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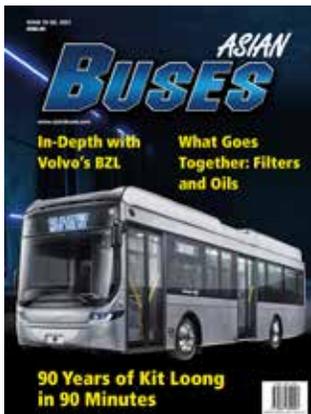
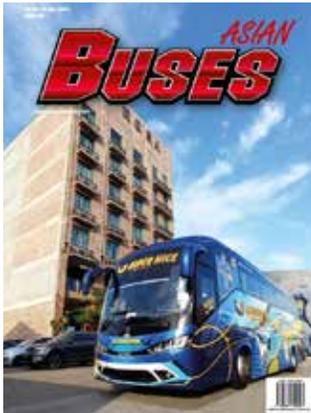
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Super Nice Bus in front of the Rosa Hotel
A mural from Kuantan

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Curiously Curated Current Content

After over 30 months I have finally made it on a trip overseas to gather interesting information to present to you. The visit to the IAA Transportation in Hannover, Germany, has been part of a tour of Europe, involving planes, buses, cars and trains. You may recognise this as the ambition to be living our content as we have put forward in the story about the #SuperNiceTour2022. There was a lot to take in and experience this time visiting the World's largest commercial vehicle exhibition.

One fact was that the IAA has also shrunk a little. This, I trace back to the fact that there are still travel restrictions imposed in some countries and brands may not have been able to get their latest products to Germany for the event in time. However, there have been a lot of innovations being paraded for the global audience at the show and I have been glad that we had press passes. These magic print-outs allowed me to visit all the booths on the dedicated press day: 18 000 steps! Without the thousands of excited fleet owners, drivers, purchasing managers and fleet operators hustling for time with the brand representatives, the line-up of press conferences allowed for the media to get the inside scoops from all their favourite brands. Electromobility, alternative fuels and cargo bikes were the hot topics that many exhibitors

focused on. Some critical discussions were held around the continued need for Diesel engines. The factoid here is that the internal combustion engine will still be with us for some time.

With over 1 400 exhibitors, I had to pick and choose. Curate is the term that is typically used in such cases. The content that I have selected to be featured is a cross-cut of what I hope will be most important for you. It is acknowledged that not all the topics covered in this issue of Asian Buses will have an immediate impact, however, I hope that these may rouse the one or other to think about the future of transportation and how the featured brand, technologies and innovations might impact their business in the years to come. For instance, long distance electric coaches may not be viable on our shores. Yet. But that will change, and it might be worthwhile thinking ahead and preparing for the eventual launch in the local market. As discussed in our Feature Story, the practical implementation of the new technology may still require years of preparation.

In our cover story we look at a company that is also looking ahead and that has made its mark in the global market. A change in the production method of buses may have ensured the sustainability and adaptability of the brand with an international clientele that is turning to the Johor-based Gemilang Coachwork has been trailblazing in the industry for decades. It has taken me a long time until I have finally managed to visit their manufacture and to be interviewing their management team.

Curiosity is what is needed in this industry. As such, I ask a lot of questions. During a road trip on a bus in Germany I was sitting with the driver to find out what moves him in his profession, what he likes about the bus he is driving. We had a good chat. What I learned is that the job is very different from the job in Malaysia. This is not to say that one is better; they are just different job profiles based on the overall conditions on the road, legal framework and the demands from the passengers.

One focus for me is the implementation of ADAS, Advanced Driver Assistance Systems. The mega trends might be about electro mobility and autonomous vehicles, but the possibilities deriving from the use of smart technology to make buses safer are more immediate and tangible. I remember as a kid not needing a seat belt. Today my car only gets started when I have ensured everyone has clicked in their seatbelt. This is a topic that we can dedicate an entire magazine to! I will focus on some curiously curated components though.

Drive Safe, stay Safe!

A handwritten signature in blue ink, appearing to read 'Stefan Pertz'.

Stefan Pertz
Editor, Asian Buses

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The premium filtration brand has further expanded its product portfolio for this segment and now offers almost 95 percent market coverage for the European vehicle fleet. That means over 670 filters in original equipment quality for more than 36.5 million vans, broken down as follows:

- 209 air filters
- 156 oil filters
- 171 fuel filters
- 124 cabin air filters
- 17 other filters

New Light Commercial Vehicles Guide with interactive PDF

A new, user-friendly MANN-FILTER Light Commercial Vehicles Guide with interactive PDF lists the most common manufacturers and models and helps users quickly find the right filter in original equipment quality for the respective van. The new guide is available for download from the MANN-FILTER website.

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Workshops and dealers can also use the MANN-FILTER online catalog, where they can easily find the right filter for their application in just a few clicks – including technical information and installation instructions. 



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Ground Breaking: The MIROS Technology Test Track

The MIROS Technology Test Track ground breaking Ceremony (MIROS MT3) took place on 29 August 2022 and was officiated by YB Minister of Transport, YB Datuk Seri Ir Dr Wee Ka Siong. The construction of this one-kilometre-long test circuit will be a pioneer for various tests for active and passive safety systems on vehicles in the Southeast Asian region in general and Malaysia in particular. It is in line with the government’s efforts under the Malaysian Road Safety Plan 2022-2030. With this test track, focus is on priority areas, such as the use of safer vehicles, including roadworthiness issues, especially those involving existing vehicles, and preparations towards the use of new generation vehicles.

Chairman of the Board of Directors of MIROS, YBrs. Professor Dr. Wong Shaw Voon in his speech said, “With the test circuit, planning and evaluation in the field of road safety especially related to vehicle safety aspects can be optimized. Tests that can be done at MIROS MT3 are divided into four groups. These are tests related to Safety Assist passenger vehicles such as Electronic Stability Control (ESC), Blind Spot Detection (BSD), Autonomous Emergency Braking (AEB) and Anti-lock Braking System (ABS), tests for commercial vehicles that includes Brake Performance, Speedometer, Steering Equipment, while testing for motorcycles includes tyre or brake performance, and finally tests for road infrastructure, which can be a component in crashes.”

In the meantime, Wong also congratulated YB Minister Transport for the publication of his article in a book published by the United Nations which is titled *The Road Ahead: 26 Voices for Safe and Sustainable Mobility*. This is the first time in the history of road safety articles from the Malaysian Transport Minister published by the United Nations.

Malaysia’s Minister of Transport, Wee stated that the test circuit construction is in line with the appointment of MIROS as the ASEAN Road Safety Center role to contribute, and promote knowledge about road safety among ASEAN member countries. “When I attended the United Nations (UN) meeting on Global Road Safety in New York on 30 June 2022, I have also shared about Malaysia’s achievements in increasing the use of technology to enhance vehicle safety. This MT3 lab has the potential to be a catalyst towards greater achievement as it is also supported by existing programs, such as the ASEAN New Vehicle Evaluation Program (NCAP) and the Malaysian Motorcycle Assessment Program (MyMAP),” he added.

The ceremony also incorporated the handing-over of certificates of appointment to four new MIROS Board of Directors: Director, Department of Investigation and Traffic Enforcement (JSPT) Bukit Aman), YDH CP Datuk Wira Mat Kasim bin Karim; Managing Director, PLUS Expressways Berhad, YBhg Datuk Haji Azman bin Ismail; Chairman, General Insurance Association of Malaysia, YBrs. Mr Antony Lee Fook Weng; and Deputy Chief Editor, Sin Chew Daily Malaysia, YBrs Mrs Allen Mr. Yaul Len.

It is hoped that the development of the MIROS MT3 circuit will attract the private sector and related agencies, especially the Road Transport Department (JPJ) to cooperate with MIROS in carrying out testing of vehicles for study purposes, research, and for assessments. For example, for Vehicle Type Approval Process (VTA) following the standard of the United Nations (UN Regulations) at the international level, to ensure that vehicles produced meet the specified specifications to obtain a 5-star vehicle rating, that is safe to use. 🚗



Karsan, Iveco and Irizar win the Sustainable Bus Awards 2023

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- One Battery System for many applications > Flexible Installation
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Made by the sole Japanese manufacturer of minibuses in Malaysia, this minibus model comes with a powerful 156ps engine and 6-speed manual transmission that allows for better performance and improved fuel economy. Aiming to be Malaysia's most customer-centric and reliable commercial vehicle company by providing best-fit product, this 8-10meter minibus is their best-fit product for stage or city bus operation. Its size and small turning circle make it easier to navigate as hop-on-hop-off public transport in tight suburban roads. This minibus is fitted with Antilock Braking System (ABS), Electronic Brake Distributor (EBD) and Speed Limiter set at 100km/h, compliant with JPJ UNECE regulations.

HINO also takes the initiative to improve driving skills among commercial vehicle drivers through the establishment of its training centre, Hino Total Support Customer Center (HTSCC) in Sendayan. Putting priority to its fleet drivers, E-Mutiara has also registered all their bus drivers to undergo professional driver training offered by HINO. Through this training, drivers will be given intensive courses that focus on driver safety, fuel efficient driving technique, and driver familiarisation, that have proven savings of up to 10 percent in fuel consumption. HINO & E-Mutiara believes it will also narrow down the risk of accidents. ■

Hino Signs Repair & Maintenance Contract, Hands Over 27 Minibuses to E-Mutiara

Konsortium E-Mutiara Berhad (E-Mutiara) signed a Repair & Maintenance Contract with Hino Motors Sales (Malaysia) Sdn Bhd (HINO) for all of its new minibuses under Mutiara Rentas Desa operation as part of their efforts in providing passengers with a safer and more convenient ride. In conjunction with an event held for the Mutiara Rentas Desa city bus launching. The official signing ceremony was held at H-Elite Hotel, Kota Bharu, and it was witnessed by Y.B Datuk Seri Ir Dr Wee Ka Siong, Minister of Transport, and attended by high representative of government bodies.

The first batch of the new minibuses were handed over by the Managing Director of Hino Malaysia, Atsushi Uchiyama to the Group Executive Chairman E-Mutiara, Kolonel (PA) Tuan Haji Che Ibrahim. These 27 minibuses will cater for 13 routes under E-Mutiara's newly launched city bus operation, Mutiara Rentas Desa (MRD), across all of Kelantan.

Concerned about public transport facilities for the community, E-Mutiara took steps to provide stage bus services for convenient accessibility of commuters between Kelantan cities. "The contracts we signed today are a validation of the high-quality service by HINO's skilled technicians to ensure that our customers have peace of mind during their travels," commented Tuan Haji Che Ibrahim. Under the slogan 'Transporting Every

Happiness', HINO is honoured to be part of the E-Mutiara's first city bus and looking forward to set a new standard for excellence in the industry and continue to give the best to society.

Commenting on the newly launched stage bus services by E-Mutiara, Uchiyama said, "We are honoured to be the first batch in operation with Mutiara Rentas Desa (MRD) city bus. We are committed to giving our best and total support because excellent bus operation with convenient accessibility and timely ride schedules will bring happiness to consumers"

"Our slogan, 'Transporting Every Happiness', is based on our determination to bring happiness to all people around the world through transportation. HINO is working as one mind as Team Hino and we are putting ourselves in our customers' shoes as we strive to solve the issues facing society," he continued.



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Mumbai's Switch Electric Double-Decker

The electric double-decker bus from Switch Mobility for Mumbai looks attractive and promises a new era of public transport.

By: Bhushan Mhapralkar

Mumbai, the megacity and financial capital of India, has got its first electric double-decker bus from Switch Mobility. It is the first of the 200 such buses to be supplied to the BEST undertaking by the end of this year. By replacing its ageing Ashok Leyland diesel-powered double-decker buses with electric double-deckers, BEST will become the first transport organisation in the country to do so. Modelled on the Switch (formerly Optare) electric double-decker buses that are found on the roads in the UK, the vehicle – termed as the Switch EiV 22 – is quite attractive in its appearance. It makes ample use of tinted glass to dial a modern appearance and look spacious on the inside. Offering an airy feel and good visibility with that amount of glass panelling, the bus is a result of clever packaging and light weighting. Switch Mobility worked with companies like Hindalco to deploy aluminium structural panels that ensure the desired structural integrity and strength while keeping the weight down. They also contribute to a high passenger-to-weight ratio and competitive cost per kilometre.

Of the opinion that the electric double-decker is safe and comfortable, Mahesh Babu, CEO, Switch Mobility India and COO, Switch Mobility Ltd, expressed, "As India's first and unique electric double-decker, the EiV 22 involved multiple challenges to fulfil new-age customer requirements without sacrificing the iconic double-decker lineage. Drawing attention to the Metro Decker launch in London – where 90 percent of the people use public transport – in 2014, Mahesh Babu mentioned that the effort behind electric double-decker is to bring people who are travelling in cars to it. Stating that only one percent of the population in Mumbai uses public transport, he remarked, "There are more double-deckers in London than single-deckers because of the higher carrying capacity and lower road space consumption." Informing that they want to help

their customers achieve a zero-carbon footprint by democratising net zero carbon mobility, Mahesh Babu said, "The Switch EiV 22 electric double-decker will not only bring back fond memories for Mumbaikars, it will also transform the public transport space in terms of sustainability and footprint, which is the need of the hour in India."

Engineered for Regional Needs and Longer Life

Set to provide an air-conditioned ride to commuters on CSMT-to-Nariman Point, Colaba-to-Worli and Kurla-to-Santacruz routes as 200 units are delivered by the end of this year, the electric double-decker – with a 650-volt architecture – is capable of ferrying nearly twice the number of seated passengers as a comparable single-decker bus at just an 18 percent increase in kerb weight. Engineered to address regional needs and eccentricities such as flooding in monsoon with a higher floor height of 900 mm, the bus has two doors and two staircases. The challenge of accommodating two staircases, according to Mahesh Babu, was achieved to ensure ease of movement inside the vehicle and is in line with the observation that buses can get very crowded in most Indian cities during the peak hour. With its battery pack located under the floor, the Switch EiV 22 shares its

electric (and electronic) architecture with that of the E1 bus in Europe. “We do our own software, and in the last one year, our engineers achieved a 10 percent efficiency improvement through software optimisation and use of AI technology,” explained Mahesh Babu.

Engineered for higher cycles of 3 000 to 4 000 and a lifespan of over eight years, which would be equivalent to 500 000 to 600 000 km of vehicle running, the electric double-decker bus uses NMC battery technology, which ensures that the battery pack is 30 percent lighter than the competition. A unique thermal management system at the cell level, module level and pack level aids the battery pack to run at its most efficient. There’s a safety suppression system in place as well. The 231-kWh capacity liquid-cooled high-density battery pack with dual-gun charging system ensures a range of up to 250 km for the electric double-decker under intra-city conditions. The chassis of the bus supplied to the body builder (Antony of Navi Mumbai is said to have built this particular bus body) is made at the Ashok Leyland facility that Switch Mobility shares with it. As it looks at scaling up the operations in India as a Hinduja Group company and as a sister concern of Ashok Leyland, Switch Mobility, according to Mahesh Babu, is looking at setting up a dedicated facility as part of its plan to invest INR 10 billion in a span of three to five years.

With the greenfield plant in Spain on track and in line with its plans for the European continent, Switch Mobility has laid emphasis on high local content for the electric double-decker. Only the cell of the battery pack and microchips are imported, according to Mahesh Babu. The motor and controller of the bus are made in India by Dana. Drawing attention to the use of an advanced connected technology called Switch Ion, which enables monitoring of the vehicle, including its geofencing and its condition down to the factor of battery operation, Mahesh Babu averred, “Every cell could be remotely monitored using Switch Ion across the country and across the globe. About two terabytes of data from the vehicles is collected daily and analysed.” Stressing on functions such as diagnostics, prognostics and driver training to up the efficiency of operation of the buses, he said that the company’s sister concern, Om, will maintain and run the buses under GCC model. “We will install charging stations at two depots of BEST with 0 to 80 percent charging in less than an hour,” he added.

Revealing that they are discussing with multiple cities in India to deploy the electric double-decker bus, Mahesh Babu informed, “Switch Mobility is planning to make up to 200 units next year depending on the demand.” “The Eiv 22



costs between INR 18 million to INR 23 million,” he quipped. Speaking at the launch, Ashok Hinduja, Chairman, Hinduja Group of Companies (India), said, “The Group has a clear vision to support economies in delivering their net zero objectives through renewable energy, finance and zero emission transportation. We are confident that our new zero emission double-decker bus will deliver a cleaner and more sustainable future, reinforcing our commitment for India and the globe.”

Asserting the need to transform the country’s transport system from a long-term perspective, Nitin Gadkari, Minister of Road Transport and Highways of India, Government of India, averred, “With a focus on reforming urban transport, we are trying to build a low-footprint and high-passenger-density integrated EV mobility ecosystem. The government’s vision and policies are supportive of EV adoption with growing consumer demand for greener solutions. I would like to congratulate Switch Mobility, a subsidiary of Ashok Leyland, for being the one to revive the double-decker and remaining committed to introducing new technologies for the benefit of passengers and society at large.”



MAN Buses for Malaysian Market to Come with Euro V Engine Option in 2023

MAN Bus e-chassis could also be made available as soon as it is a technologically and logistically viable option for the market.



O'Brooks expressed confidence that bus operators in Malaysia would have the foresight to join the sustainability journey like many of their counterparts in the transport and logistics sector that did not hesitate to add the New MAN Truck Generation with Euro V engines as standard to their fleet.

"I believe that many will see the benefits of investing in a more sustainable, fuel efficient and low-emission vehicle for their fleets. With road transportation being a major contributor of emissions, all of us must do our part in helping reduce the industry's carbon footprint if Malaysia if it is to achieve carbon neutral status by 2050," he said.

At the event, MAN Malaysia took the opportunity to reconnect with bus operators and share updates on global trends and MAN's success in developing electro-mobility solutions for the public transport sector such as the MAN Lion City E.

Already in actual inner-city service in several European cities, the MAN Lion City E proved that it could handle long distances too.

Discussing the current mega-trends, O'Brooks also touched upon ambitions to introduce autonomous vehicles. "There are still a lot of things that need to be put in place in order for that technology to become viable

MAN Truck & Bus (M) Sdn Bhd (MAN Malaysia), the first vehicle manufacturer in Malaysia to offer Euro V engines as standard across its entire Truck range, is once again demonstrating its leadership and commitment towards sustainability, this time with its Bus chassis range.

Speaking at the event called MAN BAGUS, an annual gathering for key players from the bus industry at its Serendah CKD assembly plant, MAN Malaysia Managing Director Andrew O'Brooks announced that the company plans to introduce a low-emission Euro V engine as an option in 2023 to help bus operators reduce their carbon footprint.

"By next year, we also hope to start taking orders for the MAN e-chassis but that is dependent on the development of the EV-charging infrastructure that we hope would be the primary focus of the Malaysian authorities. These are ground-breaking moves by MAN Malaysia as we continue to offer environmentally-friendly options to the transport industry as we lead the drive towards carbon neutral status for Malaysia by 2050. The introduction of Euro V engines and e-chassis will certainly differentiate MAN Bus offerings, which are already renowned for their quality, reliability, versatility and flexibility," he said.



incentives to go electric on a major scale. Secondly, despite the Malaysian Government's commitment to achieve carbon neutral status by 2050 at the earliest, the actual steps and implementation process remain unclear with few incentives for consumers to invest in electric PSVs (public service vehicles). Thirdly, the investment and development of charging stations and relevant infrastructure are perhaps the biggest obstacles to bringing the e-chassis or even CBU e-buses into Malaysia.

Preparing for the introduction of such electric buses, MAN is already implementing training programmes and safety protocols that deal with this new technology. "As we speak, some of our technicians are already undergoing training on these new types of vehicles," O'Brooks added. One of the considerations is that electrification of commercial vehicles brings with it new health and safety issues, which have to be addressed. "For instance, we are dealing with extremely strong currents and Voltage, which requires extra careful operations." 



as a mainstream option." Most importantly, infrastructure has to be upgraded while legislation has to address the issues that arise with the implementation of such advanced systems. While autonomous vehicles could be deployed in closed environments such as airports or container ports, there still needs to be an update of the rules and regulations in combination with demand supporting the development of market-specific applications.

Thus, the current push is towards electrification as a viable strategic direction. This was demonstrated in the highly successful Electrifying Europe Tour from April 29 to May 8, 2022, MAN's electric bus covered some 2 500 kilometres from Munich in Germany to Limerick in Ireland, proving its outstanding capabilities and reliability (Asian Buses reported in Issue 30).

However, formidable challenges need to be overcome before the new e-chassis could become a viable offering in the Malaysian market. Firstly, as a petroleum producing country with relatively low prices at the pumps, there are few





and its series production. Naturally, we are incorporating these into the production of our new eBus chassis, which will benefit our customers significantly."

eBus Chassis: Flexible Solutions, Proven Technologies

As a first step, MAN will offer the eBus chassis as a two-axle vehicle for use as a low-floor, low-entry and intercity bus (high floor). "To ensure that the eBus chassis can be used everywhere, it will be available in left-hand and right-hand drive variants," says Barbaros Oktay, Head of Bus Engineering at MAN Truck & Bus, adding that "This is particularly interesting for countries where there is left-hand traffic and where MAN buses are already shaping the streets. These include Singapore, South Africa, Australia and New Zealand."

MAN OptiView Mirror Replacement System, Now Also Available for City Buses

MAN OptiView is the world's first mirror replacement system for coaches. It supports the driver enormously by eliminating blind spots and significantly improving visibility at night and in poor weather conditions. This innovative technology has also been available for city buses from MAN Truck & Bus since this year. MAN OptiView celebrated its premiere at the IAA in 2018. Since then, it has proven itself in daily use all over the world. "In order to make roads in cities even safer and due to many requests from operators, the system is now also available for all models of the new generation of city buses - including, of course, the all-electric MAN Lion's City E," Kuchta stated. The mirror replacement system scores particularly well in dense urban traffic. This is because it makes the blind spot visible to the bus driver

MAN's State of the Art Solutions

Automation and electrification of buses are advancing fast. Time to have a closer look at what the future will bring in terms of these technologies.



MAN Truck & Bus will be making an eBus chassis available to the global market. This is the result of tried-and-tested technologies from the Lion's City E, a vehicle that has already been used successfully in many European countries and for which more than 1 000 orders have been received to date. The aim is to further advance environmentally friendly mobility and to make traffic in cities around the world even cleaner, quieter and safer.

When developing and launching the eBus chassis on the market, MAN relies on the knowledge and skills that have already been accumulated with the Lion's City E. "We also rely on our long-standing partnerships and work intensively with our global network of body manufacturers in order to be able to serve markets in Asia, Africa, South America, Australia and New Zealand in the best possible way," said Rudi Kuchta, Head of Business Unit Bus at MAN Truck & Bus. The first pre-series models of the MAN eBus chassis will be delivered as early as 2023. Series production is scheduled to start in 2024. The eBus chassis is to be produced in the Polish MAN plant in Starachowice, where the Lion's City E is also produced. "Over the past few years, our employees in development and production have gained valuable experience with our eBus





and thus ensures greater safety on the road, especially when turning, but also when changing lanes and manoeuvring. In addition, MAN OptiView takes up much less traffic space than conventional mirrors – an invaluable advantage when turning in inner-city traffic, for example.

So how does the digital system work? The digital system uses two cameras on each side of the vehicle to project the side and rear areas of the bus in high-resolution and in real time onto two monitors inside the vehicle. In doing so, they can display a larger area than is the case with conventional exterior mirrors. This makes it possible for the driver to have a full view of the blind spot. In addition, the driver benefits from better visibility in rain, snow and also at night, as the camera automatically adapts the image material to the situation. Even glare from headlights in the dark or the low sun, for example, does not impair visibility. The system is also impressive in terms of economy. This is because buses with OptiView have around ten percent less aerodynamic drag than vehicles with conventional mirror systems. Thanks to the improved aerodynamics, operators can save on fuel consumption. The mirror-replacement system is available as optional equipment for all NEOPLAN coaches, the MAN Lion's Coach and now also for MAN city buses.

Actively Warning Turn Assist with Pedestrian Detection: Optimised Software and Technology

Because drivers really need a few extra eyes, especially in urban traffic, all MAN and NEOPLAN models feature an actively warning Turn Assist system with pedestrian detection – an effective measure to prevent accidents caused by blind spots. In order to make the system even more efficient and secure, it is being continuously optimised. For example, improved high-performance chip technology was recently introduced. Thanks to the system upgrade, pedestrians and cyclists can now be detected even more reliably in poor lighting conditions. Additional warning symbols on the side displays and the enlarged viewing angles of the front and side cameras also ensure greater safety, especially when turning off. To permit better identification of traffic signs, the system has been expanded to include a GPS unit. "Unfortunately, accidents repeatedly occur when turning off due to the blind spot. With our innovative systems, we want to make an important contribution to road safety, especially at junctions".

The front camera and the cameras on both sides of the vehicle automatically monitor the surroundings. The artificial intelligence of Turn Assist checks each object to determine whether the movement path could lead to a hazardous situation and issues a warning only if this is the case. The driver is actively alerted to prevent potential danger situations or collisions, both visually, via two in-built displays in the driver's field of vision, and acoustically, via a warning signal. The system warns against potential collisions in both the front area and when turning. In addition, the innovative driving and turning assistance systems increase safety by reliably detecting pedestrians and cyclists in the blind spot and actively warning about the dangerous situation. This significantly reduces the strain on the driver. The system is available ex works and as a retrofit solution.

Improving Skills: MAN ProfiDrive

Learn from the best. With 40 years of expertise, MAN ProfiDrive has made a significant contribution to the all-round support for business owners, fleet managers and drivers in over 67 countries worldwide. MAN ProfiDrive has continuously improved and expanded in terms of its daily dealings with

customers as well as the available training portfolio. These days, customer-specific training solutions in niche markets are just as much part of the MAN ProfiDrive training range as professional driver training in accordance with the law governing the qualification of professional drivers. 



Low-Tech Driver Assistance System

Along the roads in Germany one will find these plastic pylons. Lovingly referred to as "penguins", they pack a lot of information for the driver. Spaced 50 meter apart, they indicate distances and allow to gauge space to the vehicles in front or behind. The distance 50 meters is important: only in fog with visibility under 50 meters are drivers allowed to use the fog light. Meaning, if you can't see the next one, visibility is under 50 meters. There is also an arrow, indicating the direction to go to reach the closest emergency phone. The reflectors are either round or rectangular. This will tell you that you are on the right side of the road as you should have the rectangular to your right and the two round ones on the left. If it is the other way, then you are a "Ghost-Driver", going the opposite direction.



Gemilang's Sustainability by Design



Sustainability as a design approach is offering a way to reduce the impact on the environment while at the same time ensuring that the company has products that will be in demand in the years to come.



named as being crucial. Thanks to the modular systems approach, each bus is customisable.

With requirements changing over the years, the product portfolio of Gemilang Coachwork includes some

As a company, Gemilang Coachwork Sdn Bhd has long since gained a reputation that is recognised beyond the shores of Malaysia. Located in Johor Baru, this leading environmentally conscious bus and bus body manufacturer has made sustainability their core value in order to ensure the company is fit to compete in the years to come as well as reducing the impact on the environment as much as possible. Headquartered in Malaysia and listed on the stock exchange in Hong Kong, Gemilang Coachwork has built unique expertise and knowledge in designing and building bus and coach bodyworks as well as assembly of buses and the seamless aftersales service and maintenance. With a total workforce of about 400 staff, the production capacity is 1 200 units annually.

Versatility and adaptability are the name of the game, which Gemilang Coachwork has demonstrated over the past three decades of being in business. While the need for transportation is a universal need, the specific requirements differ from market to market. Being able to adjust products to the respective road safety regulations, Gemilang Coachwork managed to penetrate 15 markets by now. Key markets include a diverse range from Singapore to Australia, Hong Kong to the USA. When asked about the main consideration to make this happen, it is the relationship with chassis manufacturers that is



very unusual bus models. The latest trend is to have three doors in buses, which allows for faster embarkation and disembarkation with the added effect that passengers automatically disperse more evenly throughout the vehicle. Double-deckers are in demand while articulated buses have yet to become a more common product in Malaysia and Singapore.

“The interesting design feature is that a double-decker bus only needs one aircon unit on the roof while an articulated bus requires two units, which makes such bus more expensive,” Pang explained. Sunway’s electric bus fleet is part of the track record as are school buses for the US as well as ambulances, police buses and fire trucks.

Apart from the soft factors of human relationships, this success story is founded on the design approach to offer a more sustainable solution for the global bus market. Embracing green technologies, Gemilang Coachwork is characterised by the use of an aluminium superstructure. As a modular system, the superstructure is using bolts, rather than welds, offering a number of advantages.

Managing Director Mr Pang Chong Yong highlights them: “Aluminium is lightweight, which means that our buses are more fuel efficient. Also, the transportation of the beams is not impacting the environment as much for the same reason. Furthermore, aluminium can be recycled for several times and used in other applications if need be.” Bolting frames together means that cold assembly is possible and wastage is reduced when joining the struts. In climates found in Malaysia, Singapore or Hong Kong, corrosion free aluminium translates into improved safety and durability. Additionally, the bolted frames are easier to repair as only those segments that are damaged need to be replaced, which is done easily. The net result is an overall lower total cost of ownership (TCO). The use of bolted superstructures allows for such kits to be exported and then used by bus builders in other countries too. In terms of

strength of the superstructures, the concept has been proven and tested as planes use the same principle of bolted (riveted) parts.

Bolting aluminium superstructures has the advantage that it is less labour intensive while also offering improved consistency of the finished product. Pang also highlights that the aluminium superstructures are very suitable for electric buses as the lower weight supports the additional weight installed by current battery packs. Each kilogram saved for the superstructure translates into higher range as more battery capacity can be added. The aluminium structures are sourced from Switzerland, according to high standards, which may make Gemilang Coachwork one of the greenest bus builders in the country.

With this, Gemilang Coachwork might be riding the current trend as many countries are pushing for emission free public transport in cities, which Pang identified as a global trend. “We are committed to providing the greenest overall bus body possible,” he said. Overall, it can





be said that the industry is in a transitional phase at the moment with many new technologies being trialled, however, they all aim to achieve the same emission reduction. The lightweight structures are ideal for battery electric and hydrogen buses as the weight of heavy batteries and tanks is offset by the weight reduction through the use of lightweight metals.

Therefore, Corporate Social Responsibility, CSR, is not a separate activity, but in the view of Pang and his management team it is a duty that should be at the heart of the organisation. Paraphrasing this, Pang elaborated that CSR is about making a positive impact on society. It is no wonder that the company has invested in solar panels to power the plant and thus reducing the impact on the immediate environment. In embracing CSR, the company aims to become more environmentally friendly and eco-conscious but does not stop there. Promoting equality, diversity and inclusion in the workforce are considered parts of this CSR approach. Ensuring business decisions are ethical and treating employees with respect are aspects of that same CSR approach that also sees the company giving back to society.

By extension, this CSR approach is manifesting itself in how the company sources raw materials and evaluates the entire supply chain. "Certainly, price and quality are important factors, but these are not the only ones when considering a supplier. We evaluate our vendors in more ways than just scrutinising their payment terms." As one of many examples Pang cites the requirement for suppliers to renewable energies, such as hydropower to produce the extruded aluminium alloys. Plywood used in the buses must be sourced from accredited vendors that partake in reforestation programs. Pang noted that global customers are now emphasising the need for their coach and bus builders to implement programs to protect mother nature.



Mr Pang Chong Yong,
Managing Director

Internally, these ambitions are supported through training of staff on Environmental, Social and Corporate governance (ESG). Gemilang Coachwork is working on further reductions of carbon emissions. "We may have a certain myopia, so we hired a consultant to guide us in our journey." Pang's ambition is to further improve the brand's standing in the industry as an environmentally responsible organisation which may encourage others to also take up the task and re-engineer their businesses towards a greener future. The result is evident when walking around the yard: the production is clean, there is very little waste material present and work stations are clean.

Gemilang Coachwork values any opportunity to talk about their ambitions regarding CSR as the management team believes that the general public is mostly unaware of the industry behind the beautiful vehicles on our roads. Just like everyone else in the industry, Gemilang Coachwork agrees that there is not enough positive publicity to attract talent. Generally speaking, the public does know very little about the industry, which may be as profound as understanding that the chassis and body are most times made by different companies and a bus only comes to live once these two components are joined. "It is therefore not surprising that people do not know about the impact of environmentally friendly buses. How can they if they are not even aware of the industry as a whole?" Pang asked, hoping that with the push for more sustainable transport solutions more attention will be given to the companies involved in the background.

Designing buses, the safety, longevity, and durability of the vehicle is paramount. A major part of the development process focuses on testing. Although it is now possible to simulate roll-overs on a computer, Gemilang Coachwork also maintains test rigs to simulate safety-critical situations using fully assembled buses. "Naturally, this is a very expensive exercise, but sometimes this allows us to learn more about our design than what we can glean from a simulation on our PC." Although programming the simulations can take weeks, it is admittedly a helpful tool as such simulations do not damage actual vehicles while at the same time satisfying requirements in several markets to prove their stability.

Knowledge management is a crucial aspect of building buses and coaches for international markets as requirements differ from ADS compliance in Australia to UNEC regulations applicable in most other countries. With these test facilities on hand, Gemilang Coachwork's engineers are able to work on homologation requirements, further





supporting clients abroad. “We learned the hard way from back in 1997 when we first entered the Australian market and we went through a steep learning curve to meet their local requirements,” Pang reminisced.

It is not surprising that Gemilang Coachwork has become a preferred provider of transport solutions. Among the many firsts the company can proudly claim that the first buses operating as shuttles on the Hong Kong-Zhuhai-Macao Bridge. In more recent developments, the autonomous bus operating on the premises of Singapore’s Nanyang Technological University (NTU) was also manufactured here.

Currently the team is learning about Advanced Driver Assistance Systems (ADAS), which Pang hails as some of the best additions that any bus operator could add to their vehicles. Although adding to the cost, the systems oftentimes prevent accidents that would be more costly than the added ADAS. According to Pang, many operators do not factor in downtime and increased insurance

cost an operator is faced with if accidents occur. He wished that more operators would try ADAS as he is convinced that the ROI will become evident very quickly. Standing ready to assist clients, Gemilang Coachwork also dispatches teams to troubleshoot and rectify any issues encountered.

The value of approach to sustainability taken pays off in more ways than just repeat customers coming back for more. Buses made by Gemilang Coachwork are known for their durability and typically, vehicles on the secondary market are being snapped

up very quickly as they are known for being fabricated to the highest standards. "Certainly, the effort we put into our buses is adding a little bit to the cost. However, if one is looking at the overall cost over the lifecycle of the vehicles, then this is easily justified," said Pang.

Electrification is a hot topic at the moment. Generally, markets are turning away from fossil fuels and Gemilang Coachwork is gearing up to meet these new demands. Bottlenecks are still be seen in the provision of infrastructure, which has to be developed in tandem with the roll-out of new generation buses. In parallel, requirements for skills and knowledge are changing too. Staff will need to learn new skills and be aware of the implications of going electric. "While our buses are now going into the fifth generation and are therefore ready for electrification, the eco system may not be ready yet," Pang said. Revolutionising the industry, the switch from steel to aluminium, was a watershed moment for him. "Another such event is upon us with the movement towards greener technology used in transportation."

While looking ahead enthusiastically again after the pandemic, there are also challenges. For starters, the decision when to switch to electric or hydrogen-powered vehicles is a tough one as the cost is still very high and although there are now economies of scale, batteries are getting more expensive. Additionally, talent acquisition has been and can be expected to continue to be an issue for the transportation industry. "We, as an industry, need to join forces and promote the industry to youngsters as a professional and rewarding career path." Being an internationally oriented company, Gemilang Coachwork is also offering the intrepid staffers the opportunity to explore the world. "Sustainability is not just a fancy word for us. It transcends the design, the company's philosophy and the way we see career progression. The latter is important as we realise it is the continuity our workforce offers that enables us to be sustainable," Pang concluded. ■





Dispensing Fluids with Highest Accuracy

The efficient and accurate dispensing of fluids in a workshop makes the difference between profit and loss. We take a closer look at one of the most sophisticated systems and why workshops should invest in them beyond legal requirements.

Service your vehicle means that you will replace fluids. As fluids are typically paid for per litre, it is crucial that the exact volume of fluids dispensed is measured. Strict penalties have been imposed by the Ministry of Domestic Trade and Consumer Affairs (KPDNHEP) for those that are not using patented and approved dispensing tools, which have been made mandatory for some time now.

When measuring the amounts of fluids dispensed, the accurate measurement is even said to improve your workshop's bottom line. Said to be one of the most accurate units is being offered by Graco from the USA - the industry leader in fluid management. Their Pulse Fluid Management is the latest technological breakthrough. It offers advanced wireless technologies to accurately track bulk fluids, capture critical analytics and automate customizable reports so you can share information and improve decision-making, making Pulse the most comprehensive, convenient, and easy-to-use fluid management system on the market. In Malaysia, the Graco systems are distributed by Lubetrans Sdn Bhd, which is headquartered in Subang.

In Malaysia, as in many other countries, a push for professionalisation has led to the implementation of regulations that stipulate that every meter for fluids has to be certified and calibrated regularly. Those suppliers, such as Lubetrans, selling fluid measuring devices had to submit their tools, stipulating that these have to be certified under OIML. OIML is the International Organization of Legal Metrology, an intergovernmental organisation that was created in 1955 to promote the global harmonisation of the legal metrology procedures that underpin and facilitate international trade. The idea behind the certification is that the measurement is repeatable many times, thus certifiable. The certification is done under different conditions, such as temperature, humidity, pressure and viscosity of fluids. SIRIM, Malaysia's certification body will issue a patent number

for each such meter submitted for approval. "All these factors impact the accuracy of the measurements and not many meters can accurately dispense fluids," said Jason S Y Han of Lubetrans.

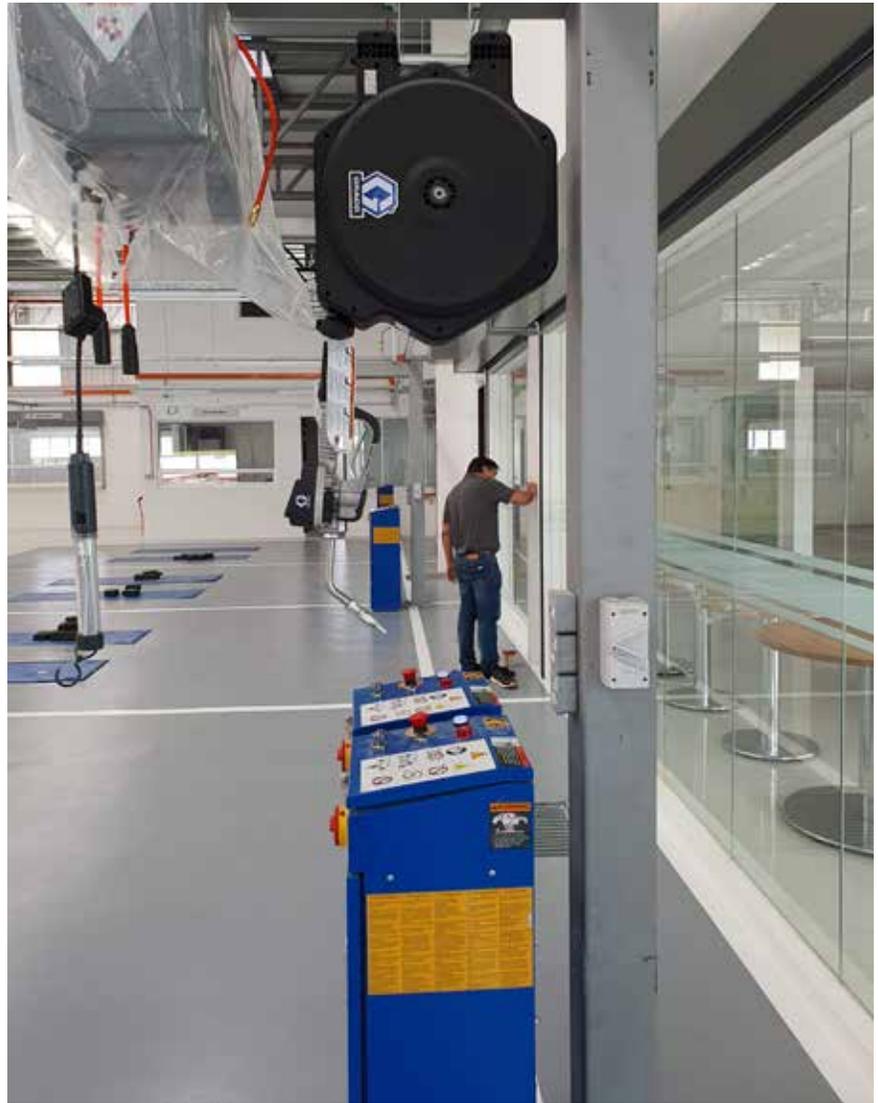
If unsure, the meters will be clearly labelled. Those marked with "Not for Resale" are meters that have not been passed the stringent test regime. Such meters can still be used to dispense fluids; however, it is illegal to use them when dispensing fluids that are being charged to a client. For example, workshops may still use these meters for internal measurements of fluids that are not sold. "With a certified fluid dispensing system, you can be sure that the amount you are billing a client is accurate and that there is no over- or undercharging," Han elaborated. As an analogy, in Germany, glasses are marked and anyone pouring a drink will notice that the fluid will reach to exactly that line marking the volume on the glass: because the glasses are OIML certified. With the Graco PULSE, a tolerance of 0.5 percent has been achieved.



While this tolerance may not sound like a lot, the money that one could lose by dispensing too much fluids is tremendous. As a sample calculation, a car workshop using 40 000 litres of oil at RM 40 per litre may lose up to RM 18 000 per year if the tolerance would be one percent. Another benefit of using a high-quality fluid dispensing system is that there are no additional, needless charges to the client. If lubricants are sold from bottles or cans, then any balance from said bottle would have to be given to and paid by the client. The question then becomes what the client would do with the balance lubricant as there is no immediate use for it and it should (under no circumstances) just be thrown away. "With a system like this you get the exact amount you need and you pay for only that!"

Traceability is another big advantage of the Graco PULSE. Literally, every millilitre of fluid dispensed is recorded in a cloud-based storage for months to come. Not only that, the person dispensing it and which job the fluids were used for are also recorded. Using job cards, it is virtually impossible to mix up fluids and vehicles. Based on the information logged into the system, the correct lubricant, in the correct amount, would be funnelled into a vehicle. Thanks to this system, a workshop also has the opportunity to fend off claims against them when a problem with the vehicle occurs months down the road. A client may claim that not enough or the wrong lubricant may have been used, however, the system will have all the information readily available to verify this. As a side-effect of the digitization of this system, it is possible to also check the progress of the inspection done in real time.

Once a year, MCMC will visit the workshops using certified meters to re-certify them. With a seven-year warranty of seven years, Graco is confident the meters can perform for a long time without having to be repaired or replaced. According to Han, several units have been used for longer than the warranty period. In case of any problems with a unit, the cleverly engineered PULSE system allows for the replacement of parts, rather than the need to have the entire unit thrown away. In light of the ambition to create a more sustainable environment, this



is an important fact to highlight as the reduction of waste is a step towards this.

Stressing the severity of the issue, fines can be imposed for three different violations: the sale of unlicensed meters, the use of said units and selling fluids using unlicensed meters. Unlicensed meters may still be sold, however, it is crucial to point out that these can only be used for uses that are non-commercial in nature, i.e. internal use.

Lubetrans has been the official distributor for Graco products for Malaysia since 2009. Graco being a fluid handling company, there are other applications, however, Lubetrans being a specialist in the area of lubricants, they have been a trusted partner for the principal. Beyond the sales of the systems, a local partner would constantly

keep the market informed about upcoming upgrades and additional offerings, that can further enhance the workshop's performance. Going beyond the legal required for annual inspections, there is no need for any servicing of the dispensing system. Thinking ahead, the Graco unit is also the only one in the market that already has obtained MCMC approval for the use of wireless connections.

Testament to the durability of the system, is the use of them in mining applications and in ports, such as the Port of Tanjung Pelepas. "Some of these have been in use since we started selling them in 2009 and there have been no problems with them," Han said. The joke is that the system is so well designed that one only needs to buy it once. However, with technology evolving, there are always upgrades that a workshop can add-on. ■



Hengst Completes Blue. maxx Range and Shows the Future of Filtration

The Blue.maxx has proven itself as a business enhancer for fleets. With the new additions, the range covers all types of vehicles. Beyond that, Hengst introduces innovations that are required beyond combustion engines.

The Hengst Blue.maxx fuel filtration may be unheard of few years ago. Fast forward to 2022 and it has become synonymous with exceptional fuel-filtering performance and water separation. Additional fuel filtration units like the Blue.maxx are becoming more of a must-have than a good-to-have. There is now greater emphasis on cleaner fuel requirements, engines being less tolerant to contaminants, and myriads of additives in fuels. With greater market demand and growing appreciation of the Blue.maxx multifaceted unique features, Hengst knows it is the appropriate time to expand the Blue.maxx functionality and variation to align with the customer's specific requirements.

Before showcasing the modular flexibility, a quick reminder of the unique features which differentiates Blue.maxx from its competitors:

- Green filter: 100 percent thermally recyclable replacement filter element
- Guaranteed aftermarket business: due to patent protected filter elements
- Multistage high-efficient water separation element over lifetime
- Robust hand feed pump with high pumping volume and ability to overcome big suction heights
- Comfortable service and low-pressure pump support with the optional electric priming pump
- Standard hexagon drive at the housing for easy and quick service: no special tool needed
- What you see is what you get: quality of the filter element visible, no black box as for spin-on filters
- Designed for functionality and resistance to biodiesel/ FAME
- Designed for easy frame installation and connection to the fuel system of the engine with the optional connector kits
- Three years warranty for the hand pump and housing of the Blue.maxx



The modern diesel engines, whatever capacity or horsepower, need cleaner and water free diesel to fulfil its stringent EURO rating and to avoid catastrophic engine failure. Blue.maxx has the capability to remove contaminants and water meeting the engine's requirements and now available in wider range to meet the flow rate requirements in all engine segments

The chart above shows the range of flowrate covered by the Blue.maxx modules to match various engine requirements. A flowrate beyond this range is however possible, depending on the market popularity.

Adapting the Blue.maxx to your specific application has also been made easier with a galore of accessories on offering. Blue.maxx is now highly customizable with the following options:

Passive water-in-fuel sensor

- > >Sensors work without electronics
- > >External evaluation electronics required
- > >Interface to ECU required
- > >2-pin contacts used (Tyco Deutsch DT04-2P) Electrical pump



Electrical pump

- > Robust brushless vane pump
- > Guaranteed lifetime up to 4000 h
- > Optional bypass valve available
- > 2-pin connector (Tyco AMP 282104-1)
- > Electrical voltage 12V & 24V



With these options, it is worth mentioning the possibility to attach a WIF (Water In Fuel) sensor on the

Blue.maxx now. With this option, Blue.maxx can now be a plug and play solution for equipment originally fitted with WIF sensor feedback.

Equally interesting, is the possibility of fitting an electric pump in place of the manual hand pump. This comes in especially handy when the existing fuel pump is not powerful enough to draw the fuel across the filter system. The added pump pressure from the electric pump can act in tandem with an existing pump to provide more suction power.

Why Hengst's Blue.maxx is becoming successful with OE customer can be attributed to the following:

- > In-depth understanding of the fuel system and balancing of primary and secondary filter for equal service intervals
- > It offers state-of-the-art water separation under all conditions
- > High in-house production depth and content
- > Flexibility and modular nature of the construction set
- > Rated fire resistant acc. To DIN EN ISO 10088 for small marine application
- > Designed with environmental friendly material and ease of servicing
- > Long life filter with extended servicing interval under harsh conditions

Internal combustion engines will remain the main power plant for long haul trucks, off the grid heavy duty operation and marine application for quite a while before infrastructure and range issues can be resolved for electricity as power source. In order to do that, on this environmentally crippled earth, efforts to innovate for cleaner operation and higher efficiency must continue. Hengst wants to be part of this momentous effort and their Blue.maxx is one of many products which Hengst hopes to rejuvenate frequently to bring more ease of implementation to the customers and to offer more reasons to use Hengst for the good of the future generations.

Hengst Beyond ICE

A major difference between internal combustion engines (ICE) and electric vehicles is the types and number of



Blue.maxx 270
Flow rate up to 270l/h and displacement up to 6ccm

Blue.maxx 370
Flow rate up to 300l/h and displacement up to 6 to 12 cc/m

Blue.maxx 450
Flow rate up to 750l/h and displacement up to 12 to 14 cc/m

Module variants

Basic equipment	H1201K03	H1202K03	H1301K03	H1301K03	H1302K03	H1302K03	H1451K03	H1451K03	H1452K03	H1452K03
Manual fuel pump	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Fuel heater 24V		✓			✓	✓			✓	✓
Filter element 15µm			✓		✓		✓		✓	
Filter element 20µm	✓					✓		✓		✓

filters installed in a vehicle. Electric vehicles require fewer filters for fluid, such as fuel and lubricants, however, there is also a need for filters to ensure that electric vehicles perform in a safe and efficient manner. Hengst, looking ahead, is already offering specialised solutions for EVs, future-proofing the brand.

Efficiency and Safety for Fuel Cells

Fuel cell systems represent a key technology for low-emission, sustainable mobility – especially in the commercial vehicle sector. Hengst is already working on novel filtration solutions in the OEM sector, and in Hanover it will be showcasing a range of innovations for safe operation at a high level of efficiency. One of the challenges of fuel cells is the solubility of ionic components in the coolant circuit. The Blue.iox ion exchanger recently developed by Hengst keeps the electrical conductivity of the coolant to a minimum and thus rules out any short-circuit effects.



Smart filtration technologies can also protect the core components of the fuel cell from gases and particles. Hengst has designed a cathode filter for this purpose, which separates sulfuric gases and ammonia in a particularly effective manner, thereby preventing damage to the catalyst and the fuel cell membrane.

Effective water management is decisive in order to prevent fluid retention and thus secure smooth long-term operation of the fuel cell. To meet this requirement, Hengst has created a new type of separator module for anode gas recirculation. Using an innovative valve system, this combines the functions of water-drop separation and gas discharge.

Healthy air inside the vehicle

As well as filtration solutions for new drive concepts, Hengst is also an in-demand development partner for manufacturers when it comes to the vehicle interior. The Blue.ion electrified interior filter provides passengers with reliable protection against pollutants, allergens and odors. This new development utilizes a combination of ionization and polarization – which results in a high degree of separation at minimum installation size. 





Scania's Future Top Teams Are in the Making

Scania Top Teams, five out of our twelve branches in Malaysia made it to the National Final today. These Scania technicians are dedicated specialists who contribute to Scania's premium brand image and well trusted and respected name in the heavy-duty commercial transportation industry. The winning team, B100 from Scania Malaysia Ipoh workshop will be flown off to Thailand to join their colleagues from Singapore and Philippines for the Asia-Pacific Regional Final and the winner will represent the region for the Grand Final in Europe.

Dr Ahmad Zainal Abd Aziz, Head of Automotive Department and Suhardi Md Yunus, Head of Commercial Vehicle Department, of Institut Kemahiran Tinggi Belia Negara Dusun Tua (IKTBNBT) joined the event alongside 15 trainees. They were invited to observe the competition and to attend a career talk.

Top Team is a global competition for professional service teams within the Scania service network. Everyone who works in the service area is welcomed to compete in teams of three to five people. The most common contestants are service technicians, parts specialists and service advisors. Scania Top Team begins at the teams' workshops with theoretical challenges in two parts. As teams advance to the national final stage, the theoretical exercises are supplemented by practical ones. The competition requires a high level of technical knowledge, team spirit and discipline. The format of the competition follows daily work patterns with the most essential objective being to satisfy the needs of our customers.

The Scania Top Team competition is a way of recognising the importance of service personnel to be the best, and top of their profession. It is brains, technological skills and teamwork that characterise the service personnel who Scania recruit and develop over the years. The industry's need for service personnel such as service technicians, parts experts and service advisors, is growing. Truck, bus and engine uptime determine customer profitability. And uptime, to a large extent, lies in the hands of skilled and motivated service personnel. Essentially these traits were evident in all the qualifying teams, however the winning team demonstrated a superior level to secure the Top Team title.

The purpose of the Top Team competition is to increase knowledge about Scania's products and services, as well as to strengthen collaboration between service, parts and service advisor personnel. Scania Top Team also gives a good overview of the national competence levels regarding Scania's service offer and the actions needed in order to keep expertise on top.

Apart from strengthening the Scania image to employees and customers, Top Team also creates an understanding and commitment to Driving the Shift towards a sustainable transport system. Only 12 teams, out of 1 500 teams worldwide from 70 countries, will go through to the Grand final round in Europe, competing for a handsome first prize of 50 000 Euro to the winner, 30 000 Euro to the first runner-up and 20 000 Euro to the second runner-up.

"By focusing on developing our front-line expertise, the Scania's Service Technicians, we are ensuring the quality of the support and services we provide to our customers. Securing vehicles uptime is what matters to our customers and what helps them grow their business and profitability. As our industry undergoes the greatest technological shift of a lifetime, Scania's front-line experts gathered in the ultimate challenge will be taking a leading position in driving the shift. We hope to attract more talents through these exemplar performance from these teams today. Congratulation to B100 from the Scania Malaysia Ipoh workshop for working as a team full of individual brilliance to win the 2022/2023 National Top Team competition." expressed Heba El Tarifi, Managing Director, Scania Southeast Asia.

This generation of technicians and the future ones are expected to drive real change in line with the transport industry undergoing a technological shift. Top team members will have a unique opportunity to affect and implement the technology needed to create a sustainable transport system.





SC AUTO

Global Standards. Local Support

Singapore . Hong Kong . Myanmar

Partnering up with SC Auto, Volvo Buses Accelerate their Electromobility Journey in Singapore and Beyond



With the increasing popularity of electric buses, we take a deep dive into the partnership between Volvo and SC Auto Industries.

Volvo's approach is aligned with their now motto of "Partnership is the new Leadership" and this is reflected in the collaboration with SC Auto Industries as the body build partner for the BZL electric bus. "We have, obviously, options when it comes to the appointment of a local partner. We look at quality, delivery time, capacity and level of features and technical know-how," said Mr. Mats Nilsson, Director of Volvo Buses Asia Pacific Central Region. Sustainability is another pillar of the business and Volvo emphasises on this to be a part of a partners' philosophy as well. SC Auto and Volvo have also been working together in the past in other markets than Singapore, like Myanmar and Thailand. A further plus, in Nilsson's view, is the fact that SC Auto holds the same core values as Volvo, namely safety, quality and environmental care. SC Auto puts safety high on their agenda from production to delivery and service support. It is also their ambition



There is no denying that the excitement is growing, and the team is anticipating the roll-out of electric buses as a mainstream product into the market. Volvo's BZL chassis has already gained a reputation overseas shortly after the official global launch and one of the next highly contested markets to see the latest technology is Singapore. The business strategy of Volvo Buses requires capable local partners to create buses that meet the local demands. Having worked in the background for over a year to develop a design based on Volvo's BZL, SC Auto Industries (SC Auto) is the chosen body partner that will manufacture the bus body ready to energise the island nation's public transport.

"It is the alignment of the two organisations. Transparency and mutual trust are essential." – Mats Nilsson



to continuously improve their systems, processes and equipment in order to provide the best-in-class quality, light weight, long lasting bus bodies. SC Auto is truly global with production facilities and engineering expertise in the region and in Europe.

Gaining a local industrial footprint is the driving force to opt for a body assembly in the country. Delivery times, customized features, adaptation to the local demands, and the ability to manage supply chain and service response locally have suggested to local assembly being a good option.

Having delivered diesel single deck city buses to Singapore for public transport before, SC Auto has gained the experience and reputation for delivering vehicles that are built to last. In Singapore, buses are allowed to operate for 17 years and with permits applied even up to 20 years before they have to be replaced. Singapore in its Green Plan 2030 has included a strong push to electrify the vehicle population, which would help the country achieve its vision of 100 percent cleaner energy vehicles by 2040. This would see all public bus transport to be electrified by 2040. To achieve this goal, all new city bus orders is likely to be for electrified vehicles. This, in Nilsson's words, could be a marriage made in heaven as Volvo expertise is mated to local expertise to create lasting products.

With Singapore's commitment to the new propulsion technology, overhauling of the infrastructure is well underway. Some 60,000 electric vehicle (EV) charging points at public carparks and private premises have been planned for across the country and the gradual switch from internal combustion engines to electrified vehicles has been kicked off and is well underway. "One of the aspects the government can really control are public city buses, and the LTA is on top of this." With close to 6 000 buses in the public transport system, this is no easy task. However, Nilsson said that his observation is that the government is typically involving a lot of stakeholders in order to get things right the first time around. With a clearly laid-out plan for the percentage of electric vehicles to be introduced into the total fleet, all participants in the transport system, including providers of electricity, have the opportunity to prepare accordingly and ramp up their output according to a well communicated and developed plan.

With the increase in demand for electricity derived from the shift towards electric vehicles, one may question the sustainability of the energy production. Currently, energy may not be produced as "green" as possible as in the future. However, Nilsson pointed out that it would not be possible to change the entire system at once. "What we have now are cleaner vehicles. In the next step, we can look at finding better solutions for the energy production in a well-to-wheel assessment."

Speaking about SC Auto Industries' ambitions in the area of electric buses was Rachel Lee, Managing Director of SC Auto Industries. Like elsewhere, the Singaporean bus market has been highly affected by the pandemic. SC Auto has used the time wisely to focus on research and development required to be able to manufacture bus bodies based on the Volvo electric chassis. "With almost 30 years of experience in this industry, we are confident that we can deliver a top-notch product. What we must acknowledge is that coaches and city buses are different in their requirements. Thus, we have developed a brand-new concept for the Volvo BZL chassis, which took us about 12 months."

“What we really like about working with Volvo is that they have a strong emphasis on safety, something that is also close to our heart,” she added. Prior to commencement of the construction of this new body and bus, the entire SC Auto team visited Volvo in Sweden to learn all there is about the safety, build and construction of the Volvo BZL chassis. Quality and performance are what SC Auto prides itself of and the passion for safety is a common denominator and thus, Lee feels that the two companies are perfectly aligned for this partnership to deliver a state of art product in Singapore and beyond.



SC Auto, together with the Volvo team, has developed a new bus design from scratch with 3-D modelling of the structure, conceptualising, engineering calculations and testing. Again, the standout safety features found in the Volvo BZL were highlighted by Lee. With high tech production facilities and tools like 3-D laser cutting, automatic wire harness manufacturing and automatic final quality testing, SC Auto is well-equipped to produce this new vehicle type and in fact has dedicated one production line to the building of bus bodies on the Volvo BZL. Additionally, SC Auto has in-house capabilities for Fibre-reinforced

“All of our staff have been properly trained by Volvo before we started working on it” - Rachel Lee

plastic moulding, which means that the company is highly independent and self-sufficient and does not rely on imports of moulded parts from third parties. To build the body for an electric bus chassis, a completely new technology, there have been challenges along the way. “Naturally, we would have to adapt to this new technology and design the bus bodybuild,” Lee said. In addition, the local requirement for a third door has been somewhat unique in the

SC Auto has a rich heritage but will not rest on its achievements. The company has forged ahead with continual innovation. SC Auto’s passion has secured the brand a leading position for itself in the bus design and manufacturing industry.

The portfolio includes designing, manufacturing and selling high quality buses – built to deliver the highest standards of excellence by paying attention to the smallest detail to enhance safety, reliability, durability and comfort. SC Auto takes joy and pride in launching Singapore’s first indigenously built range of bus bodies and buses – Volvo BZL -SC Neustar a ground-breaking innovation, designed for Singapore and beyond.

construction of this vehicle. In view of the rising labour costs, from an aftersales service viewpoint, SC Auto is also trying to incorporate a design that allows for easy replacement of components in the field. According to Lee, this is something unique and this approach should make it easy for the customer to keep the vehicles in top working condition.

A trend SC Auto has identified post-pandemic is a shift of operators to move towards premium products. Again, Lee highlighted that Volvo is the right partner to satisfy this demand from the global market. “Our bodies are also premium and this formula of ours is likely to be a success in the current market condition.” With tourism showing an upward trend, bus services are set to be in higher demand. SC Auto believes that this could potentially drive-up demand to pre-covid levels. As a spin-off from the pandemic, SC Auto has seen more customers asking for air purifiers and ozone filters to be added to the buses as well as protection of the bus captains through the installation of screens.

Echoing Volvo’s motto, The partnership of Volvo and SC Auto is built up with the tagline “Stronger Together” and this is what we are seeing here. Two strong brands collaborating. – Rachel Lee

Both, Lee and Nilsson agreed that there are still a lot of opportunities to collaborate. For instance, some markets favour double-deck buses while added safety features can still be created to further enhance the safety of passengers and drivers. With the current speed of developments, new charging solutions and battery technology will dictate the configuration of the new generation of buses. “We are confident that the challenges can be confronted and overcome with the help of local, capable partners, as SC Auto has demonstrated with the Volvo BZL, Nilsson concluded. ■



TEMSA Unveils Europe's First Electric Coach

TEMSA introduced its new electric vehicle model, at the IAA Transportation in Hannover. Unveiling Europe's first electric coach with LD SB E, TEMSA aims to increase the share of electric vehicles in its total production to 50 percent in 3 years.

Operating under the partnership with Sabancı Holding and PPF Group, TEMSA, one of the world's leading electric bus manufacturers, has taken its place among the rare manufacturers in the world that has made five different electric bus models ready for mass production. At IAA Transportation, TEMSA launched its new electric vehicle model LD SB E. LD SB E, one of the most popular vehicles of the exhibition, which was visited by more than 1 200 companies and thousands of exhibitors from 40 different countries, will make a significant contribution to TEMSA's electric vehicle range with its high engineering quality and driving comfort.

SUSTAINABILITY, THE POLE STAR

Speaking at the press conference held within the scope of the launch event, TEMSA CEO Tolga Kaan Doğancıoğlu underlined that sustainability and digitalization are the two main decisive trends in the automotive industry and added, "As TEMSA, we are one of the companies that recognized the sustainability and digitalization-oriented transformation in our sector, at the earliest point. While we have been designing our business processes accordingly for many years, we prioritize the two issues by putting our customers at the center. We support our sustainable growth and also fulfill our sustainability promises and targets by focusing on new opportunity points, particularly electrification. Our electric vehicle range, which we achieved with our LD SB E vehicle, is the most important indicator of the determination of TEMSA on this journey. Today, we are one of the rare companies in the world that has launched

five different electric vehicles ready for mass production in different segments. And today, we are also proud to unveil Europe's first electric coach as an European company, with LD SB E. If you want to go north, the easiest way of it is to follow the pole star. Our north is a more inhabitable, cleaner, and safer world. And our pole star is sustainability. We continue on our way determinedly on this journey. Accordingly, we aim to make one of every two vehicles out of our production facility electric in 2025."

Hakan Koralp, TEMSA Chief Sales and Marketing Officer, provided the participants with information about the world of TEMSA and said: "TEMSA is a global player that has brought many bus and midibus models to the sector since 1968 and managed to put them on the roads in nearly 70 countries of the world. When it comes to the number of vehicles TEMSA has produced so far in its facility, which is established on an area of 510 thousand square meters,

it is over 130 thousand. As of the last quarter of 2020, TEMSA, which operates under the partnership with the Sabancı Holding and the PPF Group is now much stronger and more determined in global markets, together with its sister company Skoda Transportation, particularly with its electrification solutions. Today, we will strengthen that position of TEMSA, which aims to be a leading and exemplary company all around the world in zero-emission vehicles, with new vehicles and new technologies in the forthcoming period."

Allocation of Four Percent of Turnover for R&D

Caner Sevginer, TEMSA Vice President, R&D and Technology, expressed that TEMSA allocates four percent of its turnover to R&D every year and said, "In the world today, the first step in creating an R&D culture is to think about the next move; is to think about tomorrow without being satisfied with today. To analyze what is needed to be a quarterback in the technologies of the future from today and to take a strategic direction accordingly. This is exactly what we have been doing at TEMSA for years. Our work on electric vehicles, energy storage technologies and autonomous vehicles for many years is an indication of this perspective. We develop all these technologies in our R&D center located in our production facility. Today, we have placed electrification at the basis of our work. While focusing on the electrification revolution in the world and developing our solutions for public transportation and transportation, we are also looking for answers to the question of how we can make storage technologies more usable that will open a new page in this revolution. LD SB E is also a result of such studies we have conducted in our R&D center".

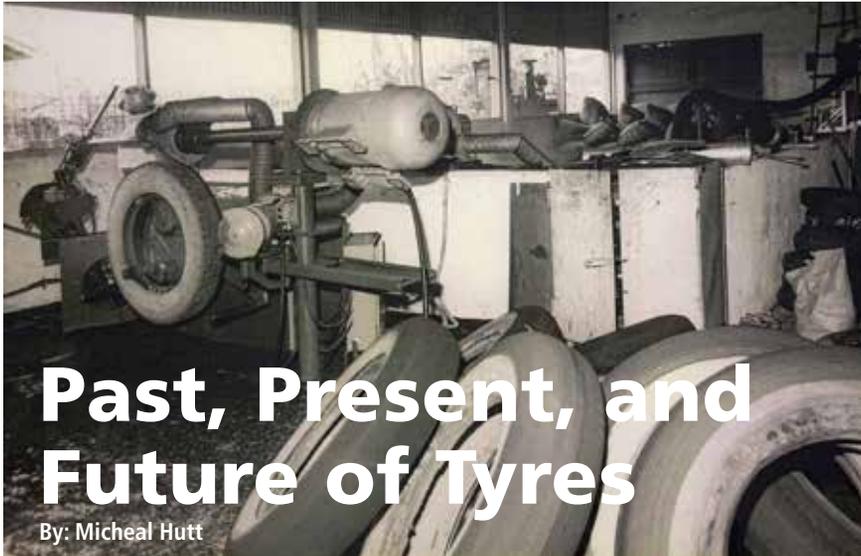
It can reach a Range of 350 Kilometers

- LD SB E launched at Hannover IAA Transportation can be offered to consumers in two different options as 12 or 13 meters.
- The vehicle, which has a passenger capacity of 63 people, shows the expected performance in all road conditions thanks to its electric motor with a power of 250 kW.
- Offers 3 different battery capacity options, 210, 280 and 350 kWh, and the range of LDSB E can reach up to 350 kilometers under appropriate conditions.
- Available up to 2 hours with 150 kWh DC Charger
- With the Full Digital Instrument Panel all driving-related information can be easily followed.
- The positioning of most of the vehicle's electrical components in the same area also provides substantial convenience in the vehicle's servicing and maintenance.

Two New Electric Buses First in US and then Europe

TEMSA, which has been operating under the partnership of the Sabancı Holding and the PPF Group (Skoda Transportation) for the last two years, has launched five different electric vehicle models ready for mass production as of today. In recent months, TEMSA launched the TS 45E model, which it had tailor-made specifically for the US market. TS 45E, which was subject to test drives in Silicon Valley, where the world's most important technology companies are located, for about two years, was presented to the market after successfully completing all those tests. Accordingly, TEMSA launched two new electric vehicles in the last six months. ■





Past, Present, and Future of Tyres

By: Micheal Hutt

The tyre is a humble thing. Since almost the first tyre ever made, it's had one function, which has never changed. Keep a vehicle attached to the road and move forward. Its purpose is clearly defined, noble and essential. But that's not to say that times haven't changed.

The elements of what we know about tyres today were invented by some of the biggest names in the industry today. However, most had little to do with the companies named after them. Before the idea of a rubber, pneumatic tyre, people covered wheels in all sorts of things. Tire comes from the French 'attire', as in 'to dress a wheel'. Before rubber, people would use leather or various types of metal. A concept that seems absurd today, but when horses pulling things was the main form of transport, the wheel itself didn't need traction; it just needed to roll. The horse was the traction.

A combination of people gave us the concept of the tyre we still know today. Charles Macintosh (the guy who invented the raincoat) employed Thomas Hancock, who received a few 'samples' from a certain Mr Goodyear, worked out that he had managed to vulcanise rubber using sulphur and immediately patented the product. Charles Goodyear had nothing to do with the company that bears his name but is credited with being the first to vulcanise rubber and having his idea 'stolen' by Hancock. He died in debt 38 years before Goodyear the company was founded. Then came John Boyd Dunlop, another pioneer who retired before any company took his name. He is credited with being the first person to create a rubber tyre. Like Goodyear, he also had patent issues. The guy who invented the fountain pen, Robert William Thomson, had already patented the idea. Dunlop made little money from his invention or the later Dunlop company.

So the beginnings of the tyre were characterised by amazing people who were exceptionally unlucky. But after inception, the pace of change stepped up a gear. Initially, both Dunlop and the fledgling Michelin brothers made tyres for bicycles. The motor vehicle had been invented but was obscure then, so tyres were primarily designed for push bikes. The user's effort became a concern because the source of propulsion was on the vehicle itself (rather than through a horse). And metal tyres were exceptionally uncomfortable. The Michelin brothers are credited with developing the first removable tyre. Before that, tyres were glued to wheels. Improvement and progress seemed to be baked into the concept of the product. The tyre, something relatively simple in concept, was anything but simple when it came to developing new uses, new technology and improving performance over time. Something that hasn't stopped to this day. Before we look at the future, here is a summary of some of the changes we've seen since Dunlop rolled that first tyre across his backyard in 1889.

The first improvements came with use cases, as the number of moving vehicles exploded in the early 20th Century. We quickly went from bikes to carts to cars. We quickly moved from tube to tubeless (although adoption took longer to stick!), and mountable rims came along so anyone could fix a tyre. Additionally, grooves were introduced for improved traction, which Continental pioneered and used for Mercedes racing with devastating effects. The next raft of changes came from hardcore research and development related to the scientific elements of the product. Until 1910, tyres were predominantly white (rubber itself is white-ish, and



Micheal Hutt, General Manager - Marketing & Business Development

manu-facturers in the early days would add zinc oxide, making them pure white). BF Goodrich began adding carbon black to the compound, and the black ring was born. As a result of this one addition, tyres began to last longer and be much more robust. Some estimate carbon black alone increased tensile strength by over 1,000%. It also helps keep tyres from degrad-ing and protects against the ultraviolet effects of the sun while dispersing the heat build-up in the tyre itself due to friction (that's a whole different article!)

Then we jump to World War 2. The US at the time was using about half the supply of the world's rubber production, a supply that was about to be cut off. Luckily, BF Goodrich had already been working on synthetic rubber. Tyres these days use roughly 70% synthetic rubber, so this innovation has genuinely had a monumental impact on the whole industry. The US, at this point, was leading the way in tyre development and production, but the French had a trick up their sleeve... The radial tyre



was patented originally in 1914, but no product was ever made. It didn't become prominent until Michelin developed their version in 1946. They started using it for Citroën (which was owned by Michelin at the time). By 1952 we had radial truck tyres, too. In Europe, it took root due to superior handling and fuel-saving qualities. The US wasn't so quick on the uptake and, until the 1970s, was still heavily invested in bias tyres. In 1974, Goodyear re-tooled its factories to make radial tyres. This is often the decision credited with saving the company and making it the leader it is today. In the passenger car tyre market in 2022, radial tyres make up nearly 100% market share. Bias tyres are still heavily used for commercial vehicles as they can often make for a better driving experience on trailers. But as we've seen with tyre development, where bicycles lead, cars follow and then trucks!

This brings us up to date in terms of significant developments. Between 1970 and now, much work has gone into compound formulas, which manufacturers guard with their lives. Better tread patterns are developed yearly, but the vast initial leaps forward have slowed somewhat. But that seems to be changing in recent years. We now find ourselves asking three main questions regarding the future of tyres. One: is there a better material than rubber to make them? After all, rubber is a finite and increasingly expensive commodity and very difficult to dispose of responsibly and ethically. Two: is there a way we can make tyres without the need for air? A tyre needs air, meaning it needs constant care. It always has been and always will be the weakest aspect of a tyre. Three: what can we do with existing tyre technology to make it more sustainable that doesn't involve inventing new products in the meantime?

We'll take the last point first. Tyres have become increasingly wasteful. Buying a quality tyre, looking after it, retreading it and eking out every bit of value is long gone. Tyres today are often a one-use product. The commercial vehicle sector has become frivolous in its use of poor-quality products that don't last and are disagreed after a short period. The effort to develop excellent compounds and constructions is almost going backwards as fleets shun good quality and longevity in favour of low prices and hyper-consumption. Retreading is on a decline while other industries are all looking for a green solution should be a massive concern for the tyre industry, especially for commercial tyre users. But it isn't. The following logical conclusion to 'what can be done now' is that we recycle tyres. But this isn't a consistent practice across the globe. Again, the quality issue means cheap tyres often produce poor-quality reusable materials. Implementing technology to maintain and manage a fleet's tyres is also a source of disappointment. Higher upfront costs deter operators from making long-term savings, resorting to the cheapest option at the point of purchase and ignoring long-term value. There is progress in the areas of reuse and technology, but it's slow.

Luckily, the great minds across the tyre industry are busy exploring alternatives to address points two and three, looking to create a more sustainable future for the industry. This could lead to the next massive leaps to match the early days of tyre development.

The NASA Superelastic Tire was developed alongside Goodyear for Moon and Mars missions. It is "composed of shape memory alloys that can withstand strain and excessive deformation without permanent damage". If workable, it could prove an exciting proposition on terra firma. Goodyear is also working on a more traditional rubber-banded but airless tyre with Lockheed Martin and General Motors for other lunar missions. If either could translate to the road, it would be a great move forward in tyre tech. Taking things a step further into the world of the unknown is another Goodyear



product, The Oxygene tyre. This is "filled with living moss that absorbs moisture from the road, before converting it into oxygen through photosynthesis." It sounds too good to be true! Expect lower rolling temperatures and some real green credentials if they can pull this off.

Michelin's VISION tyres are a bit closer to reality and potential use. VISION is an intelligent tyre and airless, manufactured from bio-sourced and recycled materials. Its first iteration will launch in 2024 in partnership with General Motors. It's a passenger car tyre, but as we've seen, where PCR leads, TBR follows. For a more 'out there' future tyre, their next generation VISION tyre will be a 3D printed, completely bio-sourced tyre made from biodegradable materials, including natural rubber, bamboo, paper, tin cans, wood, electronic and plastic waste, hay, tire chips, used metals, cloth, cardboard, molasses, and orange zest. That's a direct quote, not something I just made up. An added benefit is that this tyre can be 'recharged' through additional 3D printing.

Continental is taking the bio-sourced mantra to the next level, looking at a tyre made of a rubber-like substance harvested from Russian Dandelions. So, advances seem to be related to the right three key areas, air, material, and external tech (3D printing, IoT etc.) The one question left is, where are the floating cars we were all promised in Back to the future? That would solve all our issues! 



Electrifying Europe and now Crowned Best Bus: MAN Lion's City E is "Bus of the Year"

A bus travels from milestone to milestone: the MAN electric bus, which went into series production in 2020 and for which a total of over 1 000 orders have been received to date. It inspires entrepreneurs, bus drivers, and passengers, but the international "Bus and Coach of the Year" jury.

The MAN Lion's City 12 E made an impressive appearance at the "Bus Euro Test" in Limerick, Ireland (Asian Buses reported in our issue 30). After all, the all-electric city bus had completed the roughly 2 500-kilometer journey from Germany to Ireland on its own wheels. "It was a special experience for us as well as for the jury when we pulled up in Limerick with our MAN Lion's City 12 E after ten days of driving," said Rudi Kuchta, Head of Business Unit Bus at MAN Truck & Bus. But the all-electric city bus also impressed the jury during the "Bus Euro Test". In May, the expert jury had welcomed five bus manufacturers from all over Europe to Ireland for the international bus comparison test.

After an intensive week of testing with numerous driver experiences and long technical discussions, the verdict was clearly in favor of the MAN Lion's City 12 E as the new "Bus of the Year 2023". The 23 European trade journalists were particularly impressed by the overall concept of the city bus, which scores points for its range, reliability, comfort and, above all, sustainability. "The new MAN Lion's City 12 E has a ground-breaking design, high grade of comfort and a very quiet area inside. The drivers cabin is one of the best on the market and with high grade of safety. MAN has focused on electric mobility from the first drawing and to a real product. In that way everything fits together and is not a 'diesel bus converted to electric'.

The International Bus & Coach of the Year Jury had a positive feeling from the first test drive and up to the decision that MAN Lion's City 12 E is the Bus of the Year 2023", said jury president Tom Terjesen. The award was presented by Terjesen to Rudi Kuchta as part of the "Stars of the Year" event hosted by the German Association of the Automotive Industry (VDA) to mark the opening of IAA Transportation 2022 in Hanover.

The "Bus of the Year" award has been presented for three decades now. It is considered the most important international prize in the bus industry. "We are all the more proud that our MAN Lion's City E was so well received by the expert jury and that we are now receiving this prestigious award," says Kuchta, adding, "The award impressively demonstrates the outstanding work done by the entire MAN team. At the same time, it is an outstanding further chapter in the success story of our MAN Lion's City E." This began in 2020, when the electric city bus went into series production. It is now on the road

day after day in many European countries, generating enthusiasm among bus operators and drivers as well as experts and passengers.

One of the reasons for this is that the experts at MAN Truck & Bus are continuously working on the further development and improvement of the allelectric Lion's City E. Their aim is to use sophisticated technology to improve the bus. Their goal: to provide public transport operators with the best possible support in their daily work with sophisticated technology and individual solutions. To enable them to perfectly adapt their eBus to future use, MAN offers, among other things, two battery usage strategies for the Lion's City E: In addition to the "Reliable Range" strategy (up to 270 km range), there is also the "Maximum Range" strategy for ranges up to 350 km. In addition, the new CO2 air conditioning system and improved heating circuit ensure even greater efficiency. Also new are the modular batteries. This means that electric bus customers will be able to specify the number of battery packs from this fall. This means that the all-electric city bus can be even better adapted to individual customer needs and requirements in terms of range and passenger capacity. 



The Adaptation of a Global Product Range

When I interview OEMs about their latest products, buses and the auxiliary offerings, the message is the same: buses and all the services around them are developed with a global market in mind and are aimed at satisfying the needs of a number of markets. Thus, they buses are to be global offerings that are adapted slightly to meet the local needs. But are they really or is the adaptation going far beyond the bus being a uniform offering no matter where the customer is located? I would argue that any bus is highly adapted.

During my recent visit to Germany, I had the opportunity to experience a long distance tour on a bus. And there were a number of differences I noticed, having just completed the #SuperNiceTour2022 in Malaysia. The first and most obvious difference for the asianised German is that the USB ports are hidden and rather difficult to reach on a German bus. Sitting down, the discerning Asian traveller would immediately look for a charging station in the backrest of the seat in front of her or him while in German the two ports are wedged between the seats at the footrest level, requiring some Indiana Jones-ing.

The most fundamental difference might be the toilet on board of the German bus. The addition of the toilet means that the stops are shorter, more coffee could be consumed and that the bus is covering more distance. One could argue that an on-board toilet costs money, however, the quicker turn-around of the bus will surely compensate for this.

Buses are expensive assets, no matter where they are being sold. This is an issue that Thomas Hemmerich, who heads MAN Truck & Bus Korea Ltd is also pondering a lot. In a chat with him he told me that here is a way to drastically reduce the cost of all commercial vehicles sold by any OEM. It may sound simple, but the implementation is difficult: We need to do away with the steering wheel being on different sides of the vehicle. Standardising the steering wheel and the engine technology from EURO II to EURO VI will represent a huge potential for savings. Ultimately, it is the range of the variations that increases cost, which has to be borne by the end-user.

What I also noticed was that the buses in Germany are typically three-axle buses. The livery, even of buses owned by the same company could be different, for instance each bus would be decorated in the colour of a football club. Air-conditioning is another aspect I found interesting to investigate. In the German bus, the air-vents could not be closed. This seemed to be rather strange as the air flow on any bus in Asia is something that passengers spend significant time on to adjust for their comfort. The driver seems to be in climate control in Europe. Internet was available in the German bus, but with limited time. In this regard, the Asian buses have a headstart as they are typically equipped with free WiFi available all the time. I noticed that the German buses do not have TV screens as Europeans tend to prefer to read a book instead.

With the changes in the amenities on board also changes the offering of the rest stops we have pulled into. Whereas in Malaysia (Yong Peng comes to mind), the stops are scheduled at facilities that rival small cities, in Germany it is a regular petrol station that has a shop where one can buy a coffee and sandwich, pump petrol and quickly depart again. The stops in Germany are functional. Yes, there is even a coin operated washing machine and tumble dryer in the one we stopped at. This allows long distance drivers that spend weeks on the road to get their uniforms back in shape.

Speaking to the driver, I found out that the bus in Germany is packed with ADAS (Advanced Driver Assistance Systems). This they really appreciated as the buses in Germany would go a little faster (legally!) in Germany. With the help of these ADAS, the driver can fully concentrate on the task of driving. I would think that the higher speeds also require more stabilisers to keep the vehicle steady.

I could go deeper, for instance talking about fog lights (a favourite topic of mine), but suffice to say that the quick comparison of the two vehicles has shown that buses are not, as one may think, a globally uniform product. Local demands require a lot of adaptations, which one may only notice when actually driving the bus. ■

The World's Largest Service Market Competition has been Settled

More than 16,000 technicians in some 4500 teams from Volvo Trucks and Volvo Buses' global dealer network, have participated in this year's VISTA championship – a global event that was first run already in 1957.

The main objectives with the VISTA competition are to encourage competence development and to build team spirit and pride. Highly skilled and motivated technicians enable Volvo Trucks workshops to carry out fault diagnosis and fix trucks' problems 'right first time', in a timely manner and to high quality standards. These skills are key in helping customers achieve maximum uptime for their trucks. In the end, this leads to improved customer service.

In the finals held in Gothenburg, 43 teams of technicians and service market staff competed for two days to complete six stations, on topics including CAN Link fault-tracing, I-Shift and bodywork. 🚛

Top 3 teams in VISTA World Championship 2022:

Team:	Country:
Kiired Insenerid	Estonia
Titan	Denmark
SWISSTA	Switzerland



Shell Rimula Gala Dinner Returns to Celebrate Customers



Shell Malaysia Trading Sdn Bhd celebrated the trust and loyalty of its Shell Rimula customers at its first physical gathering post pandemic at Sibu, Sarawak, recently.

More than 370 distributors and customers were feted at the 2022 Shell Rimula Gala Dinner for their passion and unwavering support, which has made Shell Rimula the No 1 heavy-duty diesel engine oil (HDDEO) brand in Malaysia.

Echoing the event's "Kembali Berjuang" rallying cry to unite and come back stronger together, Shell Lubricants General Manager – Malaysia & Singapore, Nyon Kam Yew expressed confidence that Shell Rimula would emerge stronger

than ever despite the tough business environment.

As the leading global supplier of lubricants in the world for the past 15 consecutive years, Shell has demonstrated a clear understanding of the needs of its customers, while emphasising on efficient cost management and environmental sustainability, which are key critical success factors.

"The current Shell Rimula portfolio of HDDEOs in Malaysia such as the fully synthetic R6 LM and synthetic technology R5 LE are designed to offer longer oil drain intervals, and better fuel economy. The launch of the new Shell Rimula R4 Plus synthetic technology engine oil in August 2021 was well received by the market and helped double sales of Shell's premium lubricants," Nyon said.

At the 2022 Shell Rimula Gala Dinner, satisfied customers paid tribute to the brand for offering a wide range of quality lubricants with strong after sales and technical support. 🚛

Innovative Contribution to the Mobility Transition: "IAV Elcty"



The IAV Elcty electric drive system can be customized for different commercial vehicle applications," says Wolfgang Wukisiewitsch, Executive Vice President Solutions & Products at IAV. "It is suitable for both, retrofitting vehicles already on the road and for manufacturers of new vehicles who want to move into e-mobility in a short time and without their own development effort."

Electric bus fleets as well as commercial vehicles with climate-friendly drives are an important part of the solution for reducing greenhouse gas emissions in transport. The Federal Government supports the purchase of buses and commercial vehicles with alternative drives through two funding directives from 2021 and thus contributes to the ramp-up of the corresponding vehicles in the market.

"IAV Elcty" is an electrical-parts kit in the form of an easy-to-install complete system, consisting in particular of battery, control system and drive. Stadtrundfahrt Dresden GmbH, a private bus company, is the first customer to receive funding from the Federal Government and will electrify 25 vehicles of its diesel double-decker fleet in Dresden and Leipzig with "IAV Elcty".

Sinosynergy's European Debut

Company teams Up with Global Brands to Present A Hydrogen Fuel Cell Journey Coach and Superior Fuel Cell Products.

Sinosynergy, a world-leading fuel cell products and solutions provider, launched a Hydrogen Fuel Cell Journey Coach in partnerships with global partners at IAA TRANSPORTATION 2022. With over 120 years' history, IAA Transportation has become the world's largest and most important exhibition for logistics, commercial vehicles, buses and the transport sector.

In light of Sinosynergy's European debut, the Company presented a "Hydrogen Fuel Cell Journey Coach" ('The Coach'), which is customized for the European market in compliance with EU-standards. The coach

was jointly developed with internationally renowned partners Allentbus, Feichi, Marcopolo and Danfoss. Sinosynergy also demonstrated its world-leading products and comprehensive solutions ranging from graphite bipolar plates, fuel cell stacks and systems. For example, Synstack GIII is the latest generation of fuel cell stacks developed by Sinosynergy through independent R&D that meets international level. SynRoad H240 - the world's leading hydrogen power system, is the first of its kind to adopt the modular design concept in the industry and features peak power of 270kW, its design standard covers scenarios such as road transport, rail transport, ships, movable power stations and fixed power generation.

Switch Mobility to Deliver 5 000 Electric Buses to India



Switch Mobility, the UK subsidiary of Indian commercial vehicle manufacturer Ashok Leyland, and Indian transport company Chalo have entered into a strategic cooperation to deploy 5 000 electric buses across India.

The Memorandum of Understanding, initially for three years, will see Switch e-buses deployed in districts and cities across India where Chalo operates. Under the agreement, Switch will supply variants of the EiV12 model to Chalo. The EiV12 is an electric bus designed specifically for the Indian market. There

are two variants of the vehicle – the standard with a 90-centimetre high floor and the EiV12 with “ultra-low entry” – where the vehicle floor is 40 centimetres above the road surface. The drive is the same in both cases: the e-motor produces 235 kW at peak and 140 kW continuously. Apart from the fact that it is an NMC battery, Switch does not give any further details about the battery and its size. With one charge, 300 kilometres are said to be possible during the day – if recharged twice, it is 500 kilometres.

“Buses make up for 48 percent of India’s daily travel, and yet we have just 3 buses for 10,000 people” says Mohit Dubey, co-founder and CEO of Chalo. “Growing bus fleets and providing high-quality buses are key to achieving Chalo’s purpose of making travel better for everyone.” Recently, Switch Mobility had also presented the new generation of its electric bus ‘e1’, specifically designed for markets in continental Europe, and announced the construction of a factory in Spain. 🚩

Karsan, Launches e-ATA HYDROGEN in Germany



Karsan, one of the leading companies in e-mobility solutions, started the hydrogen era at the IAA Transportation Fair in Hannover, Germany. Adding the hydrogen-fueled e-ATA HYDROGEN to its range of electric and autonomous products, Karsan takes electric mobility to another dimension. Embodying the vision of “One Step Ahead in the Future of Mobility”, Karsan is pioneering another step towards sustainable transportation. At the global launch event of e-ATA HYDROGEN in Germany, Karsan CEO Okan Baş said, “We have once again embraced our pioneering role. Stepping into hydrogen fuel technology, we are ushering in a new era in public transportation. In the last 5 years, following the 6-meter e-JEST, 8-meter electric and autonomous e-ATAK and 10-12-18 meter e-ATA, we have now launched our hydrogen-powered 12-meter e-ATA vehicle. In this sense, we took another pioneering step in sustainable transportation expanded our product range. With our vision of “One Step Ahead in the Future of Mobility”, we developed and introduced our future electric hydrogen fuel cell vehicle to the world.”

In addition to the IAA Transportation Fair in Hanover, Karsan participated in the Inno Trans Fair in Berlin on September 20-23 for a complete show of strength. Showcasing the 12-meter e-ATA at the InnoTrans Fair in Berlin, Karsan also introduced the newly launched e-ATA HYDROGEN model via a live link from the IAA Transportation Fair.

Karsan has added the hydrogen-fueled e-ATA HYDROGEN to its very successful range of electric and autonomous products. Ushering in the hydrogen era, Karsan presented its brand new model to the world on September 19 at the IAA Transportation Fair. Taking its place among the milestones of more than a half-century of history, the new model will transform the brand’s pioneering role in the mobility world of the future, building upon Karsan’s history of breakthroughs in electric public transportation. In addition, e-ATA HYDROGEN will be one of the steps that complete Karsan’s vision of “A Step Ahead in the Future of Mobility”. 🚩

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