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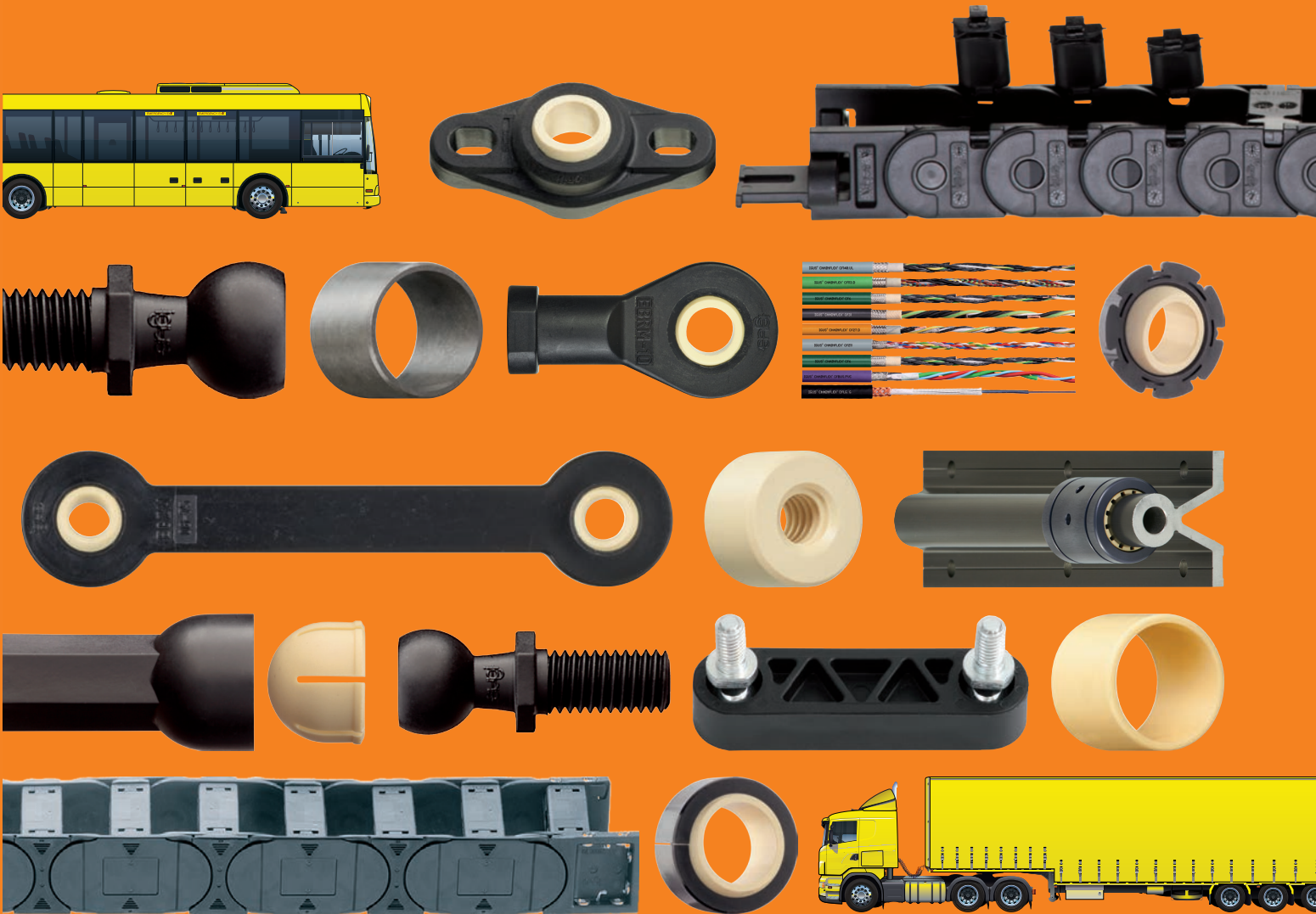
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Hattrick Trailer Special



It is always very exciting to deep-dive into a subject matter. The Asian Trucker Trailer Special is no different. While our parent magazine Asian Trucker covers a much wider range of topics, the trailer special is, by definition, very narrow. That said, there is not a shortage of topics and ideas. This is the third edition of this special and I see how the annual issue is also growing. We added pages and there is now a more varied content. In the process of putting this together, I learned a few things. It may take a special kind of cocktail party though to be able to shine with the knowledge about high tensile steels or the benefits of self-driving trailers.

Recently, I have also been invited to work on a study on the environmental impact of transportation. As this is right at the heart of our business, I am naturally more than happy to partake. I think that we may actually emphasise too much on the truck and forget the possibilities that we have with the trailer. In this issue you will read about new legislation for permissible axle loads in Malaysia. The immediate answer is that this will address the issue of the driver shortage. However, another effect is that there will be more goods moved with one truck. Or, in other words, we need less to move more. That's better for the environment, right? Besides that, modern materials are more durable, better suited for recycling and easier to maintain. All of which is beneficial for the business as well as mother nature. For some reason, trailers don't really receive a lot of attention when it comes to the discussions around transportation. But there is no denying that we need them in order to make transportation work, actually. Environmentally friendly.

Besides the hardcore technical aspects, we also have a few light-hearted items in this magazine. For instance the "Happiness in the City" contest by LaFarge puts a few smiles on faces with the uniquely designed cement tankers that they have running. These tankers come full circle as the drums are made by Gethi Engineering and the business owner was extremely proud to see his creations being beautified. The drums of the mixers are made from Swedish steel with some outstanding characteristics. You can read about that too in this issue. Perhaps you can let us know which is your favourite design from the contest?

Road safety remains a topic very much at the heart of what we do. And it is not something that falls on deaf ears. It is very encouraging to see some 40 drivers come out to meet with us on a Saturday to learn about how to use the safety features of a truck to their full extend. Seeing the eagerness with which these truck pilots are studying the material and how they get really into the subject makes it worth to get up before dawn on a weekend to help improve safety on our roads.

Our next exhibition will be in June 2019. Till then I hope to have secured a trailer that we can use as a stage for either the opening or some other activities. If you would like to sponsor us with your trailer, please step right up! Until then, I hope you enjoy this third edition of our Trailer Special.

Drive safe and see you soon!

Sincerely yours,

Stefan Pertz
Editor, Asian Trucker Malaysia 

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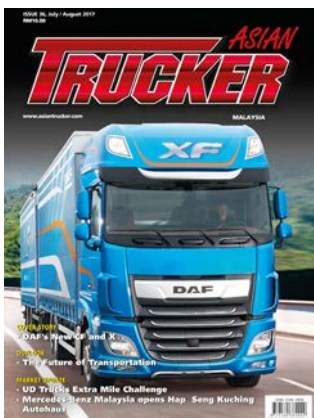
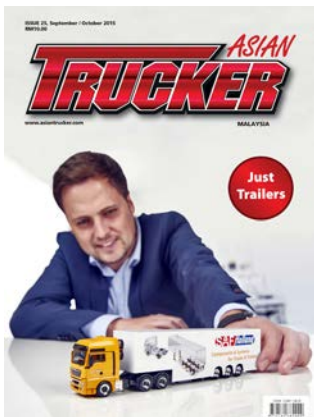
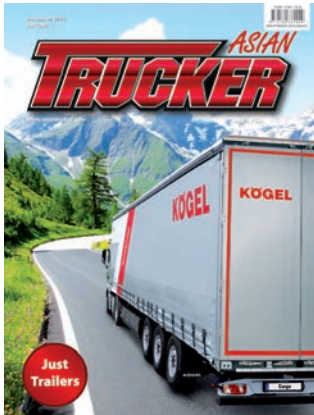
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Protect Your Cargo with Hendrickson Suspension Systems

The American-based firm swears by its quality and durability of products

Transporting perishables can be a tricky affair, it needs to be fast and efficiently handled from the farm right up with freighters, trucks and eventually making its way to the grocery stores or supermarkets. Handling fresh produce can be very challenging as they are susceptible to damage due to the mechanical vibrations during transportation.

Mechanical vibrations can do a lot of damage especially to fresh produce such as Kiwi fruits. Bruising of fruits and vegetables can contribute to discoloration and reduced shelf life. That in turn increases the loss ratio for the supplier as about 70 percent of global transport damage is avoidable. That is an average savings of EUR2.8 billion (RM13.7 million) worth of savings per year. There are many ways to minimise damage to goods during transit such as proper packing, load management and adequate suspensions.

It is vital that shipments reach recipients undamaged and on time, as much as to reinforce their own market positioning. The use of proper suspensions in delivery vehicles can greatly minimise the effects of mechanical vibrations. Mark Boon, Hendrickson's Executive Manager, Southeast Asia shares his thoughts on the importance of proper suspensions use for transporting of goods.

Hendrickson is the leading global manufacturer and supplier of medium- and heavy-duty mechanical, elastomeric and air suspensions; integrated and non-integrated axle and brake systems; auxiliary lift axle systems; parabolic and multi-leaf springs; stabilizers; and bumper and trim components to the global commercial transportation industry. For markets like Malaysia and others that are transitioning slowly from mechanical suspension systems on their trailers to air suspension systems are playing catch up as workshops become increasingly exposed to the different maintenance requirements air suspension brings to the fleets," said Boon.

"Using the right axles are important as it can prolong the shelf life of goods especially perishables. Air suspensions are better than mechanical ones as they contribute less bruising which reduces the amount of waste. For instance, air suspensions can reduce the amount of rattling of glass bottles, and keep strawberries in pristine condition during transit.

"At Hendrickson, we emphasise on proper maintenance, it is part of educating our clients to get the best out of our products. Regular maintenance on air suspensions is necessary as well as wheel alignment and the maintenance of correct tyre pressures as these go hand in hand for optimum driving experience," he said.

Hendrickson's truck suspension range include AIRTEK, AR2, HAS SERIES, HAULMAAX, HN SERIES, PARASTEER, PARASTEER HD, PRIMAAX EX, R SERIES, RT/RTE SERIES and HA4 SERIES.

About Hendrickson

Everyday Hendrickson suspensions carry countless tons of freight on and off the highways of the Asia Pacific Region. For over 100 years Hendrickson has been the leading supplier of springs, suspensions and axles to suit rigid trucks, prime movers buses and trailers of many fleets throughout the region. **F**



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Service Network at Your Fingertips

Asian Trucker's Service Network Map helps you find workshops.

Launched recently, the Asian Trucker Service Network Map is a tool that can be used by transporters looking for the workshop nearest to them. It also shows the density of workshops in each state, which may be of importance for truck fleet operators and owners. Produced by our research department, the map was created to provide an additional service to the industry. Should you wish to discuss your own research project with us, please contact catherine@asiantrucker.com

Depicting the service networks of key OEM brands in Malaysia, Asian Trucker is also able to add in networks of other players, such as tyre makers or spare parts suppliers.

The map can be seen here: <http://www.asiantrucker.com/interactivemap>

The header features the 'ASIAN TRUCKER' logo in red and black. To the right, it says 'Take me to news in these languages:' followed by flags for Malaysia, Thailand, and China. A search bar is on the right. Below is a dark navigation bar with white text for: HOME, ABOUT, ADVERTISING, MAGAZINES, NEWS & EVENTS, MAP, MCVE, CLUB, CLASSIFIEDS, RESEARCH, CONTACT.

Service Network Locator

Malaysia

Select All
 Unselect All

- CAM
- Daihatsu
- Dongfeng
- Fuso
- Hino
- Inokom
- Isuzu
- MAN

Select All
 Unselect All

- JOHOR
- KEDAH
- KELANTAN
- KUALA LUMPUR
- LABUAN
- MALACCA
- NEGERI SEMBILAN
- PAHANG



EVENTS & EXHIBITIONS

SMART CITIES ASIA 2017

Date : 2 October 2017 – 03 October 2017
Venue : Kuala Lumpur Convention Centre, Kuala Lumpur
Contact Info : 03 – 2170 1588 / richmond@knowledgegroupco.com
Details : Where most conference focuses solely on using technology to solve these issues; the Smart Cities Asia Conference & Exhibition is cognizant of the fact that technology alone cannot be the silver bullet that solves our urban woes. Smart Cities Asia Conference aims to be the intersection between urban planning, technology, governance and citizen involvement to address the modern challenges of cities. Asian Trucker is a Media Partner of the event.

CHINA (SHENZHEN) INTERNATIONAL LOGISTICS & TRANSPORTATION FAIR (CILF)

Date : 12 October 2017 – 14 October 2017
Venue : Shenzhen Convention & Exhibition Center, Shenzhen
Contact Info : +86 755 83581250 3970 / scm002@scmfair.com
Details : Since its debut in 2006, the CILF has been successfully held for 11 successive years and earned a popular reputation. As a professional, effective, reliable and wide exchange platform for all players in logistics, transport and relevant industries all over the world, the CILF attracts numerous international well-known firms to exhibit and further promotes the international influence of China logistics industry.

ASIAN DOWNSTREAM SUMMIT 2017

Date : 25 October 2017 – 26 October 2017
Venue : Sands Expo and Convention Centre, Singapore
Contact Info : +65 6590 3970 / info@downstream-asia.com
Details : Now in its 10th edition, the region's largest downstream-focused conference and exhibition is designed to help refiners, petrochemical operators and chemicals players understand how digital and process technologies can help them achieve overall operational excellence.

CHINA COMMERCIAL VEHICLE SHOW

Date : 4 November 2017 – 7 November 2017
Venue : Wuhan International Expo Center
Contact Info : +86 – 21 – 5045 6700 / jessie.cao@hmf-china.com
Details : With its competitive edge, the organizer is focusing on organizing high-qualified domestic and foreign end-users and professionals, covering fields of construction, transportation, port, petrochemical, equipment, manufacturing, cement mortar mixing, public security, fire fighting, telecommunications, medical, public transport, tourism, self-employed, parts and accessories, inspection and maintenance.

URBAN MOBILITY INDIA CONFERENCE & EXPO

Date : 4 November 2017 – 6 November 2017
Venue : Hyderabad International Convention Centre, India
Contact Info : (91) 11 66578700-709 / umi@iutindia.org
Details : UMI aims to bring together urban transport professionals and officials in the country as well as international experts to enable them to share views and to share their experiences. The conference is marked by interactions and discussions around case studies to assist the cities in being updated with the best urban transport practices and to provide the opportunity to develop urban transports along a sustainable path.

For more info and events, head over to <http://asiantrucker.com/newsevents/calendar>

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Panus Assembly Ready for International Challenge

In Thailand, the name Panus is synonymous with high quality trailers. After decades of success in the home market, the brand is now ready to tackle international markets. In our exclusive interview, we learn how the company is planning to penetrate other countries.

Located just a good 90 minutes drive south of Bangkok, Panus Assembly sits proud on a big piece of land, which is currently seeing a lot of action as the company gears up for their next phase of expansion. The factory is just 50km away from Laemchabang port, which also serves as their point of export. Looking back at 46 years of history, growth and expansion in both, domestic and international markets is now a must in the eyes of the management. Panus was established over four decades ago by a group of technological entrepreneurs in Panus Nikom district, Chonburi, about 100km from Bangkok. The company's initial aim was to manufacture high quality transport equipment such as truck bodies and trailers and to provide associated quality services. Intend to be around for another 50 years and more, commanding the highest and good market share in several segments. Being able to meet the need of the market with their capacity and capability to build products that last, Panus Assembly has made it to be number 1 in Thailand. Hard work and innovation have put the company on top. Asian Trucker met with Ron Gysberts, International Marketing and Sales Director, Panus Assembly Co Ltd to find out more about how the company build its reputation and how it is planning to move forward.



Panus Watanachai,
Chief Executive, Panus
Assembly Co Ltd

Second Generation Leadership

Mr. Panus Watanachai
Chief Executive, Panus Assembly Co Ltd

- Bachelor Degree in Business / Economics (Loyola Marymount University, California, USA)
- Bachelor Degree in Marketing (Marymount College, California, USA)
- Modern Management Program (Chulalongkorn University)
- Management Program (Management and Psychology Institute)
- Diploma of High School Graduation (Southwestern Academy, California, USA)





Expansion a Must

When asked why Panus Assembly is stressing the need for expansion in these challenging times, Gysberts explains that “Expansion for any business is a must. If you’re not growing or planning to grow, you can stagnate, become irrelevant, and can lose your business to the competition, you can get passed by very quickly in this industry. Plus, the transport industry and market is such a dynamic and changing arena that you must keep pace with, and this is done through innovation.” He also says that, market readiness, quality products that can give the operator a good return on investment, and being a solution provider, giving their customers good value, and good logistic solutions, are prerequisites that are all in place at Panus Assembly as the company is aiming to grow the business.

Organisations can grow in three ways, organically, by acquisition, and one can also look for good strategic partners. “We have done all three; we have such a good and strong reputation in the Thailand domestic market

and have grown our market share in a down market. The only other way for us to grow is branch out and find new markets,” he elaborates further. Panus Assembly has made acquisitions and formed strong partnerships and joint ventures with suppliers, and this gives them the opportunity to remain relevant, grow the business but more importantly they have the capability and capacity to meet the needs of customers.

Dedicated Team

Recognising that different markets require different products and different strategies, there are obvious things like language and culture, but also some countries have different rules for supply. Panus Assembly’s management felt it is best to be able to focus on both domestic and international customer requirements individually. Therefore, the company has separate business departments to handle these markets. However, the team handling international markets works closely with the domestic team as there are certain synergies that work for both areas. “The domestic sales team understands the Thai market precisely, the language and culture and are very much tuned in with what the customer’s needs and wants are, and understand the type of equipment, pricing, and specification. The same can be said for the international markets, we understand the requirements, country certification, and have a great deal of experience built up over a number of years, so we get it,” says Gysberts.

The international team deals with everything outside of Thailand. In that small team, English is the spoken language, however, there are also several experienced personnel that can speak other languages and deal with every enquiry that is received. “We now have 1 000 employees, 25 758 square meter building area and 52 acres land area.”



Motivated from Within

Being a privately-owned company, founded some 46 years ago by the current CEO's father, family values hold true. However, a strong, committed and focussed board, and an entrepreneurial CEO, vibrant, passionate management and strong sales and customer focus, makes for an environment of success. "That said, it is much more than that: the back end of the business is focussed on problem solving, engineering and after sales. Like a well-oiled machine, it works, it is capable of developing solutions across a broad range of products which are the problem solvers for our customers and drives the development of new products."

Becoming Number One

Being very closely involved with suppliers, Panus Assembly can quickly adapt and introduce new offerings from them. Also, the sales teams are tuned into what customers' needs are. "We are continually improving our products in line with market trends, and we are always looking for continuous improvement internally. Therefore, our experience in the industry along with our team of engineers allows us to be constantly innovating." For example, Panus Assembly has solutions that offer the operator help to understand how much weight he is carrying or offer GPS tracking, lightweight high tensile steels that offer reduced tare weight and versatile products that offer efficient loading and unloading, and many more.

Recently, The National Science and Technology Development Agency (NSTDA) and Panus Assembly Company Limited have jointly organized the "Panus Thailand Log Tech Award 2017" to select the top Small to Medium Enterprises (SME'S) in logistics innovation. Businesses will have the opportunity to pitch their ideas, and winners will be able to partner with large corporations in need of logistics innovation in an open format. The competition will be divided into category for logistics related businesses and a category for students. Winners will receive prize money, honours and a trip to attend a logistics fair in Germany.

This is one of the innovations thought out by Panus Assembly to identify new innovations, but importantly give young people the opportunity to develop and bring new ideas into the market. This has triple benefits of helping create new innovations, giving people with fresh ideas an opportunity or an avenue to develop new products, and get them to market.

Market Dominance

In the Thai Domestic market, Panus Assembly is the market leader in many of the segments. In particular, they hold 56 percent of the Skeleton market. This is up from about 39 percent over the last few years, we have 89 percent of the car carrying market, and 40 percent of the flat top market. In addition, strong offerings can be found in tipper and dump, low bed, rigid van and curtain side products. In international markets, like the domestic market, competition is extremely tough, and many view the company as a young entrant. "The numbers may not be in yet, however, we suggest you watch this space as we are quietly working in the background, developing



new and innovative products that I think will excite the market". This, in Gysberts opinion, will elevate Panus Assembly as a player in the segments they compete in and flag their intentions of not being a small player, but a major supplier.

Where Next

Gysberts lays out the immediate plan. "We are expanding into the AEC, Asian + 6 region as Thailand is well placed strategically to take advantage of this. Also, in terms of after sales service it is an area we can easily manage. Thailand has such a strong manufacturing base and gaining world recognition as an automotive manufacturing hub and is often referred to as the "Detroit of the East". We




see particular opportunity in Malaysian and Singaporean markets, however, we are exporting our products globally.”

Primarily exporting into Myanmar, Laos, Vietnam, Cambodia and Australia Panus Assembly is also producing products for European markets. With all of these markets, customers’ requirements mean’s we build to each countries’ legal requirements and design regulations, which is a challenge, although, once we have entered that particular market, we then have the experience of certain countries certification and design rules, which then allows us to reverse engineer innovative products for use in our domestic and other markets

Increased Capacity

“Our capacity is continually reviewed on an as need basis but very much in a futuristic sense, so we are planning in many cases 5 – 10 years out as you can’t just increase

dramatically overnight.” Whilst one can adjust build rates with a fair amount of flexibility, Panus Assembly is planning for a new factory to become operational later next year which will have the flexibility to increase capacity greatly. Currently, the build capacity is for 300 trailing units per month whereas this figure does not include tipper and dump, curtain side, car carriers, vans or low beds and other products such as Bunded Fuel storage tanks, Ground Support Equipment, and a host of military equipment. The latter items are built in different areas spread out over the 52 acres of land that the current factory supports.

“We have capacity to build over 4,500 units of trailing equipment now and with the new factory, will be able to offer a substantial increase. In total, current capacity is over 5,000 pieces of equipment annually.” Gysberts closed by saying that “With excellent quality product and a redesigned new factory layout, we are confident PANUS will come out stronger!” 

Economic, Ecologic, Sustainable: Unique New Autonomous Shuttle for Extremely Heavy Loads

As early as 2002, Ulmer Uzin Utz AG placed its first autonomous truck into service. The diesel-powered vehicles resembled standard trucks and, with their empty driver's cabs and steering wheels being turned as if by magic, ensured a great deal of astonishment. Now the vehicles have been replaced by the innovative KAMAG E-Wiesel AGV which can be loaded and unloaded fully automatically with up to 30 tonnes of pallets. In addition to new control technology for driverless crossover traffic, the design concept of the electrically driven vehicle was also completely changed. "The E-Wiesel AGV can be loaded from both sides and also does away a driver's cab," said Peter Brenner, Area Sales Manager of KAMAG's parent company, Transport Industry International Sales GmbH & Co. KG. "The electric drive and the entire control technology supplied by our partner, Götting, are installed between the axles under the box body. In addition, the transporter are thus loaded and unloaded from the rear and front while previous trucks had to make perhaps several turning manoeuvres."

At Uzin Utz AG, two E-Wiesel AGVs connect two production sites with the central warehouse. Tobias Braun, who is responsible for the ongoing



operations of the E-Wiesel AGVs at Uzin Utz AG, explained why the fully automatic vehicles were given preference over other systems by the Ulm-based full-range supplier of floorings: "With the E-Wiesel AGV, we ensure complete flexibility in our production processes and do not block our premises through the use of inflexible and bulky roller conveyor systems. Compared to transportation with conventional forklift trucks, the autonomous E-Wiesel AGV is much safer and less expensive. Furthermore, the new electric drive perfectly suits our sustainability strategy – for us, a sustainable product must be linked to sustainable production".

At the Ulm factory of Uzin Utz AG, around 200 metres separate production and the warehouse. Previously, palletized products such as tile cement or tiling mortar were transported by truck requiring up to fifty journeys a day at walking speed - strenuous and monotonous work that needed constant staffing. Today the KAMAG E-Wiesel AGV is used in the on-site crossover traffic operations. If any pedestrians or cars get in the way, the E-Wiesel AGV stops automatically and then continues its journey when the route is free again. Redundant systems - laser scanners and mechanical "bumpers" - guarantee a high level of safety. Even the previous models of the E-Wiesel AGV did not cause a single accident in their 15 years of service. **T**



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Smart Cities Asia returns to Kuala Lumpur for the third time, and there seems to be no brakes on the train of population explosion in cities. This is especially true in Asia where it is host to some of the densest cities in the world. As we enter into this new-age, city planners and urban leaders are faced with the unprecedented challenge of coping with this new landscape.

Where most conference focuses solely on using technology to solve these issues; the Smart Cities Asia Conference & Exhibition is cognizant of the fact that technology alone cannot be the silver bullet that solves our urban woes.

Smart Cities Asia Conference aims to be the intersection between urban planning, technology, governance and citizen involvement to address the modern challenges of cities.



CONFERENCE



EXHIBITION

Co-located with NextBigTech Asia, this event will feature 69 cutting edge innovations and solutions to create smarter cities.

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Age is not an Issue: Steelbro Sidelifters Still Going Strong

It's not unusual to read about Steelbro equipment lasting 20 years or more.

Incredibly, after 29 years the 1988 MK4 sidelifter is still performing well in Chile. The unit is operating beyond its normal service life expectancy, according to Steelbro's Facebook page.

Kasawari in Malaysia regularly utilises its 1997 sidelifter around the Johor Bharu area. Pacific Customs in Fiji currently employs a recently refurbished 25 year old MK4 sidelifter from Steelbro. In Brazil, Azevedo Transportes operates a 20-year old Steelbro sidelifter. Angelo Azevedo takes great pride in this equipment and its performance. He says the unit reliably provides efficient container movements and continues to save the company time and money even today.

Strong, well-engineered and built to last, the Steelbro sidelifter is a revolutionary concept in materials handling. It is a semi-trailer fitted with two hydraulic cranes capable of lifting a container (weighing up to 45 tonnes) onto the trailer or transferring the container to another trailer.

The secret to the product's longevity can be attributed to superior engineering design, cutting edge



hydraulics, electronics and the use of quality materials chosen for their exceptional structural strength. These have been hallmarks of the Steelbro product since the sidelifter was first developed and are still an integral part of Steelbro's latest sidelifter models today.

Steel by name and steel by nature

The Steelbro sidelifter needs to be exceptionally strong, durable and capable of lifting and carrying up to 45 tonnes in a variety of demanding environments. Optimal sidelifter design calls for units to be manufactured from the best high strength quenched and tempered structural steel. And Steelbro has utilised this type of steel for over 20 years.

Steel is the perfect material for crane manufacture. It has a high load carrying ability whilst being a cost-effective solution. Properties of steel can be altered to suit the technical demands of the application.

Quenched and tempered steel is substantially stronger than common mild steel. This means the amount of material in the cranes can be reduced which reduces the weight while still performing the same lifting operation.

Less material in the manufacture of the crane means a lower tare weight for the sidelifter. All this impacts the load that the vehicle can legally carry as well as how much the crane structure can lift. The tare weight is massively reduced without losing any lifting capacity.



This type of steel has good ductility and is able to withstand tensile stress in low temperature environments. Also thanks to modern steel making metallurgy and heat treatment technology, these steels have outstanding toughness. The rapid cooling of hot steel by quenching generates a hard, strong material that is then toughened by warming to a temperature below the critical point for a sustained period and allowing the steel to temper.

Trusted brand throughout Malaysia


Engineering their sidelifters to provide durability and extended service life have helped make Steelbro the well respected and trusted brand it is today. Malaysian operators share their opinions of Steelbro quality.

Kanapathy Raman Satish, Managing Director at Petaling Jaya based, SMG Mega Sappire says "Units were found to be more durable than alternatives without the crane hydraulic problems. They are a heavy-duty product and compared to the competition, low on maintenance."

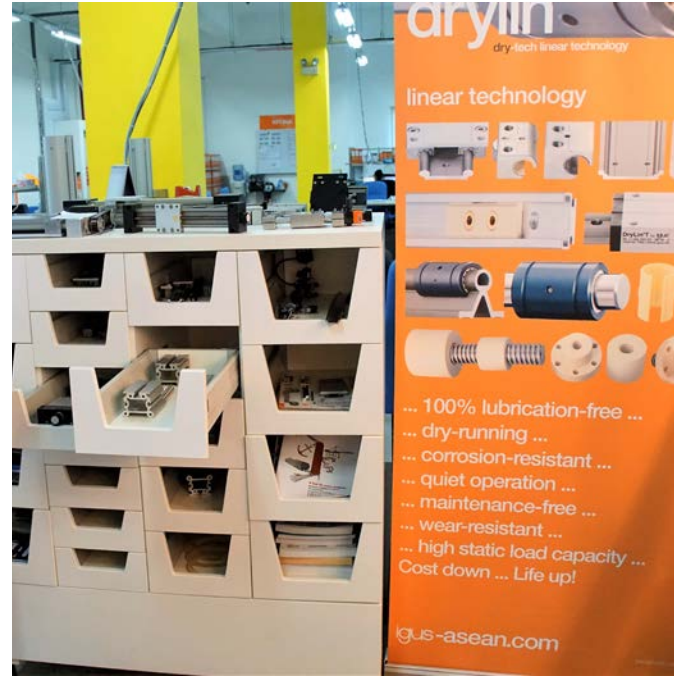
Lima A Logistik's Allan Lima says "We picked the Steelbro brand because we saw that it was cost-effective, stronger and seemed more reliable than others. It's also known for maintaining a good resale value."

Managing Director at Viva Haulage, Tee Wah Meng says, "Steelbro are pioneers in the market. We chose their sidelifters because they are known for their durability and safety. They also seemed to be more economical than the alternatives. We also liked the toughness and the low line crane design."

Klang based container haulage and logistics company Antamegah has 18 Steelbro sidelifters in their fleet. According to owner, Lim Poi Chai, Steelbro is their first choice. "The Steelbro sidelifter is a good solid unit, with a structural integrity that beats the competition hands down. We have chosen Steelbro again and again because units are durable, reliable and affordable," says Mr Lim.

Mr Lew of Supreme Freight Services Sdn. Bhd described Steelbro as "Pioneers in the market. We chose the Steelbro based on price, durability and safety," says Mr Lew when asked why he chooses a Steelbro unit. "It's a tough unit – It's well-built." 





Carsten Haecker, Head of igus Asia Pacific, International Group Development

igus 'Plastics for Longer Life'

igus produces over 120,000 articles so if it moves they can provide the plastic piece needed to make that happen, writes Floyd Cowan.

// Our claim 'Plastic for longer life' means that igus products reduce costs and/or improve lifetime. An igus product is only an igus product if it fulfils this claim, is configurable online and promptly available for our customers around the globe," explains Carsten Haecker, Head of igus Asia Pacific (International Group Development) of the German 'hidden champion' igus.

Making Movement Happen
 Founded in Germany in 1964 by Guenter Blase, the goal of igus is to provide customers with the best product for their individual moving application, to reduce costs and improve the performance with tribo-polymer solutions. "If something needs to move," Mr Haecker states, "we make it happen."

He points to a picture of the interior of a cab that highlights where the moving parts are. "High performance plastics are the core of our activities, our developments and our strategy, and we are clearly focused on this material. We believe in the great advantages of these

high-performance plastics for many different industries, including the trucking industry. With the right product selection tribo-polymers reduce maintenance requirements, increase lifetime of the application and can be used as an enhanced alternative to metal solutions in many environments."

Despite the ability of igus products to make movement happen, no oil or lubricants are needed for them. "That is a great advantage for many products as there is literally no maintenance needed and the oily mess associated with it can be avoided."

Meeting Industry Needs
 igus has solutions for all kinds of moving applications in the automotive industry, be it trucks, passenger cars, agricultural machinery or construction machinery. Seat adjustment, back rest adjustment, monitor adjustment, steering column support are just a few of those applications. Where equipment is exposed to high degrees of stress and are constantly exposed to the external

environment (water, dirt, oil etc) igus products prove to be highly reliable. igus supplies plastic solutions for cable protection and cable guidance, cables for highly dynamic continuous movement and bearing technology. All components are designed for maximum availability so that it not only operates reliably, but it can easily be maintained or replaced with a minimum of downtime.

Haecker notes, "Because they are lubrication- and corrosion-free, polymer bearings or energy chains are often used in underwater conditions in the offshore industry or other wet environments. These and many more advantages, like lightweight and wear-resistance, convince more and more companies to take up our products." igus makes around 120 000 different products and adds about 150 new ones every year.

Extensive Testing
 "In order to create 'plastic for longer life' igus operates the largest test laboratory in our industry at our headquarters in Cologne. At the test lab more than two billion test

cycles in more than 100 test set-ups are completed every year," Haecker explains. "This test facility is unique – and gives customers the safety they want. Because of the many tests we do, we offer a 36-months guarantee for all our chainflex cables. This is unique, too. We guarantee that if one of our products fails before this time we will replace it free of charge. We have never had to do this because, due to all our testing, we know how long it will last."

One igus goal the 45-year old, who joined igus four years ago, has is to grow and enhance the position of igus in SEA and AP. The company will supply one single part with no minimum order quantity, if that is what the customer needs. "Of course we like the large orders too, but our philosophy is 'cost down, life up' combined with a high degree of flexibility to meet the needs of the customer. We also believe in providing the cheapest solution that works for the customer. We are not trying to up-sell them to increase our profits, but to give them the best, and cheapest product, that meets client requirements."

Quick to Market

Being quick to the market is very important to igus. "We want to be the Amazon of the engineering industry. If a customer needs a product our goal is to get it to him within 24 hours. We have achieved this today in many markets and we are working towards a global approach, making it happen all over. Customers can make payment on-line, though some countries are not yet ready to do that."

Working in Asia Pacific means working with different cultures, different beliefs and different behaviours. Having lived in Asia since 1999, Haecker knows the many differences that exist and he also knows his learning will never stop. "I see my responsibility as being a bridge between Europe and Asia, a fantastic opportunity igus has entrusted me with. We will continue to expand in Asia Pacific, be it in revenue, people, product development or factories. We are constantly assessing and improving all kinds of movements in commercial vehicle, be it inside the cabin or the trailer, the axels or wherever it is needed."

Massive Opportunities

In the markets of Malaysia and SE Asia Haecker sees 'massive opportunities'. "igus started with its first own entity in Asia in Japan. In Singapore, where its ASEAN headquarter is located, we have been present since 1997. We started, from my prospective, rather late in Malaysia and the rest of ASEAN. It has only been in the past three years that we have established new set-ups in Indonesia, Thailand and Vietnam. With 600 million people in ASEAN and a huge industry, we see substantial opportunities."

However, there are also some pretty serious challenges. "ASEAN as a unique business region does not exist. Every country has its own set of rules. Doing business in Thailand is different than in Indonesia or Vietnam or Singapore. Our approach in each place remains the same – offer product solutions in an easy and quick way which allows our clients to save money – cost down, life up. If we can't manage this, we move on."

Localising Business

"The biggest challenge is not the market or the products, but to find the right people with the right attitude towards our business. We are demanding on ourselves, we are eager to be successful and we live and work in a fast-paced industry and environment. We need the right people with the right attitude. We need people with self-drive who are eager for success and want to build their career with igus. I would dare to say we have been managing this quite well. With 25% of our workforce in Asia Pacific, we have

a totally localized organization in which we trust.

"Today, we have sales and service centres, warehouse and assembly facilities in all developed countries in ASEAN and of course in Asia Pacific with the biggest set-up in China. We will continue to assess our customer needs and will continue to expand our network. With partners, we have already started to penetrate secondary, but potential future markets, such as Myanmar. The growth opportunities are tremendous and we will continue to focus our efforts in Asia Pacific to bring superior solutions to existing customers and new potentials."

Growing Business

"Every market has potential to grow," Haecker states. It depends on your products, your strategy and of course your ambition and determination. We believe we have a unique combination of all and a diversified team behind them. It is not an individual who determines success, but a team with different expertise, striving for customer satisfaction and superior solutions.

"Existing clients and future potential will determine our path forward. Thus, the key ambition and philosophy is to be open minded, listen carefully what the market is telling you and determine your build up and development process accordingly. Our people are our biggest asset and we believe in participation, controversial thinking, commitment, trust and honesty – you can't manage a secret anyway." **F**





Driving like a F1 Driver

The ground-breaking development of BPW's ECO Hub system has had a major effect on running gear technology.

With over two million models sold, the ECO Hub offers numerous low maintenance features. The latest development of this world-leading hub system is ECO Plus 3.

ECO Plus 3 is based on the successful ECO Hub system with design features that include DIN ISO tapered roller bearings. These can be readily inspected, regreased and repacked, are globally available and can, if required, be replaced easily and inexpensively without having to fit a complete new hub.

To ensure correct fitment, the hub is designed with an integrated torque limiting hub nut. This single threaded

nut follows the Formula 1 principle with the nut acting as a puller. It allows simple removal of the entire wheel and hub, including the brake drum and bearings, without having to remove the wheel. Brake servicing/ maintenance times are therefore considerably reduced.

The new circumferential hub design, with open spokes, provides improved thermal management for the bearings and lubricant whilst the new grease seal offers optimum protection and performance.

Like its predecessor, ECO Plus 3 is designed specifically for the high duty cycles of modern transport operation. It's a robust, reliable system designed for a long service life.

Renowned durability and performance

Features


- Proven hub bearing technology
- Standard DIN taper roller bearings
- Optimised hub thermal management
- Available with drum and disc

Benefits

- Central nut with integrated hub puller
- Service friendly
- ECO seal - optimum protection and performance



- Maintenance free, enclosed bearing system
- Quick maintenance according to Formula 1 principle via the central axle nut
- Automatically adjusted bearing clearance by means of central screw connection with integrated torque limiter
- Easy lubrication of bearings by grease cartridge
- Available worldwide: DIN-ISO taper roller bearings

- Automatically adjusted bearing clearance by means of central screw connection with integrated torque limiter
- Easy removal throughout the entire life cycle by means of graded stepped bearings
- No pulling device is required 





Continental Alor Star Plant on the Way to become a First Class Facility

The Continental tyre has been enjoying a great reputation for decades in Malaysia. Stefan Pertz visits their plant in Alor Star to find out more about the ambitious growth plans of the company for Malaysia and the region.

Exiting the highway, you will need to count eight traffic lights only before the sprawling facilities of Continental Tyre AS Malaysia Sdn Bhd appear to your left. It is a place with a long history and likely an even more prosperous future. While mainly focused on passenger car tyres, this plant is also producing some 300 000 light truck tyres per year. In total, the land space used is some 100 000 square meters of which 60 000 are used for the manufacturing of the tyres. Yearly, some 4 million tyres leave the factory. We are being told that Continental is the largest employer in Alor Setar, something that one will be familiar with when living in Hanover, home town of the brand.

Long History

Although under different ownership, the factory has been in its place since 1979. That time, passenger car and motorbike tyres were the products that were manufactured here. Taking over the plant in 1986 was Sime Darby, which entered a joint venture with Continental in 2000. At that time, Continental provided technical support and expertise. Continental took over the shares of the local partner in 2012, making this plant now a fully owned facility of the Germans.

Today, both Malaysian plants share certain resources and have a common approach to quality and market activities.

Since 1979, some 66 Million tyres have been produced in this facility. This year, Continental will celebrate its 70 Millionth tyre produced in the factory.

Looking Forward

Detailing future plans for the plant is Carlos Bernabe, Plant Manager, a French national with a long history with tyres and the Continental brand. "Yes, we are planning to expand the capacities of the plant. One of the issues we are facing is space restrictions. We cannot simply grow the space we need, so we need to optimise the space we use inside the current premises." According to him, with the arrival of Continental as the new owners, investments in technology started immediately with new machinery and high tech to robotise the plant.

"We have started a new project in 2016 to increase the capacity and productivity of this plant. Depending on the market, we are aiming at increasing the capacity from 4.3 Million tyres produced annually to 6.2 Million." This is done by adding new technology. Currently, there are four mixing lines in place and Bernabe is saying that a fifth is being added.

Quality Matters

European brands are often associated with being of higher quality. The issue is to ensure that the product,



whilst produced outside a European home market is still of the same high standards. "The specifications of our tyres in the APAC market are exactly the same as they are in Europe. If you take a tyre from our plant and compare it with a European-made tyre, it will be the same." As raw materials make a difference for the final product, Continental uses the same supplies for rubber for example all over the world. One of the issues Bernabe faces is to find the right people though. "We are working with the local authorities to find staff. However, the hiring process has the same issues as it would in Europe." A clearly defined process helps to find the right talent. "My main challenge is to find people. But that is the same all over the world," he says.

Future of Transportation

"We have a lot of partnerships in the market. For the next years we see a lot of potential to increase our market shares and the exposure. Bernabe is expecting that more tyres will be needed there. Continental is preparing to address this increased need: "Asia is an important part of Continentals tire divisions growth strategy "Strategy 2025". Plants in Hefei, Malaysia and new greenfield plant in Rayong, Thailand, bear witness of the company's successful growth in the region. As populations grow, there will be an increased need for transportation as well as demand for tyres themselves."

What many may call "Disruptive Technology", such as Uber or Grabcar, are also adding demand for transportation. Again, this will result in more tyres needed as people are more mobile. "We only have this one PLT plant here in Malaysia. The challenge is to be able to produce enough volume to meet the demand from the market." Bernabe is ambitious to transform this plant into one of the best in Malaysia. "It is noteworthy that the people here, the workers and the people in the city support this idea." **T**



Carlos Bernabe – Plant Manager

A French national, having worked with Continental for some 38 years. He started out in Paris, France, with the German tyre brand and has since worked in many plants across the globe. Having always worked in production, his Masters degree in Quality and Strategic Management has made him an expert in this field. He spent time in Brazil to help set up the Continental plant there, before working in Portugal. In Shanghai, Bernabe was the production coordinator for all of Asia. His last stop before Malaysia was Romania. Bernabe arrived in Alor Star in the beginning of the year with his wife and six boys. Being French, food is important and Japanese and French cuisine are his favourite. Obviously, he also likes Penang's street food.

Each Millimeter Counts

Energy supply systems for extendable heavy load transporter

Operating conditions for energy supply systems cannot be more difficult: Extremely limited installation space, long travel and very high friction coefficients. Furthermore, the filling is extremely difficult. The holding times should also be agreeable with all that, or else high repair costs will occur. Why the rugged energy chains are technically and economically the first choice in the construction of an extendable heavy load transporter is shown in the following article.

// This vehicle has been specially designed for the transport of windmill wings," says Herbert Swoboda, chief designer of the semi-trailer of Goldhofer AG in Memmingen. "With the ability to extend the flatbed semitrailer three times to a total length of 62 m, it is possible to transport extremely long wings of windmills even in difficult terrain." The vehicle was indeed designed for the safe transport of long windmill wings. Because of the enclosed cargo area, it can also be used as a universal vehicle with a payload of up to 38 tons. Energy supply systems are used in this customized vehicle to ensure the safe rolling of the electrical, brake and hydraulic cables in the inner tubes. It is the tested and proven "E4.1" series. One of their technical characteristics, the design principle of the so-called tongue and groove, provides a very high stability and structural safety. "That is all that matters to us," says chief designer Swoboda.

"When extending the vehicle, the energy supply system is exposed to very strong push-pull forces, which they must simply endure in the long term." The company Goldhofer with about 650 employees today has a history of more than 300 years. Started in 1705 as a forge, it has dedicated itself to intelligent solutions for the road, heavy goods and special transportation. The product range includes trailers, semitrailers, heavy goods transport systems and aircraft tugs. The specialist for heavy loads has already delivered more than 33 000 heavy-duty trucks and heavy load vehicles in over 70 countries worldwide.

Triple-telescopic semitrailer

"We set global trends in the semitrailer sector," says Erich Traub of the marketing division of Goldhofer AG. "Our

product range in this segment ranges from semitrailer through low-bed trailer up to combinable semitrailer trucks that can be driven over from the front." At this year's 'bauma' in Munich, the company introduced, for example, a new flatbed semitrailer with pendulum axles. "For the first time it has succeeded in developing a transport vehicle with a maximum length of more than 62 meters," says chief executive Bernhard Katzenschwanz. The pendulum axles with an axle compensation of +/-300 mm give the vehicle an excellent maneuverability and can compensate for unevenness in both the stroke and in the lateral leveling. Moreover, it can be joined together under load to negotiate narrow passages or bends. This is enabled by the great resilience of the inner tube. "A first vehicle is already at work for a Danish heavy transport specialist; the construction of two more is planned," says Katzenschwanz.

Energy chains in the innermost tube

In the development of the triple-telescopic platform, the extremely rugged energy supply systems were the first choice. The technical requirements are extremely high. Above all, in the present application there is a safe rolling of the heavy supply cables in the telescope. The telescope system consists of four rectangular tubes. The energy supply lines run in minimum space in the innermost tube. Only a width of 340 mm and a height of 577 mm are available as installation space. Every millimeter counts here.

Second, the travel is very large. The loading length of the heavy transporter is 20 000 mm, which can extend three times – by 13 950 mm first time, 14 050 mm second time – to a total of 62 050 mm. "This length cannot be



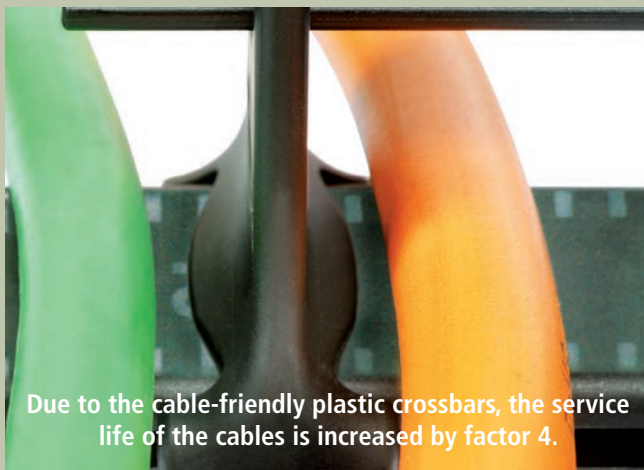
This telescoping three-axle semi-trailer truck of Goldhofer AG, Memmingen is extendable from 20 to 62 meters. In this picture it transports 55 m long rotor blades across Denmark. (Source: igus GmbH)



Energy supply systems are used so that the electric, brake and hydraulic cables can roll safely in the inner tubes. The energy chains are exposed to very strong push-pull forces especially when the vehicle is extended. (Source: igus GmbH)



The two energy chains lie side by side in the narrow black section. Only a width of 340 mm and a height of 577 mm are available as installation space. (Source: igus GmbH)



Due to the cable-friendly plastic crossbars, the service life of the cables is increased by factor 4.

pivots. When the telescope is joined together, the energy supply system has to negotiate a height difference quickly and safely. For this reason, moving the pivoting mounting bracket downward gives constructive advantages. The telescope thereby moves under the energy chain. There is indeed, in this case, a small ramp, so that this process takes place as gently as possible, but still has to negotiate a projecting edge. There are also the coefficients of friction acting on the energy chains. The tubes are made of untreated steel, and the surface is rough. Dust settles on it. When extending, enormous push-pull forces occur especially on the first two meters and particularly at the fixed end, which are absorbed by the tongue and groove of the "E4.1" chain.

implemented with a single energy chain," explains Herbert Swoboda. "Therefore, two energy chains run side by side with different travel lengths. "

The longer energy supply line is responsible for the first two strokes, thus two expansion lengths. The shorter energy supply line takes over the last stroke, and also lies in a trough. The respective travel is 14 000 mm and 7 000 mm. The radius is the same in both cases, with 150 mm. The modification of the transporter's length is done using pneumatic locks with bolts. "The operation takes place invisibly in the tube and completely automatically," says Swoboda.

"For this reason we need to rely on the functioning and stability of the energy chain under all circumstances. " A further complication is that other forces may act on the energy supply system. "A tube can, for example, buckle while pulling put, so that the chain has to withstand jerky movements in the short term. " In addition, the high temperature fluctuations in the tube - from -25°C to + 50°C depending on the season - also play a role.


The telescope moves under the energy chain

Normally in energy supply lines, the upper run runs on the lower run. It is reversed in this application. The top connection point is the fixed end and therefore rigid. The bottom connection point is the moving end and therefore

Successful driving through the winding Danish roads

Conclusion: The filling and the long travel in a confined space make high demands on the energy chains, which are completely covered with cables. The meticulous designing during the run-up was worth it. The first trip of the flatbed semitrailer concluded without any problems. A Danish heavy transport specialist now transported 55 m long rotor blades from the factory to the port, from where the blades were shipped. Bends and roundabouts were no major challenges for the vehicle. "In my view, there is no economic and/or technical alternative to the energy supply system in this vehicle," summarizes Chief Designer Herbert Swoboda. "Our space availability is more than limited. For us, every single millimeter counts. Nonetheless the holding times should be right, as failure leads to very expensive repairs. And it has to be avoided in any case. "

ABOUT IGUS:

igus GmbH is a leading international manufacturer of energy chain systems and polymer plain bearings. The family-run company based in Cologne is represented in 35 countries and employs approximately 3 180 people worldwide. In 2016, igus generated a turnover of 592 million euros with motion plastics, plastic components for moving applications. igus operates the largest test laboratories and factories in its sector to offer customers quick turnaround times on innovative products and solutions tailored to their needs. 



Technical Update on Axle Loads from Firama



New regulations for the permissible axle loads of commercial vehicles are to be implemented, signifying a major change for the industry.

industrialisation. Since then, the logistics industry has become increasingly important and eventually making it the backbone of economic growth in the country.

To date, with the boom of the e-commerce sector and the latest establishment of the Digital Free Trade Zone (DFTZ) in the region, it further unravels the potentials of the logistic industry. Despite the immense potential it possesses, issues such as shortage of truck drivers, overloading and environmental pollution are often the perennial problems that have been plaguing the logistic industry.

In a recent interview with CC Yap, Managing Director of Firama Engineering Berhad, we talked about how the new implementation of regulation and policy can help to tackle the above problems.

Some 40 years ago, the economy of Malaysia transitioned from mining and agriculture driven to manufacturing, as a significant step moving towards

AT: Can you tell us more about the latest developments for trailers in the domestic and regional market?

CC: I would like to talk about the latest revision of weight restrictions being imposed on the lorries and related commercial vehicles in the country. We welcome the decision made by the government to increase the Gross Vehicle Weight (GVW) and Gross Combination Weight (GCW) of commercial vehicles in the Peninsula Malaysia. We see it as a development that would be beneficial to all parties. Under the amended Weight Restrictions Order 2017, commercial vehicles with two, three, four, five and six-axle will have new weights between 19 000kg and 50 000kg. The new vehicle weights for the different types of commercial vehicles would be as follows:

Type of Vehicle	Current GVW/GCW	New GVW/GCW
2 axle rigid vehicle	18000kg	19000kg
3 axle rigid vehicle	25000kg	27000kg
3 axle articulated (1 + 1 + 1)	30000kg	31000kg
4 axle articulated (1 + 1 + 2)	37000kg	39000kg
5 axle articulated (1 + 1 + 3)	39000kg	41500kg
5 axle articulated (1 + 2 + 2)	40000kg	45000kg
6 axle articulated (1 + 2 + 3)	44000kg	50000kg

Meanwhile, small lorries, which are categorised as De-controlled commercial vehicles, will also have their gross vehicle weight raised from 5 000kg to 7 500kg with immediate effect.

With the amendment of the Weight Restriction Order 2017 under Road Transport Act 1987 tabled and passed at the Parliament, this new regulation will soon come into implementation. Our country will have one of the highest permissible weight limits on commercial vehicles among

the countries in the ASEAN region. For example, Singapore which had the highest GCW in the past is only up to 46 000kg. With the implementation of this revised policy, we are confident that it will enable greater flexibility in transport solutions to the logistics sector.

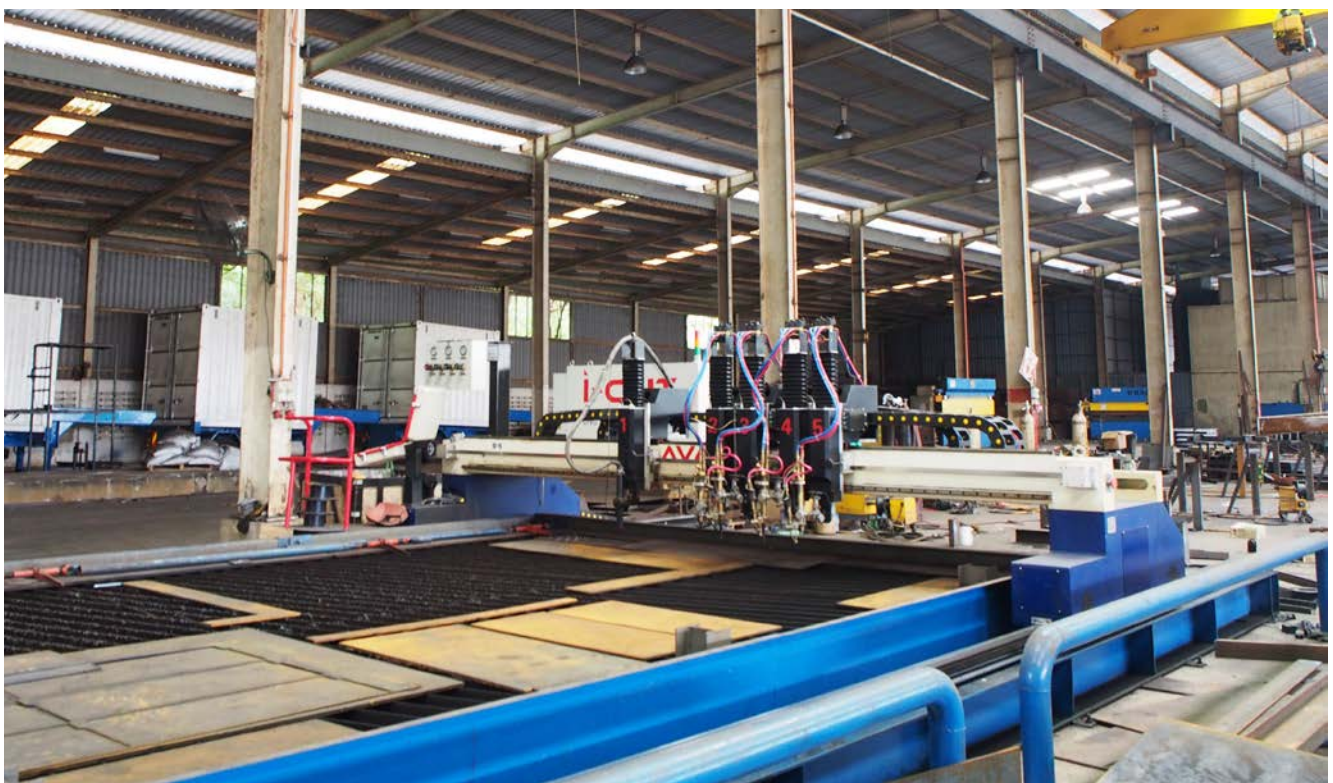
AT: What are the impacts to the industry?

CC: There would be several positive impacts to the industry when this amended act comes into full force as it provides more business opportunities to all parties in the transport trucking industry.

Firstly, with the higher loading capacity that is allowed per trip as imposed, it enables our clients such as logistic companies and fleet operators to optimize their business and service at greater efficiency. Secondly, pertaining to problems of the current high cost of running a commercial transport business and shortage of truck drivers in the industry, this would be one of the viable solutions to address these problems.

In the meantime, through optimization of the entire logistic flow, it helps to ease the traffic woes, particularly in the urban area, by reducing the number of vehicles on the road and thus lower CO2 emission. Hence, with the implementation of the new policy, it indirectly contributes to reduce pollution and save the environment indirectly.

As a manufacturer of transportation equipment, including trailers and vehicle bodies, we welcome this new weight limits on commercial vehicles. We believe that this will augur well for the industry and create the stimulus for demand for bigger vehicles. We are confident that this will spur the industry to improve on their design, with a view of using higher strength steels that will result in lighter weight trailers.





Therefore, to tackle the problem of overloading in the industry, we need strict enforcement and implementation. It ensures these fleet operators adhere to rules and regulations and that road safety is not compromised.

AT: What are the expectations and targets that Firama aims to achieve in the second half year of 2017?

CC: At this challenging period of economic development in the country, added with stiff competition in the industry, I would say that this not easy for most businesses nowadays, but we are keen for continuous growth on our business. For us, the implementation of this new policy does offer more business opportunities to all parties in the domestic and regional market. Thus, for these first few months right after the implementation of the above regulation, we do expect increased demand from our clients on specific trailer products which will lead to a better growth of our business.

AT: Is this a good solution to address overloading problems in the trucking industry?

CC: A lighter trailer means that more can be carried legally. It will help lower the number of litigations and lawsuits for overloading in the country. However, this will not be a one-off solution to the problem, as attitudes of fleet operators need to change.

At the same time, when vehicles are overloaded, there is increased wear and tear on the roads and vehicles, not to mention the safety operation of the vehicle. This issue of overloading will remain as perennial problem here if the people do not change their approach.

Since the establishment of Firama, the reputation we have built here and the customized service that we offer to the customers, are key factors that contributed to the growth of our business. As a local company with solid background of trailer manufacturing, we have an experienced and dedicated workforce that understands and addresses the demands and needs of the customers efficiently. Through our improved products and services as provided, we aim to help our customers to lower repair, maintenance and operation costs of their business. **F**





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Light, Robust and Extremely Resilient

LAMILUX composites ensure low weight for commercial vehicle trailers.



LAMILUX is the leading European manufacturer of high-tech sheeting made of carbon- and glass-fibre-reinforced composites (GRP). Produced in a continuous, industrial-scale flat sheet process, these lightweight construction materials are optimally stable, yet very lightweight. LAMILUX delivers production reliability, a wide variety of application types and consistently high quality to its clients in commercial vehicle, refrigerated semi-trailer and cold room construction and numerous other industrial sectors.

Fibre-reinforced composites are incorporated into buses and commercial vehicles as face sheets in roofing, flooring and side walls. These materials provide major advantages over conventional materials such as aluminium and sheet steel thanks to their low weight, strength and durability. Fibre-reinforced plastics are also extremely non-corrosive, weatherproof and UV resistant, all of which ensures a long-lasting, attractive appearance. Their optimum quality, certified on numerous occasions, and their material properties optimally catering to many different applications have helped to maintain the company's leading position on the international market for fibre-reinforced composites.

Certified products with quality guarantee

Issued by the German TÜV Süd testing institute, LAMILUX test method certification attests to the high-quality in LAMILUX GRPs, which are specifically tested for each

application. LAMILUX asked TÜV Süd to appraise and inspect most of its laboratory and testing facilities to guarantee consistently high, flawless quality at all times. When the extensive, detailed certification process was complete, the TÜV specialists had evaluated 17 analysis, measurement and test methods regarding their benefit and validity for quality assurance and product development. This now allows LAMILUX to reliably ensure the quality of its end products using a wide range of tests. The specialist in fibre-reinforced composites analyses its products, subjecting them to mechanical, chemical and climatic tests in its state-of-the-art laboratories.

Lightweight, yet resistant to hail and stone impact

One of LAMILUX GRP's greatest advantages is undoubtedly its extreme resistance to hail and impacts. Thanks to its high material stiffness and an incredibly low tendency to deform, this material offers a major benefit, particularly when used in roofs and exterior walls on trailers. Hailstones leave permanent, visible dents in roofs and side walls made of materials such as aluminium or even competitor GRPs, but LAMILUX fibre-reinforced composite sheeting usually survives such storms unscathed.

Using fibre-reinforced composites can also substantially reduce a vehicle's tare or laden weight. Using GRP can reduce weight in structures by 40 percent compared to steel and 15 percent compared to aluminium. What's

more, construction elements in roofs and side walls are able to feature a slimmer design as fibre-reinforced composites produce a strong reinforcing effect. The reduction in weight produces a direct benefit for truck operators thanks to a higher load capacity, ensuring a greater payload and thus lower transport costs and fuel consumption.

Optimise food refrigeration chains

A comprehensive, temperature-controlled system is required to protect fresh and frozen food from spoiling throughout the food refrigeration chain – from production and processing to transport and sales. LAMILUX Composites are used in elements such as face sheets on walls in refrigerated truck bodies during all stages of the processing and refrigeration chain.

One of the key advantages that GRP brings to the food industry is its sealed, pore-free, easy-to-clean surfaces. It also guarantees maximum hygiene in compliance with national and international hygiene regulations. Test certificates also attest to the food-safe quality of composite

materials while their effective thermal insulation values and low thermal expansion ensure safe use in the food refrigeration process. Used as a sandwich structure filled with a foam layer, fibre-reinforced composites display excellent insulating properties: a wall panel almost 60 millimetres thick has the same insulating properties as a hollow brick wall 400 millimetres thick.

About LAMILUX Composites GmbH

LAMILUX Composites GmbH has been producing fibre-reinforced composites for almost 60 years. This medium-sized company is the market leader in Europe, thanks to its large production capacity, wide product range and technologically outstanding continuous manufacturing process. LAMILUX supplies customers around the globe in a wide range of sectors, such as the construction industry, the automotive and recreational vehicle industries, refrigerated storeroom and cell construction and many other industrial sectors. In 2016, LAMILUX and its 850 employees achieved a turnover of 230 million Euros. The family-run company's registered office is in Rehau, Bavaria. **F**

A brief look at a few LAMILUX products:

- For interiors: LAMILUX High Impact features the same impact resistance and surface finish as coated metal facings, such as aluminium, while also displaying the mouldability and low heat transmission rate found in thermoplastic materials. Its high resistance to UV light, weathering and corrosion and its rigidity, stability and low specific mass per unit area are typical of thermosetting polymers.
- For exterior use on vehicle roofs and side walls: LAMILUX Woven Roving Plus Gelcoat is particularly suitable for such uses as it guarantees excellent UV light and weathering stability and a long-lasting gloss finish thanks to its gelcoat seal. LAMILUX HG 4000 enjoys great popularity as an extremely robust, customisable material for external cladding.
- For floors: LAMILUX Anti Slip provides anti-slip protection and soundproofing.
- For hygiene and refrigeration: LAMILUX AntiBac is an all-rounder material used for sterile surfaces in structures such as refrigerated truck bodies. A silver nanoparticle coating produces an anti-microbial effect on the surface of this fibre-reinforced composite, killing off any germs present within a few hours.



LAMILUX fibre-reinforced composites are found in roofing, side walls and flooring in buses and truck bodies in the commercial vehicle sector



Long Live Buckets

Hardox is both hard and tough as it provides longer service lifetimes and also workshop friendly

Across the world, bucket applications are being used and abused in mines, construction sites, forests, fields – in some of the most extreme conditions on earth. It is a tough life as they push, dig and lift hard and heavy materials. And, in many cases, life is far too short as components wear out. When it comes to bucket manufacturing, high strength steels like Hardox from SSAB are playing an increasingly important role in improving wear resistance, as well as competitiveness.

There are not many industries that understand the term “wear” better than manufacturers of buckets. With today’s increasing demand for better wear resistance and less downtime, manufacturers are being forced to look for materials that allow them to make more innovative bucket components.

One such material is Hardox, the name for wear resistant steel from the global steel company SSAB. Over the last 40 years, Hardox has been making a name for itself in manufacturing industries where high abrasion resistance is a critical factor for success. It was developed to be both hard and tough in order to provide longer service lifetimes, but also to be consistent and easy to use in the workshop.

Longer wear life and easier processing

Bucket components have to cope with unexpected shocks, jolts, bangs, nicks and jabs. For manufacturers, the extreme properties of Hardox allow for buckets that better stand up to these types of wear.

“In some cases, it is possible to double or triple the service life of bucket components,” explained Matts Nilsson, Director of Value Added Services at SSAB. “This is because Hardox has a relative flat hardness curve, which means the wear is spread evenly throughout the entire steel thickness, and not only on the surface. Its high toughness is also very important because it allows for use in cold environments.”

However, these wear characteristics do not come at the cost of ease of use in the workshop. In fact, they can even contribute to more efficient production as Evangelos Sidiras, Head of Product Wear, SSAB Special Steels explained.

“One of the things that makes Hardox so beneficial in bucket applications is that despite its hardness and toughness, it is very easy to work with. For such a strong steel, the ease of welding is a predominant factor for increasing the efficiency of bucket manufacture.”

Since Hardox has tight tolerances and a precise chemical composition with a uniform structure, it can be welded, bent and cut faster, with less energy and more precision than other materials.

Furthermore, Hardox is pre-quenched steel. Many bucket manufacturers quench mild steel in their own workshops, but with Hardox, this is not necessary. This will drastically increase efficiency and cut cost.

Hardox also comes in a wide variety of grades, dimensions and profiles, each serving its purpose



whether the goal is extending service lifetimes or reducing weight without sacrificing performance.

Bucket specific steel

The Hardox product portfolio also consists of unique, bucket-specific solutions that can help manufacturers integrate Hardox even further into their designs. Hardox round bars is one example.

“Round bars made from Hardox can be used in the critical parts of the bucket and provide fantastic properties for wear reinforcements, regardless of the type of bucket,” explained Sidiras. “They can also be used for the quick coupling machines, the element between the bucket and the boom of an excavator or crane.”

Another Hardox-product group that differentiates Hardox from other wear resistant steels for bucket makers, is thick plates of Hardox 350-600 HBW, available in thicknesses ranging from 50mm to 160mm. These extreme dimensions are perfect for use in bucket applications such as the cutting edge that sees the most wear as well as in the back well.

“Hardox blurs the lines between a structural plate and wear plate because it can be used for both. For buckets, this means that you do not have to use multiple materials. This combined with good through thickness, hardness and weldability makes it a win-win for both manufacturers and end users,” explained Jenny Hurtig, Product Manager Wear Plate, SSAB.

Hardox also comes in a unique solution for bucket teeth. The Hardox bucket teeth support edge has a laminar design, which makes them easy to replace, while increasing wear resistance dramatically on one of the most critical components.

For bucket manufacturers, this is a significant benefit since traditional teeth are made from cast iron, which have a long lead-time and typically a minimum order must be placed.

“With Hardox, SSAB has a clear offering for bucket manufacturers. We have extended our Hardox portfolio with teeth support, and thereby brought something innovative to the market,” said Sidiras.

Support from design to kits

For bucket manufacturers wanting to upgrade to Hardox but lacking capacity, or for fully booked manufacturers wanting to increase their output, SSAB Shape can be the answer as well, as a way to reduce tied up capital.

SSAB Shape is an added value offering that includes design support, customised product development, reliable tailor made logistics and stock services, as well as semi-finished and high-end processing of high strength steels.


“Hardox is the best choice for applications like buckets that must stand up to the toughest demands and it comes as a complete package including plate, people, knowledge and more,” said Nilsson. “We provide bucket sides, bended profiles as well as cut teeth. If manufacturers want to change designs or if they do not have the right capacity, they can just assemble our prefabricated solutions.”

Trademark program – sign of guaranteed quality

As a sign of excellence and authenticity, SSAB has developed the “Hardox In My Body” loyalty program, which is used by licensed manufacturers to promote that their final products take full advantage of Hardox. Using the logo and full program can increase recognition, marketing potential and sales for our customers.

A complete bucket solution

With such a long history, wide product offering and support, Hardox is well positioned to become a go-to material for the manufacturing of buckets. It can not only increase wear resistance dramatically, but it also performs consistently and it is easy to work with – all the ingredients necessary for creating better buckets that last longer.

“We have always been able to do plates,” said Sidiras, but now we can offer bucket manufacturers an entire solution with bars, thick plates, kits and more.” 

Facts about Hardox

- First developed over 40 years ago.
- Extremely hard, tough enough and workshop friendly.
- Available in hardness grades from 350HBW-700HBW and thicknesses of 0.7-160 mm depending on the hardness grade.
- Produced with tight tolerances and a precise chemical composition.
- The hardness does not conflict with Hardox’s structural performance.
- Minimizes wear since it is difficult for the ‘edges’ of abrasive material to cut into the hard surface.
- Hardox favorable through thickness properties -> enables longer wear life.
- Hardox provides a unique combination of hardness and toughness. This leads to smarter, lighter structures with extreme performance and extended service life.



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Every Vote Counted for Your Favourite Lafarge "Happiness" Truck Design

Malaysians were to choose from among 14 shortlisted designs in Lafarge Malaysia's #happinesinthecity Truck Design Competition



Malaysians were asked to contribute by choosing the winners in Lafarge Malaysia's #happinesinthecity Truck Design Competition by voting for their favourite among the 14 shortlisted designs. Open to students from all local colleges and universities, the first ever design competition for cement tankers and concrete trucks in Malaysia was part of Lafarge Malaysia's "Happiness in the City" campaign. In the submission period from 5 June to 1 July 2017, students from 16 universities and colleges submitted a total of 42 designs.

"We organised the #happinesinthecity Truck Design Competition in line with our aim to make cities happier and more beautiful. We believe that seeing the Happiness trucks can bring a smile and lift the mood, as most of us do not expect to see colourful, beautiful cement tankers and concrete trucks. As young talents are very important in the effort to create happier cities, we decided to work with students for this competition, to support these young talents by providing our trucks as platforms for their great work" said Thierry Legrand, Lafarge Malaysia's President and Chief Executive Officer.

The participating students were required to draw inspiration from the cities and the urban living experience in Malaysia for their designs. The panel of eight judges shortlisted 14 designs from the 42 submissions based on creativity, how the design reflected the "Happiness in the City" theme and the best use of colours. All 14 teams painted their designs on the cement tankers and concrete trucks over a two-week period from 24 July till 4 August 2017,



using Dulux water-based paints. Public voting on the truck designs began on 1 August and ended on 15 August 2017, with winners being announced a week later.

About Lafarge Malaysia Berhad

Lafarge Malaysia Berhad is a major player of the Malaysian construction industry, contributing towards building better cities. Its solutions provide cities and townships with more housing, making them more compact, more durable, more beautiful and better connected. Headquar-

tered in the Klang Valley, Lafarge Malaysia has approximately 2 000 employees and the most comprehensive network of facilities across Peninsular Malaysia that include three integrated cement plants in Langkawi, Kanthan and Rawang, two grinding stations in Pasir Gudang, about 40 ready-mixed concrete batching plants and three aggregate

quarries throughout Peninsular Malaysia. Lafarge Malaysia is listed on the main board of Bursa Malaysia and is a parent of a group of companies in Malaysia and Singapore. It is part of the FTSE4Good Bursa Malaysia Index which measures companies demonstrating good environmental, social and governance performance. **┐**





Designing the HAMMAR Sideloaders from Sweden

The functionality of a Hammar sideloader is clear: It is to provide an efficient solution to move containers. Here is how these technical masterpieces are being developed.

The story of The Hammar Group is a classic story of entrepreneurship. It began when Bengt-Olof Hammar was studying at Chalmers University of Technology in Sweden and was doing a dissertation about Sideloaders. He incorporated the mother company, Hammar Maskin AB, borrowed some start-up capital, designed a prototype, packed his Volkswagen Beetle with photo slides and documentation and started travelling the length and breadth of Sweden trying to sell his product. Eventually the

owner of a haulage company had the courage to buy the prototype. Bengt-Olof Hammar used the money from the sale of the prototype to purchase raw material for four new Sideloaders. And that's how it all started.

The first factory was built in Olsfors in 1975, a modest building with a floor area of 3 000 sqft. After only two years the factory had to be extended to three times that size. Since then the factory has grown step by step. Today, the Hammarlifts in Sweden are built in modern, spacious workshops, flexibly adapted for the work.

The first HAMMAR was delivered to Malaysia in 1976. Hammar Maskin (Malaysia) Sdn Bhd was set up in early 2003, with the immediate goal to give the then HAMMAR



operators a better after sales service. On the longer term, besides serving the Malaysian market, Hammar Malaysia is intended to serve the ASEAN market from its base in Port Klang, taking advantage of AFTA. Today there are more than 550 (!) HAMMAR Sideloaders on Malaysian roads, commanding a market share of more than 70 percent.

Since its start, HAMMAR has been providing their customers with it's now famous 24 hours contracted back-up service (including a 24 hours service hotline). In 2015, Hammar Malaysia proudly moved into it's very own ten bay full-fledged, DOSH/MPK approved workshop and sales office. Designed by Bengt-Olof and his Architect Daughter, Ms. Hegdvg, specifically to handle Hammar Sideloaders service/repairs, efficiency increased by leaps and bounds over the previous premises.

HAMMAR Trailer

Manufacturing the HAMMAR trailer locally means that we do not have to ship the very bulky ready-made chassis from Sweden. After having Swedish production staff regularly visiting with training seminars, local manufacturing quality

and workmanship is the same as Sweden, so quality is not an issue. We can also offer our Malaysian customers the bogie (axles, suspension and tyres) that they are used to and specifically want. Delivery times are also shortened considerably, as we can afford to stock up more (SKD) production kits here, at a lower cost than for completely built up equipment. It is also not an insignificant factor, that we add considerable local value to our HAMMARs. Being a foreign owned but local company, it makes us feel good.

In regards to the most popular customer requirements, there are actually two very clear but different customer requirements, that we have seen for quite a while now. In the industrial world, and in markets where vehicle legislation and regulations are enforced, customers constantly request equipment with lower tare weight, in order to optimise the payload within the legal weight allowances. In developing countries, and in markets, with few or no vehicle regulations, customers have always asked for higher lifting capacity, to maximise the payload. Often, far beyond the technical specifications. We do not specifically approve of the latter, but we do our best to

satisfy both parties. Hammar is proud that their design weighs from two to three tons lighter than its competition, a significant contributing factor in fuel savings.

In designing our lightweight HAMMARs to serve the massive 24/7 workloads experienced in Port Klang especially, there can be no compromise at all. The HAMMAR Sideloader system comprises two sideloader cranes and one trailer.

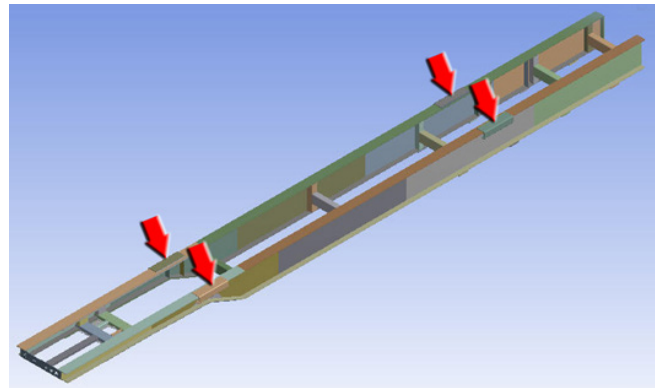
Stress calculations refers to strength calculations using the Von Mises stress algorithm. FEM (Finite Element Mathematical Method) is also used in these stress calculations. The FEM calculations are based on a few assumptions and variables.

The theoretical FEM model is based on a geometry that is created in the AutoDesk Inventor 3D CAD system. The geometry represents a 195 series trailer. This is the same geometry that is the base for the actual drawings for the Hammar sideloader system. The FEM algorithm used is the Von Mises stress algorithm FEM Scenario - that are described below. These variables are essential to the outcome of the calculations.


Model - The geometry of the model is based on a number of virtual parts, each representing one actual part in the real assembly of the trailer. Materials that represent the physical properties of the actual material are assigned to each part.

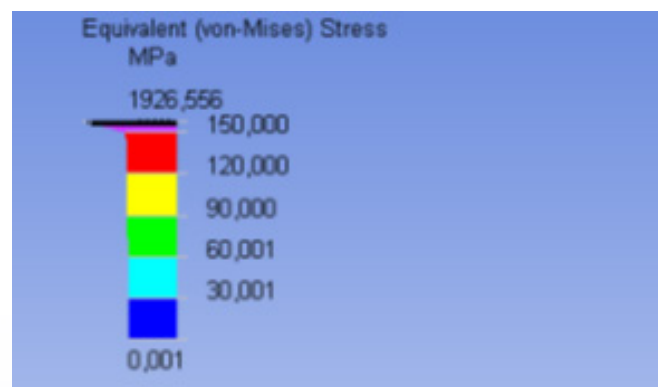
Contact - The contacting surfaces of the different part are set to bond to represent a theoretical weld. Using the bonded contact region property gives a result that focus on the internal tensile strength of the included parts.

Mesh - The mathematical mesh is generated using a software based iterative process creating a nonsymmetrical mesh based on the shape of the individual parts. The base mesh for these calculations comprise approx. 105 000 nodes.



The policy of Hammar Maskin AB is to design cranes and trailers that can withstand heavy use for a long time with preserved safety. To assure that this is possible the safety factor is set to two. Hence the steel in the trailer shall have a tensile strength that exceeds two times the maximum static stress. With a safety factor of two and high tensile steel the strength is assured even during heavy loading and elevated dynamic forces.

The design conclusion is that the Hammar Sideloader trailers are capable to withstand loads that exceed the permissible load by up to 33% with a safety factor of two. 



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Double the Number of Pallet Bays on Curtainsider Semi-Trailers



It is now possible to double the number of pallet bays in all Kögel trailers from the Cargo and Mega product series with the double-level loading option. This way, these tarpaulin trailers can be used to transport up to 66 Euro pallets or up to 67, with skilled loading. This allows forwarding companies to transport non-stackable goods on two levels, and make even more efficient and profitable use of their trailers.

This is made possible by the double level loading option. Using steel C-rails and telescopic aluminium load-securing beams, a second loading level with a maximum payload of up to ten tonnes can be built in no time. The additional level provides space for 33 Euro pallets

and thus doubles the number of pallet bays. The load-securing beams, made of aluminium, keep the tare weight of the trailer low while still enabling a high payload. For transport assignments that do not require a second loading level, the 24 load-securing beams can be stored in an optionally available storage bracket. In addition, the sliding roof with lifting roof function, which is optional on the Cargo version and standard on the Mega version, facilitates loading and unloading. As with all Kögel trailers with a sliding tarpaulin, the double level loading option requires no additional load-securing for a form-locked load, thanks to the DIN-EN-12642 Code XL certification. **F**



Asian Trucker Club Members Empowered after the Safety Briefing

How often do we check our vehicles before we start our journey? Our vehicles are expected to take us from point A to point B and usually does not fail but what happens when they do? Is there a way to prevent it and save us some time and money?

Hap Seng Commercial Vehicles Sdn Bhd together with Asian Trucker Drivers Club recently held a Safety Briefing workshop for club members and drivers at their service centre at Teluk Gong over three weekends. The aim of the

workshop - to educate the drivers about the importance of physical and visual checks before starting a journey.

The workshop was divided into two parts; a classroom session where the seven-point checks for trucks were discussed and a practical assessment of the Mercedes Actros which was the benchmark used in the workshop. Over 40 participants took part in the two-and-a-half-hour workshop where breakfast and lunch were provided for the participants. **F**

Dongfeng Returns for the 2017 – 2018 Volvo Ocean Race

// The Volvo Ocean Race is the premier offshore sailing race in the world and has attracted China's attention" - Yang Qing, Vice President of Dongfeng Motor Corporation, said the company is proud to be back in the Volvo Ocean Race:

"The Volvo Ocean Race is the premier offshore sailing race in the world and has attracted China's attention." More and more media and public now know of the race through the challenge by Dongfeng Race Team, with the support of Dongfeng in the 2014-15 edition. There is no doubt that Dongfeng Race Team made history and multiple Chinese sailors are part of that story. **F**



LAMILUX is the leading European manufacturer of fibre-reinforced polymers. Its glass-fibre and carbon-fibre composites display unrivalled quality thanks to its unique continuous flat sheet process.

- **STABILITY:** outstanding impact-resistance properties
- **LIGHTWEIGHT:** low specific weight
- **LONG SERVICE LIFE:** high resistance to UV light, corrosion and weathering
- **VISUAL APPEARANCE:** refined, glossy surfaces with customised colours and all RAL and NCS colours directly incorporated
- **PROCESSING CONVENIENCE:** easy to bond, effortless application, material widths up to 3.20 metres
- **ADVANTAGES IN USE:** optimum stability at a low weight, reduced heat expansion, high mechanical load capacity, optimum chemical resistance, and easy repair and cleaning

NEW: LAMILUX **AntiBac** – fibre-reinforced polymers with anti-bacterial coating for the medical and food sectors.

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