term "semi-trailer" isn't commonly used out here as people just refer to it as "trailer". Semi trailers are the ones that don't have front axles as they are supported by the truck onto which the front end of the trailer rests. Other than the second trailer on a B-Double, I haven't seen any trailers with front axles.

As there is a lot of technology and know-how that goes into a trailer, we decided to put together this special edition that you are holding in your hands. It was an interesting journey as we got to see the insides of the trucking industry from a different view. One of the main learnings was the fact that the trailer can actually make a huge difference in terms of capacity and efficiency for a company. Imagine, the B-Double can increase the load you move by almost 100 percent! Also, clever systems allow for more palettes to be loaded into the trailer, reducing empty space that is moved while transporting goods. In view of the driver shortage, perhaps clever trailers are the way forward to address this issue.

One topic frequently touched upon is Malaysia's law that each truck can only have one trailer to be used. Having spoken to an industry veteran from Europe, he stated that limitations are always a hindrance to the industry. What he saw was that the industry really flourished once limitations were abolished. This doesn't mean that there won't be any laws, of course.

In terms of technology, I think it is fair to say that there is as much excitement in the trailer as it is in the truck development. Naturally, operational excellence, cost reduction and performance of the trailer-truck combination are vital topics the industry is concerned about. It is fascinating to see what thoughts go into the improvement of trailers. One palm oil transporter was saying that he is surprised that not more companies use the super-single tyres. I guess it is as the saying goes, that there is always more than one way to dig for money. What surprises me is that there aren't more companies using their trailers as moving ads. It would be easy to dress up the trailer in the company's livery and to let everyone know who is behind the wheel. That said, it is then important to always make sure your truck is clean. Personally, I am a bit sceptical of dirty trailers proclaiming that they move chilled goods. That usually means foods. And if your truck is filthy from the outside, I don't want to take a look inside. I hope you find the content of this Asian Trucker Trailer Special useful and I look forward to your comments trailing us.

#### Sincerely yours,

#### Stefan

Editor, Asian Trucker Malaysia



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#### The world's best valued sidelifter





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# ContiConnect Delivers Tyre Information

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Continental's ContiConnect provides fleet managers with critical information on the tyre performance of their entire fleet and helps initiate corrective actions when needed.

Continental has launched a tyre information and management system for commercial fleets. 'ContiConnect' monitors, analyzes and reports tyre pressure and temperature for the entire fleet based on data collected by the proven ContiPressureCheck sensors.

#### **Transparent Reports**

ContiConnect notifies the fleet manager and offers corrective measures if needed, for instance through a Conti360° service partner. An online portal provides transparent reports on the fleet's tyre performance and overall efficiency. With its launch in Q2 2017, ContiConnect will be available in key markets in Asia Pacific.

"With ContiConnect," stated Nikolai Setzer, member of the Continental Executive Board and head of the Tire division, "We take a huge step forward in our evolution from a premium tyre manufacturer to a solutions provider. We enrich our long-term experience in the tyre industry with data created by sensors in our truck and bus tyres. For our customers, this means a change from manual and routine tyre care to automatic monitoring and targeted care. They profit from our unique combination of competences in-house: with profound know-how on tyres as well as on sensors and vehicle-related data. This makes Continental the perfect partner in an ever digitalizing logistics world," said Setzer.

#### **Alerts Provided**

The system can work in multiple set-ups to connect all tyres in a fleet: It is applicable to both vehicles that are on the road for numerous days in a row as well as with those returning for daily check-ups. In combination with the modular design of ContiPressureCheck, it allows for the collection of data with a stationary receiver in the depot or with a receiver unit in every vehicle on a real-time basis, while on the road. Should the tyres reach a critical level, ContiConnect sends an alert and offers the respective service, such as a tyre change, for immediate and convenient activation through the fleet manager.

With the enhanced transparency of ContiConnect, tyres get more mileage, longer durability, and they can enable greater fuel savings. For the entire fleet this means higher uptime, less maintenance, and overall success in mobility and efficiency. ContiConnect works with both retrofitted and factory-fitted ContiPressureCheck sensors such as those included within the new Continental iTire.

The ContiPressureCheck system, which give input to ContiConnect, are compatible with a broad variety of fleet management systems on the market, including solutions which come from different original equipment as well as aftermarket manufacturers.

# Working Easily & Safely with the Palfinger P 250 BK

PALFINGER, one of the world's leading manufacturers of innovative lifting solutions for use on commercial vehicles, introduces the new P 250 BK Access Platform.



The new P 250 BK access platform from the PALFINGER Light class is light, safe and time-saving. Not only do the workman basket and the telescope system with aluminium extrusion profiles keep the weight of the P 250 BK low, they also make it extremely robust. Thanks to the stabiliser control, which is unique in this segment, with a particularly easy operating logic, working safely and efficiently is guaranteed.

#### Lighter & More Stable

The aluminium telescope system is now the trademark of the PALFINGER Light class. The aluminium telescope systems are lighter than steel telescopes. The high wall strength that this makes possible ensures maximum stability. In addition to the reduced weight, the telescope from this model has the highest reach in this class, coming to 16.5 metres.

Work below ground level and driving the vehicle with an upright jib are perfectly possible with the P 250 BK, just as they were with the tried-and-tested P 210 BK in the past. Thanks to the stable lightweight design, the platform can be installed on a Euro 6 chassis with a permissible total weight of 3.5 tonnes, including the driver, and even with a front seat passenger.

In addition to the telescope system, the P 250 BK workman basket is also made of aluminium: new, larger aluminium square profiles make the workman basket 68% more rigid and robust than in the previous model. The hydraulic control block ensures a more efficient hydraulic system that prevents noise and reduces fuel costs.

#### Stabiliser Control Allows Time-Saving Operation

The user-friendly automated positioning system with axis ground clearance monitoring and automatic levelling of the platform is a standard feature in many PALFINGER models. In response to the major success in the premium and jumbo series and the overwhelmingly positive feedback from PALFINGER customers, the stabiliser control (as seen in the premium and jumbo class) has been added at the base to these functions in the P 250 BK.

This means that, from now on, users do not necessarily have to be in the workman basket to stabilise the machine. After leaving the vehicle, they quite simply move it into the required stabiliser configuration by means of a separate control panel on the step. This makes for easier and more time-efficient operation.

#### **Maximum Safety**

When it comes to safety, the P 250 BK really comes into its own: stop valves on all hydraulic cylinders prevent the platform from falling in the event of hose breakage. In addition, four skid-resistant safety plates with grips on the base frame and an anti-squeeze protection function, combined with the knee rail in the basket, ensure maximum safety during work with the access platform.

Furthermore, an optional display is available for operating the P 250 BK. This allows, for example, the speed or the start up and brake ramps to be changed to meet individual needs. The films on the buttons on the control panel are easy to clean and can be easily replaced on demand. This ensures optimum usage of the machine and guarantees the very highest level of working comfort for the operators.

The new Palfinger P 250 BK celebrated its world premiere at IAA in Hanover.  $\pmb{r}$ 



### What Makes **HAMMAR** the **Strongest Sideloader in the Market**

Transporters are aware that lower weight means less fuel consumption. Not compromising on the safety, the HAMMAR sideloaders are engineered to give the best performance while being featherweights.



e drop by the Hammar Maskin (M) Sdn Bhd office to get some updates on the development of the business and the Malaysian trailer market itself. The company is a wholly owned subsidiary of Hammar Maskin AB of Sweden and here in Malaysia has more than 500 HAMMAR sideloaders on the road. They command well over 67% market share in Malaysia. Today, Malaysia is the fastest growing sideloader market worldwide and the second biggest market in the world after Australia.

#### The Tech Inside

Using the very latest CAD/CAM and FEM technology in conjuring with the latest high-quality materials and advanced design methods are one part of the success. Hammar sideloaders are made using the latest high-tech Swedish steels. These special, super-high strength steels are micro-alloyed with niobium, titanium, and vanadium, which enable low carbon and manganesium contents to be maintained. Using such steels enables HAMMAR to design a very lightweight sideloader with lighter/thinner gauge than normal steels but at the same time without any compromise on strength. This resulted in the HAMMARs achieving the lightest sideloader tare weight (weight of the sideloader without payload) in the world.

#### **Local Market Conditions**

"Market development has slowed down for the past few months compared to last year and it did have some impact towards our sales as well. This year, exisiting and new customers are more focused on budgeting and balancing their financials and we see that they are reducing their investments," said Mr Joon, Director of Hammar Maskin (M) Sdn Bhd.

#### The Klang Workshop

After the opening of their new workshop last year, according to Joon, they have increased the efficiency in delivering their services. The new working environment, with a fully fledged workshop, equipment, enough manpower, comfortable waiting area for customers and easy access enables them to provide a higher quality service compared to their old workshop where they couldn't control the workload as well as now

Currently, they have two workshops in Malaysia, one being the Klang workshop and another one is located in Johor.

#### Three strong words

Reliability, service and spare-parts are the key to success for HAMMAR. "Even if your product is good, but your service is not satisfying, the product will eventually fail. The same applies to the service if it's good, but you don't have the spare parts available, then you'll start to disappoint customers," said Mr Joon.

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#### Trailers in Malaysia

Probing on, here is what he got to say about the business in Malaysia compared to other Asian countries: "The trailer industry in Malaysia is not as big as in other countries (excluding Singapore), hence, other countries have quite a big volume of demand for trailers," he explained.

According to him, sideloaders a are very economic alternative to delivering containers from the port to the consignees. Using a sideloader is far more efficient, with a productivity of each unit being up to 30 times higher, than that of an ordinary container chassis. Malaysia Department of Safety and Health (DOSH) categorizes the sideloader as a mobile crane or lifting frame and this falls under their jurisdiction for approval by DOSH with conditions. One of the conditions stipulates that non original replacement parts and components are strictly forbidden and any repair procedures must be advised and approved by the manufacturer. The condition is widely practiced worldwide and especially so in the case of sideloaders, which are designed to lift 36 tonnes and above.

#### **Service Team**

HAMMAR technicians are trained in all aspects covering hydraulics, pneumatics, welding and electrical. The total headcount in the service team/breakdown team is eleven. Apart from that, a portable welding machine is available in the van, therefore, if welding is required on site, the team is capable of doing so. But it is not just the training that matters, but also the attitude towards handling a breakdown situation, which is another priority for HAMMAR. Because for a person to handle such situation, they have to be on their own without any assistance, thus psychologically they have to be mature.

"I am the person mediating between the service team and the customers. A clear communication with both parties is very important to avoid any miscommunication and for me, to be able to address the problem well to the service team for them to deliver the right work," Wong, Manager relayed.

Kumar, Technician added "My daily duty is governed by our duty roster. Sometimes I have to be outside for any emergency breakdown and sometimes I have to settle work in the workshop. Nevertheless, follow-up calls with customers after any repair or service are an important part of my duties."

Dayat, Senior Technical Support said "As a senior, my job is not only the monitoring of the repairing or service, but I also need to make sure the sideloader is not in the workshop for too long because customers need to operate their business as usual. Normal service will be around 45 minutes, while a more complicated one can be up to two days. I also need to be on standby for any breakdown emergency outside." **T** 



# **Kögel Offers Hi-tech Trailers**

No truck is complete without a trailer and we had a look at what the trends are in Europe. Hi-tech solutions have also found their way into trailers as we learn from this German trailer manufacturer.



A lthough curtain siders are the bread and butter products of Kögel, the company also offers sophisticated trailers for bitumen or sand for example. Buckets are designed using a building block system with varying steel thicknesses for weight reduction. Certain parts are made from Hardox steel, which is highly durable, while sidewalls are fabricates from S700 steel. On display was a trailer for bitumen, which supports the transporter with high-tech. When transporting Bitumen, the transporter has to ensure and be able to proof that the temperature was kept consistent. The trailer has four sensors that constantly measure the temperature of the goods transported.

Using the IAA as a platform to introduce new technologies, German trailer manufacturer Kögel had more than just a few innovations to show this year. The trend that dominates this industry segment is the quest for weight reduction. Every kilogram that a trailer can be made lighter ultimately means that the transporter can have a higher payload within the legal limits. Here, Kögel was showing the Kögel Light Plus, a trailer that has been fitted with a completely redeveloped frame. Having worked with transporters to learn more

#### ASIAN TRUCKER 13 COVER STORY

about their requirements during their missions, designers were able to increase the payload by some 350 kilograms compared to the previous version of this trailer.

To achieve this, the topology of the trailer was completely revised. "This was done by not only just punching in holes into the frame to reduce the weight, but to punch out specific shapes and forms that would reduce the material used while at the same time ensuring rigidity and stability," said Patrick Wanner, Head of Public Relations, during our visit to their stand. The total weight of the trailer comes down to below five tonnes by way of manufacturing certain parts in aluminium and using aluminium wheels. Furthermore, weight can be reduced by gluing the floor instead of screwing it in. "Another ground breaking development of us is our own axle," he said further. What makes this axle remarkable is the twin-suspension, as the engineers like to highlight. "We introduced this in 2014 and asked clients how we can further improve this axle. Since then, we have improved it and are now ready to offer it to the market." If clients request this, Kögel will continue to use third party suppliers. However, Wanner highlights that these third party axles would be used in other trailers as well and would

therefore not be as good a match to their trailers as their own as the in-house development is, naturally, optimised for the use on their trailers. When it comes to aftersales, Kögel takes the care of their trailer very serious and is now able to extend this to the axles as well as they can claim full responsibility for it. Echoing the trends others identified, Kögel is able to add telematics to their trailers.

Here in Malaysia, some quarters argue that the legalisation and introduction of the B-Double trailer will be a solution to answer the call for higher permissible loads to be moved. With the B-Double, trucks would be able to pull more weight, thus reducing the number of trucks needed to move the goods in the country. Taken to the extreme, this approach will lead to the creation of the Australian Road-Trains, which in many cases have three, four or even five trailers. However, Kögel is going a different route with their Euro Trailer, which has been extended by 1.3 meters. This trailer is part of a long term study in which several companies teamed up in order to find the best possible way to build trailers, using innovative concepts and materials. "Long trucks in Europe are now 25 meters long. At Kögel however, we prefer our version." Although the





trailer is shorter by some 7.4 meters, the difference in payload is not that significant when fuel consumption is taken into account. In addition, the typical Long-Truck will use many more components, items that need to be maintained and may break down. All these are issues that the Kögel Euro Trailer avoids. Even prior to the long term study, Kögel already had some 300 of their version of the long trailer on the roads in Germany and 1 000 in Europe. "Right now, many transporters are waiting for what is going to happen in terms of legislation. We are hopeful that following the study the laws will be amended and the long trucks will be permitted to run on more routes," said Wanner. Listing more advantages of the Kögel Euro Trailer. Wanner said that their version does not have the same limitations on specific routes and does not require additional spoilers to improve aerodynamics. Even as it is, the trailer sees a reduction in CO2 and fuel consumption that is significant.

When it comes to the participation of Kögel at events such as the IAA, the company has seen a shift in the purpose of exhibitions. No longer a pure sales event, the exhibition has evolved into a platform that allows clients and partners to meet with the Kögel people. In addition, exhibitors use the fair to discuss hot topics with politicians and authorities. Showcasing innovations is another aspect of being present at this important show.

Although the current situation in Europe is somewhat uncertain, the southern countries are seen as growth markets, including Spain and Italy. Besides that, Poland and Russia are currently seeing an increase in demand again after a long slacking phase. "Especially in the southern countries we are very active again. We re-introduced our direct sales and we are currently extending our spare parts network to support our clients in these countries."





#### The brand history of Kögel

Kögel Trailer GmbH & Co. KG specialises in manufacturing trailers and semi-trailers. This entrepreneurial passion for the transport industry has resulted in a company that can look back at a very special history. The company has produced over 500,000 vehicles since being established in 1934 and currently boasts more than 11,000 employee years and thus utility vehicle experience on the part of its employees.

#### Visionary ideas and entrepreneurial spirit

Kögel owes its incomparable company history to the craftsmanship and long-term vision of its founder, Franz Xaver Kögel. Kögel has a long tradition of providing innovative trailer solutions which attract great interest in the truck sector at both a national and international level. Kögel has been manufacturing commercial vehicle bodies and trailers for over 80 years.

#### The beginnings

When the motorway network was first extended during the 1930s, this resulted in extremely rapid development of the transport industry. Kögel was part of this progress and provided the contemporary, suitable products the market demanded. Over the past few decades, the transport industry has undergone further dynamic development and will continue to increase in complexity in the future, posing complex challenges to companies.

#### Milestones in the history of success

Among the highlights in Kögel's history are innovations such as:

- First refrigerated semi-trailer entirely made of plastics
- First demountable platform trailer with supports
- First self-supporting aluminium round trough
- Patented central-axle tilting trailer
- First light-construction semi-trailer
- "Wiesel" transfer vehicle for demountable bridges and
- First cathodic dip-paint system for optimal corrosion protection of vehicle frames.

These innovations have characterised modern road freight transport for many years. Kögel is among the top trailer manufacturers in Europe and thus one of the larger producers world-wide.

#### Transport solutions – made in Germany

Ulrich Humbaur, owner of Kögel, believes in the German concept of quality. With an innate feeling for the highest precision and commitment to production in Germany, all processes and work steps - from development to production - take place in Germany.





### The Danger of Blind Spots Around Truck and Trailer

Every vehicle has them: Blind spots. Our writer Shee Mun discovers just how dangerous these are and how drivers can improve safety on the road by being aware of the dynamics of the vehicle.

magine that you are driving on a road in busy traffic with an eighteen-wheeler truck that is loaded with heavy goods. You decide to change lanes after checking the side mirror. But as you steer, there is a car or bike that cut in front of your vehicle suddenly, and you are not able to see them due to the blind spot. By the time that you notice them, it is already too late to stop your vehicle; this scenario ends up in a serious crash within seconds.

This is the scenario of how a fatal accident that involves trucks can happen when the drivers of commercial vehicles are unable to see the actual road condition due to blind spots.

In Malaysia, traffic accidents occur every minute and 18 people lose their lives in them daily. Statistics show that there were 489,606 road accidents just last year with 6,706 fatalities. Due to the severity of this, it is crucial to decipher the possible causes and prevent such casualties from occurring.

### Zenith Engineering Pte Ltd Provides Solution to Eliminate Your Blind Spots

According to the European Accident Research and Safety Report by Volvo Trucks, the two most common human factors contributing to heavy truck accidents are failure to look properly and failure to judge another person's path or speed. When the vehicle contributes to the accident, the most common cause is limited visibility due to blind spots. Blind Spots are areas around any vehicle which are not visible for the driver neither through the windshield, side windows nor the mirrors. While all vehicles are susceptible to this, larger vehicles will have more, bigger blind spots.

As to provide a solution to the problem of blind spots, Zenith Engineering with its 34 years of industry experience, addresses the problem of blind spots through the use of safety accessories aimed to eliminate blind spots for HGVs.

These products made by Brigade Electronics, include Camera Monitor Systems, Ultrasonic Obstacle Detection, Backeye 360 Camera Monitor System, Warning Alarms System, Mobile Digital Recording and more.

"We offer these accessories in different packages to cater to the needs of various companies, as to help improve driver safety and protect the companies from any false insurance claims. All of these products are beyond industry standards to achieve high quality and reliability," said Sean Tay, Business Development Manager of Zenith Engineering Pte Ltd.

"Most of the time, crashes involving HGVs are likely to be fatal ones, and the deaths are not occupants of the truck, but rather the other road users involved. This is due to the large mass of the trucks and materials used to build the body of its trailers, which are very hard compared to, say, passenger vehicles. Thus, to ensure that the truck is equipped with proper accessories, which are able to address the problem of blind spots, can help to minimize the risk of collisions. "

According to Tay, the problem of blind spots can be solved with the Backeye <sup>®</sup> 360, a camera monitor system (with ultra wide

angle cameras mounted of the front, sides and rear of the vehicle), which provides the driver with real-time, 360 degrees 'birds-eye' view of the vehicle within a single image. It is designed to assist low speed manoeuvrability which saves the driver from having to process information from several mirrors or monitors in quick succession, making it easier to spot and assess possible hazards.

To increase accuracy, "Simultaneous digital images from these cameras are processed to eliminate fisheye camera distortion and are "video stitched", delivering a clear, real-time picture on the driver's monitor," Tay added.

In addition to imaging, a hazard alert system is also offered. Zenith Engineering also provides the Brigade's Ultrasonic Obstacle Detection System, a sensor system that informs the driver of distance between their vehicle and obstacles.

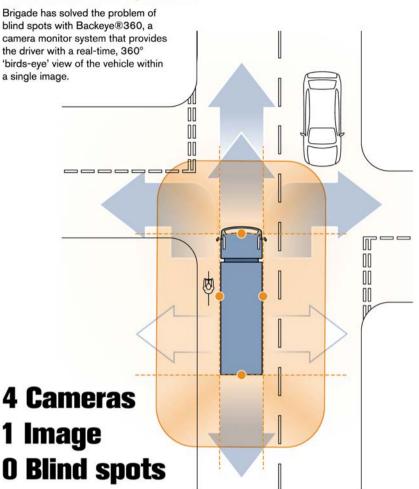
The range of this ultrasonic sensor system includes Backscan, Frontscan, Sidescan, Cornerscan and Stepscan. The detection range for its side scan is up to the distance as close as 1.0m or 1.5m, backscan up to 2.5m detection range, (outer sensors can be reduced to 0.6m), step scan (0.6m to 1.0m), corner scan (0.6m or 1.0m) and front scan (2.0 or 1.0m detection range), outer sensors can be reduced to 0.6m). This system will help the driver to reverse safely to nearside blind spot awareness, this is particularly relevant where cyclists and pedestrians can otherwise go unseen.

"Besides, through a Warning Alarm System which is used in conjunction with the side sensors, an alert is triggered by the indicator and enabled below a set speed to avoid unnecessary activation, which will help to warn cyclists and pedestrians that the vehicle is making a manoeuvre. It enables others around the vehicle to make safety precautions while around large vehicles. Thus, we are not only providing the products that helps to enhance the safety precaution for the trucker drivers, but also for pedestrians," he said.

Meanwhile, due to the fact that in today's increasingly litigious society there are new, more costly problems to deal with insurance claims and vehicle accidents with regard to truck drivers and logistic companies, a device like Mobile Digital Recording would be useful to assist when accident situations were not all that clear.

"The installation of mobile digital recording devices is popular in European countries. By capturing footage from vehicle mounted cameras, digital recording offers the solution. It provides an accurate witness, giving irrefutable evidence in the case of false claims, crash for cash incidents or vandalism. Refuting these claims means companies can make major cost savings, whilst importantly supporting their drivers, who are often the subject of increased scrutiny."

#### Backeye®360 Camera Monitor Systems



### To Minimize Accidents Caused by Blind Spots through Road Safety Education

Data from the Malaysian Institute of Road Safety Research (MIROS) showed that, over 80.6% of road accidents in Malaysia are caused by human error and negligence.

"As to minimize the risk of road accidents through elimination of blind spots, to raise the awareness among and change attitude of public road users plays an important role with regard to this problem. First, to address the problem of blind spots, the company or the owner of the HGVs must be educated about the need and importance of equipping their vehicles with proper safety accessories. This is simply because prevention is always better than cure. Besides, adequate training should be provided to truck drivers by the company to ensure that they learnt how to navigate and use these safety devices for an optimal performance."

"After addressing the issue of road safety awareness, the most important part is to change the attitude of our road users through the means of law enforcement and education. Therefore, Zenith Engineering is also looking forward to work with Ministry of Road Transport Malaysia (JPJ), MIROS and relevant regulatory bodies and agencies as to help to educate our public on the issue of road safety through series of educational campaign."

## He ain't Heavy? Thoughts on Overloading

"Overloading" – One of the scariest words in the industry, it seems. However, for years now, this seems to be an issue that concerns the industry, government and even the general public. We spoke to a number of transporters to get an idea as to what is really happening.

When we talk to business owners or the authorities, overloading seems to be a problem that is plaguing the Malaysian transport industry. Even the general public has taken an interest, posting images of heavily overladen trucks on social media, shaming the drivers and asking the authorities to take action. Here are some thoughts and hopefully we can spark a discussion, improving the road safety on our highways, trunk roads and in the cities.

#### **Legal Framework**

In Malaysia, the permissible axle load also depends on the trailer configuration. In view of a large ASEAN Economic Community (AEC), this will be interesting to see what will be the common denominator. Eventually, trucks will be able to move freely between the member countries of the AEC. At the moment, there are varying permissible axle loads. This means that a truck that is perfectly legally loaded, may be risking a summons if it moves to another country with different permissible axle loads. The question would be if the countries with the lower permissible loads would have to increase the weight allowed or should it be the other way around, asking countries to lower the load limit.

The fact that there can only be one designated trailer for one prime mover is another issue to be looked into. Imagine you have a load too heavy for one legal run and two trucks, but one cannot move the goods you have to haul as the trailer doesn't fit the purpose. This is where transporters may just risk it and use that one trailer that can haul the entire lot as the other one isn't fit for the purpose.

We also learned that it may not be that easy to enforce current rules and regulations. For one, you cannot see with the naked eye if a truck is overloaded. You would need to have to have facilities in place that are easy to access to check. Also, there is the issue of assigning the fine. Currently, it is typically just the transporter that ends up paying the fine. Wouldn't it be easier for the government to tackle these perennial overloading problems at source? And that is to ensure that cargo owners ensure no overloaded lorries leave their premises or be held accountable for any arising consequences? After all, cargo owners have weighbridges of their own and every load is weighed before leaving their premises.

#### **Technical Aspects**

Nowadays, axles are real marvels of technology. Country level legislation may stipulate that an axle load has to be way lower than what the axle can carry. While not overloaded technically, an axle may be overloaded legally. Certainly, they can carry



more than what their older brothers managed to move some 30 years ago. However much redundancy and safety is built in, there is certainly a limit to the weight they can carry. It is obvious that a truck meant to carry 30 tonnes could possibly carry much more, but at what cost?

With heavier weight comes more wear and tear. Brakes need to work harder, the suspension of truck and trailer are taxed more heavily and the engine has to put in more effort. We have heard from various parties that one may be able to make more money by overloading the truck, but at the same time, the lifespan of the truck may be cut in half. And if you are calculating on using the truck for some 10 years, this means you cannot recuperate the investment. And one thing is for sure: the banks want their money and the operators have to deliver the monthly instalments. More wear and tear also means more downtime during scheduled and unscheduled maintenance. While talking about cost, we also need to factor in the social cost that is caused by vehicles that have been taking on board too much. Breaking distances will be longer and accidents, which could have been avoided with the right load, occur.

Some may say that there are industries that cannot overload. If you are moving certain goods, say household items such as toilet paper, food stuffs, electric appliances or furniture, the weight / volume ratio would almost certainly make it impossible to overload. One bulk good transporter stated that there are operators out there that go to the extent of having one legally compliant trailer which they use to get the approvals by swapping number plates and chassis numbers. Meanwhile, the rest of the fleet is designed to carry more than allowed. One way of addressing this is to look into different trailer configurations. B-Doubles and other solutions are aimed at distributing the weight, thus reducing the stress on each axle. Today's trucks are well capable of pulling these, but there might be adjustments needed from the legal side.

Some have even commented that certain truck brands are not "up to the job" and the reputation of these vehicles has suffered. However, it is hardly surprising that a vehicle may not perform if it is abused in ways that the design has ever anticipated.

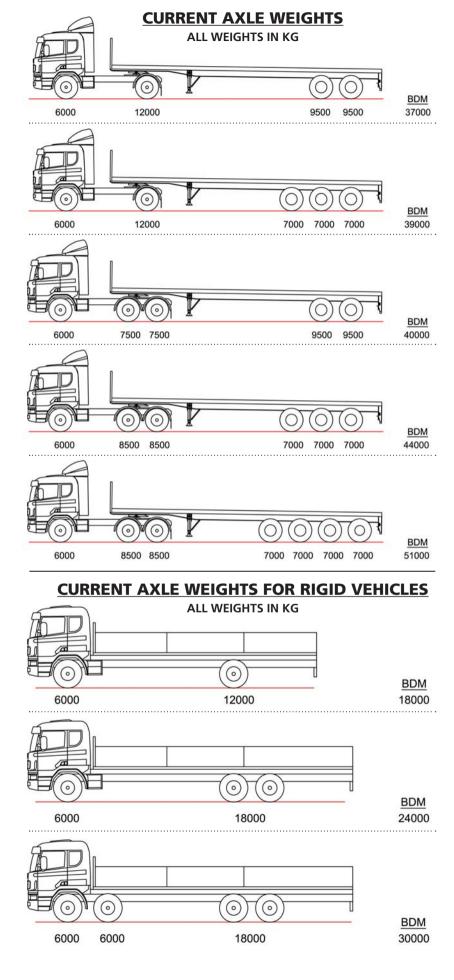
#### The Drivers

When a driver takes on a load, he is responsible for it. However, he is also responsible for the safety of other participants in traffic. Most importantly, s/he is responsible for bringing home money so that the family has food on the table. There are different models of compensating drivers and one is to pay a commission on the amount invoiced by the transporter. That means, the driver would earn more if there is more cargo on board. Staying within the legal limit may result in lower pay. Surely, nobody wants that? To compensate, the transporter may have to pay a higher commission or basic salary, thus reducing his margin and ability to repay the loan on the vehicle.

At one time in the 1980s, the government came down hard on truckers overloading. The industry responded by adhering to the limits. This, however, backfired. The result was that there was a lot of cargo that couldn't be moved as there weren't enough (most importantly) truck drivers and vehicles available. Depots filled and consumers did not get their goods. At that time, there was a severe driver shortage and even if that could have been solved, it would have taken too long to put new trucks and trailers onto the roads. As consequence, it was agreed that one would turn a blind eye, but only up to a certain limit. Today, with more powerful trucks and apps that allow to plot routes more efficiently, this could be avoided.

#### Where next?

Clearly, there is no easy answer to the issue of overloading. Given the complexities of technology, law and international trade, there may not be a simple answer to this issue. However, in order to make our roads safer, over time, this topic will have to be touched upon again and again. **T** 



SAFE ROADS ASIAN TRUCKER | 20



The Road Transport Department (JPJ) has announced that all commercial vehicles will be required to have light reflectors installed by next year. Here is what you need to know when purchasing your reflectors to avoid any issues at your next PUSPAKOM inspection.

### **Retroreflective Stickers on Your Truck**

It may sound simple to put some reflective stickers onto your truck, but there are specifics that you need to look out for. We met with Andrew Lee, Managing Director, Tritech Sdn Bhd and V.J. Tan, Sales Manager, ORAFOL, to understand the intricacies of this important addition to your truck.

For the exact specifications one has to refer to the MS 828:2011 guidelines, which are a revised version of the one issued in the year 2003. Said standard is based largely on the European Regulation EC 104, whereby some amendments for the Malaysian market have been made. Any sticker that is to be used legally, has to be approved by SIRIM and a label with matching references is to prove that what you have is the correct one. To ensure the effectiveness of the sticker, SIRIM subjects the product to no less than 16 different tests. The toughest and most crucial one among them is the accelerated weathering test for 2,200 hours in laboratory followed by natural exposure in a vertical position facing south for three years. "We are very proud that ORAFOL has been fully certified and comply with the standard as required by SIRIM and JPJ," said Tan, who is supplying the product to Tritech which is the distributor. The product is made in USA.

To prepare the market for this crucial step, Andrew Lee of Tritech has participated in exhibitions hold by Asian Truckers in MIECC and JBTC in Johor Bahru. Tritech also took part in road shows organized by JPJ to educate the public about the regulations in Putrajaya, Kuala Terengganu, Penang and Johor. PUSPAKOM will check the proper use and installation of the stickers. The purpose of these stickers is to prevent accidents when trucks are parked on the side of the road at night. "Research has shown that the use of these stickers can result in some 29% fewer accidents with up to 44%

#### **ORALITE Product Features**

- Highest night time visibility
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- 3 years warranty on photometrics and colour

less fatalities and injuries. In the US, some 67% of accidents involving cars and trucks are caused by low visibility," he added.

Apparently, there are stickers of varying quality available. The key issue is that the stickers have to have a high percentage of light being reflected. The exact numbers are available in the MS 828:2011, but here it will suffice to say that some stickers may only reflect some 1% of what is required. Andrew Lee also pointed out that there are cheaper alternatives, but they are not durable and the colour would fade very fast, requiring the operators to replace them frequently. His calculation shows that his stickers cost less than a pack of cigarettes per year on a five-year usage while others will have to be replaced every six months. "People should also consider the cost involved in the replacements, such as downtime. We offer a three year warranty, covering the time SIRIM requires the stickers to be exposed and the reflective index must meet the specifications after the three years outdoor exposure. However, we are confident that our products last much longer and are therefore more cost effective" Andrew Lee explained. Making it easy for operators to buy the stickers, Tritech has set up sales booths at several PUSPAKOM sites. This way, buyers know they will get an approved and genuine article, besides being able to buy them on the spot if the inspection results show that the stickers need to be replaced.

Andrew Lee also pointed out that there are counterfeit stickers. Some manufacturers are bold enough to copy the certified companies brand. SIRIM logo and label which are awarded to these certified companies are also being counterfeited. Andrew Lee and Tan are happy to meet with any interested party to discuss the features and benefits of their genuine product further.







### Setting the Benchmark for a Quality Back-up Service

The Steelbro Malaysia operation is proud to celebrate twenty years since its official opening in Kuala Lumpur.

n 1996, Steelbro sidelifters were almost pouring into Malaysia. Customers across the country approved of the technology and appreciated the benefits of being able to load and unload their containers on the ground rather than on the back of a trailer. Transport operators enjoyed major efficiencies as well as safety benefits as there was no longer a need for forklifts to drive up ramps.

Setting up a service workshop was the obvious next move. The operation provided back-up support for the growing number of Steelbro sidelifters and focused on parts supply, repair work, maintenance and the assembly of new sidelifters.



Today the sidelifter has become integral to many transport fleets and the workshop has more than doubled in size. The current team is led by Andy Ersalle, Steelbro's Regional Manager, South East Asia, and it boasts some impressive experience and expertise among its members.

"The team understands that downtime needs to be kept to a minimum," says Andy. "We are committed to supporting customers and pride ourselves on producing quality, first class repairs in a quick turnaround time. Factory trained technicians are on hand 24 hours a day, 7 days a week to offer support and service.

"We also place great emphasis on the safety and reliability of all the units we service." Andy is supported by Hadri Hakim who looks after service sales. Hadri himself has a number of years' experience in the service and automobile industry.

Azlin, the Workshop Foreman has been with the operation since the early days. In his 18 years working with Steelbro technology, Azlin has handled some of the most complicated repairs, building up valuable experience and knowledge that he shares with the newer members of the team.

There have been a number of changes over the years. Azlin explains, "Today there are more specialised tools available for easier repairs, reference repair manuals are now at hand, as well as the support from the New Zealand head office."

"I love my job working with Steelbro equipment because it's quite technical," says Azlin. "Sometimes I deal with breakdowns - handling sidelifters that are about to collapse or turn over, or fixing a problem with a crane caused by an operator mishandling equipment or by a Prime mover with poor suspension. These customers depend on Steelbro for technical advice and support. I've attended a number of these in my years with Steelbro and we generally solve the problem!"

"There are now stronger models available. The old 30 tonne unit has been upgraded to a 45 tonne lifting capacity which is better for tough environments. The high tensile steel that is used today reduces the chance of cracking. There are improved safety features, as well as high quality components used in hydraulic systems that reduce oil leakage."

Andy explains "We strive to maintain a consistently high level of service for all our customers and have developed some initiatives to help improve servicing capability."

These initiatives include a comprehensive servicing and after sales support, mobile servicing and service plans tailored to suit individual customer's needs. Steelbro approved parts can be bought at stable prices and special discounts are available for regular customers and cash buyers.

New sidelifters receive a certificate of fitness, and are subjected to rigorous quality control testing by experienced technical staff. Enhanced one and two year service and maintenance packages are available. These have been introduced to help optimise efficiency, reliability and sidelifter resale value. Packages can be tailored to each customer.

#### Steelbro - The true innovator

Steelbro has produced imaginative and successful solutions for the container transport industry since 1878. When it comes to embracing technology, Steelbro is an innovator. When Steelbro launched its new sidelifter in the 1980s, the product was a winner and soon the Company gained global visibility.

Continued market success led the company to concentrate resources on the advancement of the sidelifter design.

Investment was made in creating designs using the very best materials and components.

High strength steels with superior fatigue toughness from world class steel producers are used. The material is first hardened rapidly by cooling the red hot metal, then heated at lower temperatures and then slowly cooled to eliminate brittleness. The result is a super-tough steel that is the strongest, yet lightest material and the best possible choice for Steelbro's cranes and chassis.

Steelbro has recently partnered with RUD Lifting Systems for lifting components across the Steelbro sidelifter range. The high quality RUD components will be common to all Steelbro sidelifter models including 16mm ICE chains being fitted as standard. The ICE range offers higher lifting capacity from a much smaller and lighter chain in comparison to existing chains. Due to the advanced control design, Steelbro is able to use the smaller, lighter and more fuel efficient Kubota engines.

Steelbro and its parent company Howard Porter have invested in quality assurance to ensure that products continue to live up to customer expectations. Business management systems are being enhanced to ensure they are aligned with the internationally recognised model for Quality Management Systems, ISO 9001. Owner Howard Porter and Steelbro recently gained ISO 9001 accreditation for its Australia and NZ manufacturing and design operations.

The company is also committed to creating teams for manufacturing, supplier and product improvement. These initiatives take information from manufacturing and post market surveillance activities to help analyse operations and help drive improvement.

These activities all help Steelbro to deliver innovative machines that set the benchmark in value for money, reliability and competitive advantage for the end user.







### Switch to Shell Rimula Pays Off For Rice Miller



For Kedah-based rice miller, Kilang Beras Seri Merbok Sdn Bhd, the problem was slowly but surely spiralling out of control.

ts fleet of forklifts was breaking down way too often, causing significant downtime and disrupting production. The reason was over-heating engines due to prolonged idling during operating hours. The downtime and repairs were getting costly and exacting a heavy toll on their finances.

The company decided to approach key Shell distributor, Megasen Sdn Bhd, to try to find a solution to the problem.

Using the proven Shell LubeAnalyst oil and equipment condition health check and monitoring system, Megasen submitted oil samples taken from the forklifts to the technical team at Shell.

Shell was able to quickly diagnose and provide a detailed analysis of the issue. More importantly, it knew exactly what Kilang Beras Seri Merbok needed to do – which was to upgrade the engine oil used in its fleet of forklifts from another brand to the previous generation fully synthetic Shell Rimula R6 LM 10W40 heavy duty diesel engine oil.

The Shell Rimula R6 LM 10W40, with its low-SAPS additive technology and unique low-wear and low-deposit formulation, more than met the latest requirements by original equipment manufacturers. It was able to offer extended oil drain intervals by keeping higher levels of piston cleanliness which resulted in better fuel efficiency.

The benefits became crystal clear within a short period of time. The upgrade to Shell Rimula R6 LM 10W-40 helped extend the oil drain interval for the forklifts from 360 to 2160 hours while maintaining their engine performance. That was an astounding six times longer than before, resulting in increased forklift availability and reduction of total lubricant cost.

The simple upgrade helped Kilang Beras Seri Merbok record total annual savings of nearly RM420,000.



While the tangible benefits were already significant with the previous generation of the product, Kilang Beras Seri Merbok could look forward to even better returns with the new improved Shell Rimula R6 LM 10W-40 which now features Dynamic Protection Plus Technology.

Dynamic Protection Plus Technology combines Shell's proprietary PurePlus Technology, which produces an ultra-clean base oil made from natural gas, and Adaptive Additive Technology to deliver excellent all-weather protection, longer engine life, extended oil drain intervals, and reduced fuel consumption, all of which ultimately helps customers to lower the total cost of ownership.

This latest innovation by Shell enables the new Rimula R6 LM to offer up to 53% better protection (Compared with the revised more stringent MB 228.51 limit, as measured in the MB OM 646 LA engine test) against engine wear and deposits, especially cam wear and up to 45% lower oil consumption (Compared with the Volvo VDS-4 limit, as measured in the Mack T12 300 h engine test.).

The oil's upgraded CJ-4 specification now exceeds ACEA, MAN and Mercedes-Benz specifications for engine wear and cleanliness to ensure extended oil drain intervals and lower emissions. Its low SAPs formulation also significantly reduces downtime from clogging of diesel particulate filters by ash. This means that the new Rimula R6 LM is especially recommended for highly rated engines meeting Euro 5 to 6 emission requirements while being backward compatible to older generation engines.

For more information on the latest Shell Rimula products, please visit *www.shell.com.my/rimula.* 

### **Keeping Your Tyre Pressure In View**

The three magic words when it comes to maintaining tyres are "Correct Tyre Pressure". While deflation can only be detected over time using visual inspection, modern electronics can help with this task. The tyre sensor Seetron TP2 is a tyre safety device which passes on wirelessly the normal/insufficient state of the air pressure of tyres to the driver.

Repeater

enso

120

120

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Monitor

Senso

120

The sensors are fitted onto the centre of the tyre rim. Using a wireless RF receiver eliminates the difficulty of installation. There will be no need of cable connection from under-frame to the cabin's inside. A display unit, the monitor inside the cabin shows the tyre pressure of all tyres. This will give the driver an accurate and immediate overview as to where the pressure has dropped and is not enough. Should the tyre inflation drop by 15 to 20% below the ideal setting, an alarm will sound and be displayed on the monitor. In a field test, the fitting of the TP-2 resulted in a decrease of fuel consumption by up to 2% and tyre life improvement of 10 % respectively as a result of the tyre pressure being monitored and kept at the correct level. In Malaysia, the Seetron TP2 is available from YonMing. Repeater

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Sensor

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# **PKT as Primer for Ekoprena**

While lab tests can provide a lot of data and insights, there is nothing that beats a real-life field test. Confident with their product, GIIB teamed up with PKT to put their Ekoprena tyres to the task.

koprena was the brainchild of a cooperation between the Malaysian Rubber Board (MRB) and Goodway Integrated Industries Berhad (GIIB). The agreement with MRB signed in July 2015 with the objective of the agreement being that GIIB Rubber will be carrying out research, lab testing and field testing of applications of Ekoprena specialty rubber in tyre retreading rubber compound. This is is to determine how compound performance changes with the addition of natural rubber to the formulation.

#### Partnership for Performance

GIIB has been chosen to take part in the project after a thorough audit by the manufacturer of Ekoprena – TARRC (Tun Abdul Razak Research Center), the R&D, marketing and promotion center of MRB. Now that the lab phase has ended, GIIB moved to field testing, though some solid results are expected to be available only within next month. Initially, the tyres were fitted on Southern Waste Management's trucks (compactors) in February, Felda (tankers) and PKT (haulage and cargo trucks) in May 2016. The project has been launched in Malaysia initially. The future plan is to keep testing Ekoprena application in various environments, such as dry / hot climate (Middle East), cold season (Europe) and bare concrete road coverage (Hong Kong).

#### **Challenges and Solutions**

The main challenge for SWM have been often blowouts of tyres because of nails when trucks are going to the waste site. It is not something that can be solved with Ekoprena tyres, however, it has been proposed by GIIB to use the tyres that are almost to be changed but are still good to run; this way, even if the tyre flattens, financial pressure can still be reduced because of the lower cost of such tyres.

PKT's main objective, apart from testing the Ekoprena compound on the road, is to compare the performance of top tier tyres to lower grade brands, which may be cheaper to purchase, and determine higher operational and cost efficiency as well as retreadability of the former. In order to bring attention to the project and let the industry and public know about it, as well as bring out the sense of pride and ownership in drivers, GIIB has designed special distinctive marks for both vehicles and drivers: stickers and t-shirts with a message "A different kind of tyre. A different kind of driver. I'm a Supercool E driver!" Apparently, the drivers have been absolutely happy while the Ekoprena driving vehicles are now more visible on the street, proudly carrying the message around.

#### **First Hand Experience**

In order to get some insights, we met with Hansen Teh, GM, Transportation, Gelombang Mantap Sdn Bhd (A member of PKT Logistics Group). He detailed that there are currently different tyres in use. Some of which are retreads that they commonly use, some 12 tyres as comparison and a total of 48 Ekoprena tyres. The mix was set up in order to be able to draw conclusions about the performance of the tyres. The trucks using the Ekoprena tyres are hauling sideloaders, curtainsiders, general cargo and containers. "In order to gauge the durability of the tyres we mounted them onto the axle that puts the most strain on the tyres, the drive axle," he explains. In use are tyres of the size 295/80/22.5.

The test duration is six months, during which time the Malaysian Rubber Council is to carry out monthly checks to ensure everything is done right. In addition, GIIB is monitoring the trial to ensure that the tyres will receive the best possible treatment for top performance. Teh said further that "These stickers are also a bold statement, but show that GIIB is confident about this product." From the initial results, he concluded that the Ekoprena tyres are already performing better than the retreads that the company used to purchase. "Even with a simple visual inspection of the tyres we can already see that the Ekoprena tyres are better." Teh concludes that they are happy with the trial so far and that the company is likely to recommend GiiB to others as well.









### **Firama Makes Their Trailer Safe**

With decades of experience comes the knowledge of how to design and build trailers for commercial vehicles. But even the most groundbreaking concept still needs to be safe to operate on the road. Firama's CC Yap shares with us what makes trailers safer.

When designing a trailer, the most important issue to look into might be the permissible payload and the cost of it vis-a-vis the potential life span of the asset. However, besides that, there are other vital considerations to be made when building a trailer. Firama is known for innovative designs, a long presence in the market and having won the award for the Truck Body Builder of the year for 2014 by NST. However, they are also pioneers when it comes to safety features, something that is crucial in the eyes of CC Yap, Director, Firama Engineering Bhd. Here are his hints and insights.

In order to produce safe trailers, the starting point has to be the design. Material selection and the way it is used are crucial. "If you want to build a safe trailer, you cannot simply pinch materials. You would also have to build in extra strength, anticipating added stress to a trailer when in operation," he said. According to him, the years of experience have enabled them to immediately identify those areas that require special attention when designing a trailer.

What has helped improve the safety a lot, as Yap explains, is the use of Auto-CAD. Using computer technology, the margin of error has been reduced significantly and one can see if components really fit prior to building the trailer.

#### Kingpin

"The kingpin is probably the single most important item in a trailer," Yap says. This is the cornerstone of the trailer, just like the foundation of a building. The danger with cheaper, unknown brands is that the pin may not be forged properly and is brittle. In the worst case scenario the kingpin may fail, separating the trailer from the truck while driving. Just imagine driving behind a

#### ASIAN TRUCKER | 29 FEATURE STORY





trailer that splits from the truck without warning! "And a good kingpin isn't that expensive," he elaborated. In his experience, a cheaper kingpin will only be a few ringgit less than a quality product. "So, why bother with a little savings when severe issues could arise?"

#### Fifth Wheel

Next in line after the kingpin is the fifth wheel that one needs to look at. The mechanism is crucial. If the material is defective, the mechanism may fail and open up, also separating the trailer from the truck mid-drive. Some may even fail within two months if the materials used are sub-standard.

#### Axles

There are various types of axles available on the market, ranging from simple designs to sophisticated arrangements that come with all sorts of adjustment capabilities, suspension and options for self-steering. The most common failure in axles however are the bearings. Checking and greasing them regularly will prolong their life and reduce the risk of failures.

#### Brakes

Also part of the axles are the brakes, whereby the drums and linings need attention. Cheaper brake-linings may not be fully functioning after a few trips. Type 30 brake chambers are being used although type 24 would be sufficient on most trailers, considering that most of the times, the goods carried are voluminous, but not very heavy. Thanks to the high demand for Type 30 brake chambers, there isn't much of a price difference. When using air-suspension, the use of Type 24 brake chambers will be necessary due to space constraints. "Again, the Type 24 is more than sufficient, but sometimes people would also like to over-spec." What Firama has decided is to use spring brakes on one axle as standard together with parking air-valve.

#### Springs

The purpose of the springs is to add a little bit of flexibility to the trailer. With regards to springs, there is little point in overspecifying this item. "Some people go for 16 leaf-springs. The trailer hardly moves at all and when on the road, the trailer starts to bounce. Such bouncing will result in stress put onto the structures and welds."

#### Rigidity

In general, flexibility is optimised in a trailer. Rigidity is what the developers are aiming for. This can be achieved by adding brackets and beams, the way the cross members are being constructed and placed. However, adding more material will also add to the cost and it is a delicate balance that one needs to find between over-engineering and keeping within the budget.

#### Tyres

Does it make sense to install pressure monitors for tyres? "If the person running the truck doesn't react to the readings, then there is also no point," Yap says. What would help is the extended valves as it makes it easier to check the pressure and adjust it. "People are, naturally, lazy. If you can make it easy for them to carry out checks, they will." A trend that Yap sees is



that retread tyres have increased in price, thus the gap to the new tyres is no longer that significant. Yap sees this as a good sign as operators are now switching more to new tyres.

#### Stickers

Some 20 years ago, Firama already started to add reflective stickers. Back in the day, it was a reflective logo, which allowed other road users to see the Firama-made trailer from far in the night. "You have to be selective with the stickers too. Nowadays, there is silkscreen printing, which isn't that good. We are using a reflective sticker for the red section of the stickers, not silkscreen printing. And they make the trailer look good!" Stickers on the sides of the trailers are important, as these allow the trailer to be seen when turning. Keeping them clean is crucial though.

#### Others

Further considerations for trailer makers are the side rails and holders for fire extinguishers and safety cones. While these items need to be easily accessible in case needed, these items shouldn't fall out of their holders in transit. "For the fire extinguisher, we actually add some padding, so that the fire extinguisher doesn't continuously bang against the holder. This reduces distracting noise while driving," Yap points out. Sometimes we see curtainsiders where the clasps are not secured and are dangling along the sides. This happens when there aren't supporting poles installed in the middle of the trailer, supporting the roof. When tying up the curtainsiders, the straps pull down the beam and thus the first clasps tightened loose tension and come undone.

"We need to continuously think about how we can improve safety. One thing, which is a standard item, is a toolbox, welded or bolted to the trailer. This will keep tools accessible, while stored in one place," Yap closes.



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#### STRATEGIES AND REGULATORY ROADMAP FOR IMPLEMENTING AUTONOMOUS VEHICLES IN ASIA

#### EXPERT SPEAKERS



#### Peter Damen

Chair of Executive Steering Committee Australian Driverless Vehicle Initiative



#### Seo-ho Choi

General Manager, Human Factors & Devices Research Team Hyundai Motor Company



#### Niels de Boer Programme Director.

Centre of Excellence for Testing and **Research of Autonomous Vehicles - NTU** (Cetran)



Dr. Bernhard Morys Head of Driver Assistance & Chassis System Daimler Greater China Ltd.



James Williams Manager Policy -Compliance & Technology National Transport Commission, Australia



**KEY TOPICS DISCUSSED** 

Changgi Lee Senior Deputy Director **Ministry of Land, Infrastructure** and Transport, Republic of Korea

#### Legislation and Regulatory Roadmap for Asia Autonomous Vehicles (AVs) Examine the current legislation roadmap and partnership opportunities to accelerate the rigorous testing process and the implementation of autonomous vehicles in Asia

**Evaluating Infrastructure Readiness to Enable AV Implementation on Public Roads** Discuss infrastructure readiness and standardization processes including road and facilities, V2V and V2X communications systems as well as autonomous parking

**Ensuring Risk Management,** Safety and Reliability for AVs Discuss safety and reliability, and cyber-security pertaining to AVs

#### Latest Case Studies on the Commercialization of AVs

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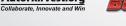






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# Hot Dip Galvanizing: Make Your Trailers Long Lasting

Without a doubt, companies everywhere in the world utilize their commercial vehicles, trucks, lorries and buses, in varying environments and terrains. These varying environments, in the some cases, could be very harsh and unforgiving to the steel used to build the vehicles causing minor aesthetic damages or sometimes, affecting their ability to function in their most optimal form.

#### Harsh Weather

In Malaysia specifically, the primary environment and the weather condition in which vehicles operate is depictable by either a scorching and relentless sun or impulsive heavy rains which cause floods, coupled with year-round high humidity. Taking this into account, one can already assume that this type of climate is kind of a bad news for trucks and trailers.

Surely one may point out to the fact that a lot of other kinds of vehicles, like cars, can last for quite a long time even in this climate. But when thinking about trucks and trailers, one needs to reflect on the fact that cars or other vehicles of the are not utilized in the same way that trucks are operated as they are not exposed to the massive weights of loads and the colossal burden of haulage. Moreover, when rested, these vehicles are scarcely, if ever at all, parked under the serenity of some shades, or inside the safety of an enclosure.

Thus, we know that trailer steels especially, are exposed to all kinds of risks from being susceptible to dust, rock hits, scratches, sometimes minor dents due to continuous loading, unloading and hauling, weather elements, corrosive atmosphere like in salty air or sea spray, and even UV rays. Imagine the exposure to salty air and its corrosive effect which trailer chassés operated in coastal regions face, particularly in coastal regions like Port Klang or all the way in the east coast, in Terengganu or Kelantan. This constant exposure could pose detrimental effects in the form of rampant oxidizing process which in the end could translate to a significantly shorter life span of the usage of truck trailers. Ultimately, everything has a life span, but it is very unfortunate that some assets may turn out to last shorter than they are supposed to. And in the case of trailers, their one most apparent reason for shortened lives that could be blamed is the natural occurrence which is corrosion.

This situation can be extremely frustrating for companies that have built their businesses upon the commerce which revolves around the usage of trailers, like those in the business of transporting goods or construction materials, rental, utility or even for municipality purposes.

#### **Different Protection**

We know that however thick the coats of paint that can be applied to the trailer steel, it can only do so much to prevent the damage from being imposed by these outer and contaminating elements; before giving in to them after so long. This is where the business owner needs to be fastidious in thinking about trailers to assure that they can become more durable and longlasting, so they can be used, not only longer, but also in their best shapes until the inevitable due time.

One of the alternatives of overcoming the risks imposed by constant usage, wear and tear and the exposure to environments, terrains and natural elements mentioned earlier is to galvanize the steel parts used in trailers. The Website "Trucking Info" pointed out that a trailer will only last for an average of 10 to 15 years; whilst most research would suggest to you that galvanizing trailers would add a staggering 50 years to their life span.

Galvanizing is definitely not something new in the industry. But often a lot of these ideal choices are simply unintentionally overlooked by players of the industry, when company personnel are of course, juggling a million things in their minds. And even though strong coats of paint might already be used, for those who want years of maintenance-free trailer, galvanizing can be the answer.

#### **Process of Galvanizing**

Galvanizing is the process of coating steel with zinc. The trailer steel is immersed in molten zinc baths which end up forming a progression of layers consisting of zinc-iron alloy combination, which is metallurgically bonded to the original steel. This longlasting galvanized coating will outlast even the toughest paint available in the market. Unlike painting which only covers the outer part of the steel, hot dip galvanizing coats the steel inside and out, including corners and usually unreachable spaces. The result is an ever more glossy and gleaming chromium look of the trailer, but ultimately tougher and hard-wearing, when put to the test.

Apart from making the trailer steel last some 50 years more; galvanizing will also maintain the resale value of the used trailer, oftentimes much higher than that of the painted trailer. Considering the fact that trailer owners would be bothered less by maintenance issues of the trailers, which is saliently very economical, the resale value of the galvanized trailer is more than often much higher than that of the painted trailer. So there you have it, tougher, more long-lasting, frugal and economic trailer. With these facts presented, it becomes apparent that galvanizing trailer steel makes for itself a very sturdy case.

Finally, this may be something that the Malaysian industry – fleet owners, haulage businesses, even trailer builders- could consider as significant and central when rethinking the future of the trailer in this industry which is day by day, approaching a more environmentally conservative trend. As trailers will last longer, replacements don't have to be made so often. Thus we will use lesser raw materials for the production of trailers.



### **An Introduction to Trailer EBS**

BS, which stands for Electronic Braking System, is one of the applications that make modern trucks safer and more comfortable to drive. We take a look at how EBS works.

Here we a having a look at a system from WABCO, which offers simpler installation and optimized efficiency for greater savings and more safety, the Electronic Braking System E Generation.

Here are some key points to look out for when dealing with EBS:

### Optimum position of the pneumatic and electrical connections

The pneumatic and electrical connections are mainly running parallel to the trailer cross member. The system installation looks well structured.

#### New cable harness system

This WABCO EBS is designed with a new sealing and locking concept, the quality and robustness of the modular cable concept is reinforced to withstand the harsh demands of trailer's daily life. Installation is simplified, since each trailer function is assigned to a separate plug on the Electronic Control Unit (ECU). The new cable design also eliminates the need for Y-cables. And any other user-defined preferred functions such as lift axles,

#### **Trailer Air Suspension**

Control (TASC) valve, Integrated Vehicle Tire Pressure Monitoring (IVTM) and telematics can be added by simple connection.

#### More Generic Input/Output functions (GIO)

Input/Output functionality can be customized to meet individual customer requirements, such as various lift axle control configurations, door control for refrigeration trailers or roadfinisher brakes.

#### Advanced Operating Data Recorder (ODR)

The extended functionality of the advanced Operating Data Recorder (ODR) allows greater vehicle transparency by providing extra information about vehicle handling and trailer status. Additional information on events such as:

- warning lamp activation,
- lining wear information,
- under-run from tire pressure,
- open door events,
- end user defined events

provide greater vehicle transparency for optimized utilization. Other data such as load condition for single axles and – brake pressure versus time for EBS applications is also available. The quantity of data that can be stored per trip as well as the number of trips that can be stored has also been significantly increased. This facilitates longer monitoring periods and increases vehicle transparency. In connection with the SmartBoard all data is stored in the ODR with the exact date and time. This makes tracking and assignment easier.

## Enhanced features to save you time and money

As one of the leading global manufacturers of electronic braking systems for trailers, WABCO has already sold over 400 000 Trailer EBS systems worldwide. Building on the new standards already set by the innovative Trailer EBS D system, the Trailer EBS E Generation now provides even simpler installation and more efficient operation and maintenance. EBS E offers trailer manufacturers a streamlined, optimized trailer solution that will cut down installation time, and delivers fleet operators the benefits of more efficient operations and maintenance.

## **Trailer EBS Integrated fittings**

As an option WABCO offers the Trailer EBS E modulator with integrated fittings. The advantage for trailer manufacturers is a significant simplification of the installation process – since the pneumatic tubes only need to be pushed in.

# Integrated Electronically Controlled

Air Suspension (ECAS) ECAS functionality is implemented in the Premium Trailer EBS E modulator. Now, the well known ECAS functionality and the lift axle control for trailers is possible with less effort.

# Flange mounted Extension Module

The Extension Module is directly mounted on the Trailer EBS E modulator. It offers important advantages through the integration of various functions such as overload protection

valve, the charging valve and also the pressure distribution for air levelling valve, PREV, TASC, lift axle valve and 4 ports for spring brake actuators.

SmartBoard – easy-to-accesstrailer information and operation SmartBoard can be added to the WABCO Trailer EBS modulator. This multi-function information module provides an overview of the status of the trailer EBS system as well as all other systems or components connected to it. Easy handling makes it simple to select and display information on driven kilometres (odometer), axle load, lining wear and system messages in up to 9 languages. Utilization of ECAS functions and – when IVTM is installed – the display of tire pressure information are also possible.



Trailer EBS E features	Your benefits
Simplified system layout with new connector and cable design Modular system with free order of trailer components Point-to-point connection - cable with assigned functions (one function per connector) and no Y-cables	Reduced installation time, increased process stability, easier installation, fewer variants
New connector concept with robust sealing	Enhanced lifetime and higher quality
I/O functionality can be customized	Customer can configure individual functions
Integration of Electronically Controlled Air Suspension (ECAS) in the Trailer EBS E modulator	No additional ECU needed in the trailer, easy and inexpensive assembly
Automatic manoeuvre assistance	Tire wear reduction
Roll Stability Support (RSS) for full trailers with only one axle load sensor	Easy installation, lower costs
Operating Data Recorder (ODR): extended trip memory, event recorder for warning lamp, tire pressure monitoring etc.	Greater vehicle visibility
Integrated fittings (optional)	Reduced installation time for OEMs
Flange mounted extension module with integrated overload protec- tion valve, overflow valve and pressure distribution for air reservoirs, air leveling valve, PREV, TASC, lift axle valve and 4 ports for the spring brake actuator	Direct installation onto the Trailer EBS E modulator, sold with integrated fittings for easy connection

Operators looking for EBS can turn to WABCO. In Malaysia, YonMing is the official distributor for WABCO, the vehicle control systems business of American Standard Companies. It is one of the world's leading producers of electronic braking, stability, suspension and transmission control systems for heavy duty commercial vehicles. WABCO products are also increasingly used in luxury cars and sport utility vehicles (SUVs). Customers include the world's leading commercial truck, trailer, bus and passenger car manufacturers. Founded in the US in 1869 as Westinghouse Air Brake Company, WABCO was acquired by American Standard in 1968. Headquartered in Brussels, Belgium, WABCO today employs nearly 7000 people in 34 office and production facilities worldwide. In 2005, WABCO contributed US\$1.8 billion to American Standard's total sales of more than US\$10.3 billion.



# Gethi Supplies 'Hardox in My Body' Concrete Mixer Drums to Singapore's Island Concrete

Deal sees SSAB's Hardox concrete mixer drum enters Singapore construction market for the first time.

Gethi Engineering (Gethi), a leading manufacturer of concrete transit mixers, has signed an agreement with Singaporean concrete supplier Island Concrete - a member of Hong Leong group, that will see Gethi supplying Island Concrete with ten of its Hardox cement mixer drums , built using Swedish steel manufacturer SSAB's market-leading high strength steel – Hardox wear plate.

The deal follows a recent announcement by Island Concrete who intends to replace its large pool of concrete cement drums over the next few years and this goes some way to initiating a shift in market perception regarding the use of high strength steel in the cement industry. With Hardox steel, it can cut down on weight and extend the service life of steel structures in comparison with regular steel.

SSAB's Hardox wear plate delivers great advantage through the whole production flow. Its superior wear resistance translates into bottom line benefits such as more uptime, higher productivity, longer service life and reduced maintenance. The unique combination of hardness and toughess allows Hardox to perform as a load-carrying part in many applications.

First developed in 1974, Hardox is a highly wear-resistant steel that helps to reduce weight and extend the service life of a wide range of steel products. Hardox In My Body is a trademark sign used on products from manufacturers certified by SSAB and it is a guarantee that the manufacturer has extensive knowledge of the steel production and the signed product is made with genuine Hardox wear plate which represents a first-class product that delivers superior resistance to wear, dents and cracks even under the harshest conditions.

Commenting on the scope of the deal, SSAB's regional manager for Malaysia John Kuan said, "The agreement with Island Concrete is modest to begin with as it is something of a trial run, but we hope to see a more encouraging switch to this lightweight design in the not too distant future."

"SSAB is both proud and excited to be at the beginning of what we consider to be a new chapter for high strength steel mixer trucks."

### **About Gethi Engineering**

Gethi Engineering Sdn Bhd is an established company specialising in the manufacturing of transit concrete mixers. The company integrates its products with other valueadded components including the supply of concrete mixer trucks and spare parts as well as repair, service and maintenance support, and is progressively taking market leadership and embarking on international market expansion across the Asia Pacific and beyond. Gethi is a certified Hardox In My Body member by SSAB.

# **About Island Concrete**

One of the longest established concrete suppliers in Singapore, Island Concrete has batching plants strategically located across the island and is capable of producing more than 2 million cubic metres of concrete per year. The plants are fully computerized and productions are automated to ensure high quality products in the right quantity are delivered to its customers. The company also has a fleet of more than 200 concrete mixer trucks.

# **About SSAB**

SSAB is a Nordic and US-based steel company. SSAB offers value added products and services developed in close cooperation with its customers to create a stronger, lighter and more sustainable world. SSAB has employees in over 50 countries. SSAB has production facilities in Sweden, Finland and the US. SSAB is listed on the NASDAQ OMX Nordic Exchange in Stockholm and has a secondary listing on the NASDAQ OMX in Helsinki. **7** 



# SOUTH EAST ASIA'S LARGEST COMMERCIAL VEHICLE EXHIBITION 18-20 MAY 2017

东南亚区域之 最大型商用车辆展览会 2017年5月18日至5月20日,马来西亚绿野仙综



Back for the third time, Asian Trucker invites you to be part of the largest dedicated exhibition for commercial vehicles in Southeast Asia. Co-organized by Asian Trucker Media, two highly successful commercial vehicle exhibitions were previously held in Malaysia. Following the success of the past event, we are returning with the show in May 2017 under a new, more inclusive name.

MCVE, organised by Asian Trucker, will be held in the Mines International Convention and Exhibition Centre from 18th to 20 May 2017. Fringe programs, including the Asian Trucker Networking Night, will run concurrent. Please visit www.mcve.com.my for details and updates. Access is free of charge for delegates.

To book your booth or to learn more, please contact Nicole Fong via nicole@asiantrucker.com or +6012 207 5528

Asian Trucker Media Sdn Bhd, Empire Tower, A 5-9, SS 16/1, Subang Jaya, 47500 Selangor (902834-K) 随着《Asian Trucker》杂志在近年来所举办的商用车辆展览获得各 界营运商、物流公司以及利用货车经营等业者热烈响应,我们将在明 年5月于我国举办第3届大马商用车辆展览。

TRAFFIC TRAFFIC TRAFFIC

本届展览将于2017年5月18日至20日,在马来西亚绿野国际会展中心 (MIECC)举行,故此我们诚意邀请您参与此次展览,共同见证这东南 亚区域內其中最大型的商用车辆展览活动。期间,我们更特别为各界 参与展出的公司举办亚洲货车业者交流晚宴,促进区域内物流领域合 作交流。

欲知更多详情,请浏览www.mcve.com.my, 以掌握有关本届会展的最新资讯,参与此次展览的公司代表及业者 皆可免费出席相关会展活动。

有兴趣预订展示单位者,可致电邮至nicole@asiantrucker.com 或拨打6012- 207 5528,以联络本杂志社广告部代表Nicole Fong了 解更多详情。



# Independent Suspension ITS 80 F from ZF

# More comfort and improved handling

The evolution of the RL80ET is the ITS80F. It weighs 40 kg less compared to the current, air spring rigid axle which is guided by control arms. This was achieved by further developing the steering knuckle support principle. The control arms have been extended towards the king pin and have been directly connected to it. The spring forces are now supported by a separate, compact spring carrier. This reduces the unsprung masses and enhances the axle kinematics.

# **Advantages**

- Revolutionary design reduces weight and ensures fuel savings as well as increased payloads
- Innovative control arm connection allows optimized axle kinematics
- Reduction of unsprung masses means less road surface damage as well as more comfort
- Improved maneuverability due to increased steering angles  ${m au}$

Product Details	
Independent wheel suspension for trucks	ITS 80 F
Axle load kg	6.500 - 8.000
Wheel travel mm	+100, -170
Wheel cut	50°/40°
Vehicle width mm	2.550
Frame width mm	approx 900
Ground clearance mm	approx 260
Flange to flange dimension mm	2.408
Tire sizes	385/85R22,5
	315/80/R22,5
Axle system weight kg (depending on customer specification)	550



# There is a DT Spare Parts Solution For All Aspects of Trailers



Slack adjusters are used to adjust the braking-induced wear of brake drums and ensure a constant clearance between these components.

Slack adjusters are employed in S-camshaft drum brakes and take over the transfer of force from the wheel brake cylinder to the S-camshaft. Thus, a manual or automatic adjustment of the S-camshaft is possible, so that the brake cylinder operates in virtually the same stroke range.

A distinction is made between manual and automatic slack adjusters. Selfadjusting automatic slack adjusters are quick and easy to install and are optimally constructed. No special adjustment is now required for the correct installation of the brake lever. This provides a larger area of application and a reduction in part numbers can be achieved.

A constant readjustment of the slack adjuster prevents the piston stroke of the brake cylinder from becoming too large, resulting in increased air consumption. Consistent brake response time is thereby guaranteed. The complete range of the brand DT Spare Parts covers more than 380 different air spring for around 1900 references.

Air springs are flexible dampers between chassis and body. This kind of spring is used for trucks, buses, trailers and transporters. By the use of air suspension, a higher level of driving comfort and a constant drive level is achieved.

The special feature of air springs is their enormous flexibility. The internal pressure of the spring can be varied. The spring nevertheless remains stable. Despite different payloads, the ground clearance of the vehicle can be kept constant. When used for passenger transport, the vehicle floor can be lowered to facilitate entering.

An internal, multi-layer woven structure ensures the stability and flexibility of the air spring. Under the brand DT Spare Parts, rolling lobe air springs, as well as ready-mounted air springs are available.

Depending on the air spring type and usage, a rubber bumper is located inside an air spring, which serves as an end stop and prevents the air springs from "breaking through".

Depending on the type of vehicle, rolling pistons made of steel, aluminium or plastic are used.

King pins are safety-relevant components and are used to connect axle and wheel.

For easier maintenance and repair, the DT Spare Parts brand offers repair kits composed of all the components required for the exchange of king pins. Different kit components are used, depending on the construction of the steering knuckle. King pin kits are composed of king pins as centrepiece of the steering knuckle, slide bearing bushings and roller bearings. Depending on the area of application, the kits are additionally equipped with oil seals, thrust washers, o-rings, shims and lubrication nipples. To ensure a long service life, all components are precisely matched.

Air tanks are part of the pneumatic brake system. They store the produced compressed air and deliver this when needed, through the respective valves, to the different users, e.g. the braking system or level control.

Air tanks of the DT Spare Parts brand are made of aluminium or steel. The air tanks are available in diameters of up to 396 mm, have a capacity of up to 120 litres, and are resistant to pressures of up to 15.5 bar. Through the use of steel of the highest possible quality and optimum construction, weight saves of up to 6.7 kg are achieved, compared to conventional air tanks.

All air tanks of the DT Spare Parts brand are manufactured in accordance with the standard EN 286-2 and marked accordingly. In addition, a CE marking can be found on each tank.

D

Brake drums are among the highly safety-relevant wearing parts in a vehicle and are subject to extreme mechanical and thermal stresses. They provide a friction surface for the brake pads and convert kinetic energy into heat, whereby the vehicle is braked.

Brake drums of the brand DT Spare Parts are made of high-quality cast iron, which is characterized by outstanding thermal properties, as well as good damping properties and resistance to deformation.

A uniform wall thickness helps to ensure an even distribution of the brake load, and is achieved thanks to a precisely controlled casting process. Precision machining of the brake track ensures the prevention of vibrations and brake judder during the braking process. Furthermore, brake drums of the brand DT Spare Parts are cooled at a controlled temperature after casting and automatically balanced, in order to guarantee a long service life.

Brake drums may only be machined down by maximum 2 mm in the inner diameter. They should always be replaced together with the linings and always axlewise. An upwards and downwards movement when braking can be due to a out-of-round form of the brake drum. In this case, replacement of the brake drum is recommended.

Wheel bolts are safety-relevant components and are used to connect wheel and wheel hub. The high-strength connecting elements are available in different versions, according to application. Depending on the form and characteristics of the wheel hub, different wheel bolts are used. To ensure a safe hold, the wheel bolts are countered with matching wheel nuts.

Production of wheel bolts is carried out by cold forming. Here, the raw material in the form of wire coils is previously stress-relieved to the required outer diameter. A blank is sheared off from the roll by machine and further processed. Increased strength and improved surface quality is achieved.

Wheel bolts of the DT Spare Parts brand are available in all standard variations. The following examples show wheel bolts in the grinded version, spiral wheel bolts, as well as spiral wheel bolts with environmentally-friendly Geomet coating. ABS sensors are one of the most important components in the antilock braking system (ABS). The ABS is a technical system to improve driving safety.

It prevents possible locking of the wheels during heavy braking by reducing brake pressure.

In interaction with the brake system, the ABS sensors take over the brake control of the vehicle and thereby improve signifi cantly the steerability of the vehicle in the case of emergency braking. On each wheel of the vehicle are an ABS sensor (induction sensor) and a perforated or toothed disk, with which the rotational speed is measured.

# **Events & Exhibitions**



### **INTERNATIONAL COMMERCIAL VEHICLE FAIR**

Venue Conta Contact Info Details

Da Ve C<u>c</u>

11 January 2017 – 13 January 2017 Bombay Exhibition Centre, Mumbai +91 44 – 43219666 / info@cvfair.in Annually organized by Nexinno Trade Fairs, the International Commercial Vehicle Fair showcases the most comprehensive range of Commercial Vehicles, Equipments, Components, Accessorie and latest trends in Technology.

GISTICS 2017	
te	: 02 February 2017 – 04 Febru
	: Pragati Maidan, New Delhi
ntact Info	: +91 44 4244 4555 / cii.logis
tails	: The Logistics Summit is the f
	Institute of Logistics where a
	the logistics industry gather
	new technologies, solutions,
	of logistics sector over 2 day
	addressed by government of

### **TIRE TECHNOLOGY EXPO 2017**

Contact Info Details

lagship event if CII Il stakeholders from to deliberate in

EXPO 2017 : 14 February 2017 – 16 February 2017 : Deutsche Messe Hannover, Germany : +44 (0) 1306 743744 / colin.scott@ukipme.com : Featuring pretty much every major player in the world of tire manufacturing machinery and production, plus the full spectrum of chemicals, ingredients and materials suppliers, the 2017 expo is begger again than last year's record-breaking event.

# INTERNATIONAL CONFERENCE FOR COMMERCIAL VEHICLES

ENGINE TECHNO	LOGY
Date	: 21 February 2017 – 22 February 2017
Venue	: Baden-Baden, Germany
Contact Info	: +49 (0) 2116214 – 201 / wissensforu
Details	: The International Conference for Com Vehicle Engines Technology is held an
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high ranked program advisory board comprising of experts from Daimler and MAN Truck & Bus supports the congress organizers in offering a technical programmes.

### **INTERMODAL 2017**

Contact Info D<u>etails</u>

Shanghai World Expo Exhibition & Convention, China +44 (0) 870 950 3313 (Emma) The International Asia 2017 exhibition and conference will bring together the global container, transport and logistics industry's most influential decision-makers, providing the most important meeting point of the year, covering all

### **TYREXPO ASIA 2017**

Date Venue	
Contact Info Details	

21 March 2017 – 23 March 2017 Singapore EXPO Convention & Exhibition

Centre, Singapore +65 6403 2182 / Eileen.hair@singex.com As one of the most established trade platform for tyres, Tyrexpo Asia offersan exclusive platform to explore latest technologies, advances of the marketand many other merchandise of the industry.

Asian Trucker Media is a media partner of this event and will be exhibiting.

# INTERNATIONAL VDI-CONFERENCE AUTONOMOUS TRUCKS 2017

28 March 2017 – 29 March 2017 Hyatt Regency Düsseldorf, Germany +49 (0) 2116214-201 / wissensforum@vdi.de This conference will feature a wide mixture of technical presentations from major OEMs, suppliers, research institutes as well as interestingustomers to analyze the topic from

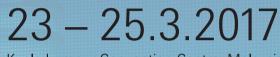
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# Freight Transport Growing Fast, but Needs More Climate Efficiency

Trade-related freight transport is expected to grow by a factor of 4.3 between 2010 and 2050, but addressing climate change requires that it become more energy efficient, an UNCTAD official said, outlining a series of solutions ahead of an UNCTAD meeting at COP 22 on freight efficiency.

Freight transport - which includes road, rail, sea and air transport - accounts for roughly 7% of global greenhouse gas emissions (GHG), and emissions from trade-related are expected to increase by a factor of 3.9 between 2010 and 2050, Ms. Frida Youssef, head of UNCTAD's transport section, said.

"Freight transport is central to the goal of expanding trade and creating jobs, but we need to get emissions down," she said. "Developing countries which are investing in infrastructure may have an opportunity get their transport infrastructure right," she said. Solutions to make freight transport more energy efficient include better use of technology and innovation, use of cleaner fuels and more efficient transport, regulations, and other measures too.

Several developing countries have begun to boost the efficiency of their freight transport. The 2012 China Green Freight Initiative aims to improve fuel efficiency, reduce CO2, and air pollutant emissions, by adopting cleaner technologies and smarter freight management practices.

Indonesia has introduced comprehensive policies to promote sustainable freight transport systems by improving fuel efficiency and reducing the transport burden on roads, which currently account for about 70% of freight ton-kilometres.

# Hardox Mixer Drum HARD. TOUGH. COST-EFFICIENT.



# The United Nations Conference on Trade and Development (UNCTAD) International Business

Approaches in other countries, such as India, included dedicated freight corridors to shift freight traffic from roads to rail. Africa's Northern Corridor links landlocked Uganda, Rwanda, Eastern Democratic Republic of the Congo, South Sudan and Burundi with Kenya's maritime port of Mombasa, helping to boost trade while boosting the efficiency of freight transport. Since the route was re-established, freight costs have dropped from Mombasa to Nairobi by 56% and from Mombasa to Goma by 38%.

Industry is also pushing for low-carbon and sustainable freight transport with initiatives such as the Clean Cargo Working Group and the Sustainable Shipping Initiative.

UNCTAD assists developing countries to make informed policy choices, addressing the emerging environmental and social challenges in relation to transport, and to provide the associated capacity-building needs.

ARDOX

Hardox technology-enabled structures extend the service lifespan of steel trucks compared to regular steel. Plus, increased load capacity of 10-20% or more in some applications. Save fuel and reduce emissions. Our trucks are stronger yet lighter. That's empowered performance for your business in today's tough times that require equally tough solutions!



QUALITY ABOVE ALL



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www.gethi-engineering.com

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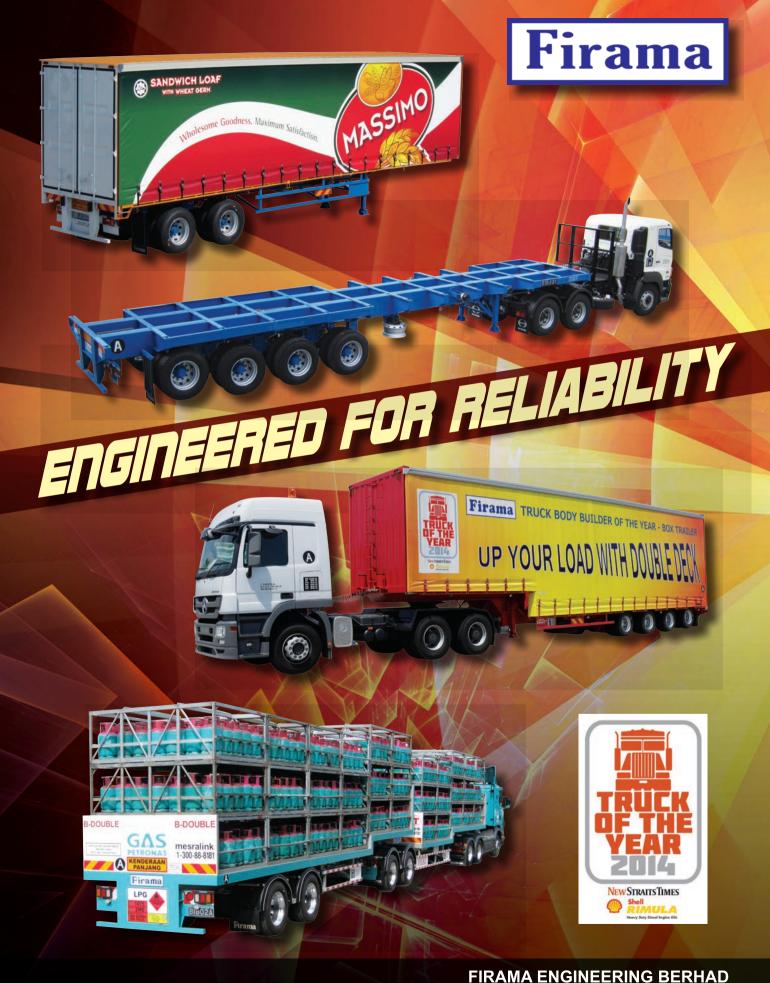


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