



Three world premieres for **Isuzu**

They are a bit hidden, but in hall 6 in booth 638, just after the VDL booth and opposite Integralia, there is Anadolu Isuzu present with new and very eco-friendly vehicles: three electric buses, Novociti Volt medium range, Novociti Volt long range and Citivolt 12, and also the new 13 metre Interliner 13 CNG.

Anadolu Isuzu is already a strong and well known brand in France. The Turkish commercial vehicles manufacturer is focussing especially on the European market. It is executing a five year businessmodel in order to be present in all European countries.

The dealership in France has brought under its own wings and for the Benelux countries, Belgium, the Netherlands and Luxembourg, Anadolu Isuzu has set up a new dealer organization based in Belgium and led by Jean-Louis Coppieters. According to Export Director Hakan Kefoğlu the European market becomes more and more important for Anadolu Isuzu. A reason why the company is attending Busworld since many years.

"Especially for the European market we have developed our new bus, the Interliner 13 CNG. A bus that can be fitted to many needs and wishes from the operators. Anadolu Isuzu is what I like to call a company specialized in tailor made buses like for schooltransportation, inter-city traffic and so one."

He explains that Anadolu Isuzu is growing every year. This year they expect to deliver 1250 buses of which 75% is going to Europe. Not only in France it is a big brand but with several deliveries to three cities in Romania and deliveries in Bulgaria and the Baltic States, the Turkish company is becoming stronger in Eastern Europe as well. Beginning of 2020



it will open in Slovakia a new warehouse managed by the German DB Schenker. Also Anadolu Isuzu has dealerships were spareparts are stocked in every European country and delivers service through various service networks.

Electric Worldpremiers

At Busworld the company is showing 9 vehicles: Visigo Hyper, Turquoise, Citiport 18, Citiport 12 Hyper, Novociti Volt (Medium Range), Novociti Volt (Long Range), Interliner 13 CNG, Citivolt 12 and Novo Cabrio. Tuğrul Ankan, General Manager at Anadolu Isuzu, said at the press conference: "I am proud to say that from these nine models three are world premieres." Isuzu Novociti Volt is an all-electric midibus based on the multiple award-winning diesel Novociti Life, which was launched in 2018. The batteries with a capacity of

200 kWh are positioned on top of Novociti Volt and enables a range of up to 270 km. The electric motor, located in the rear of the vehicle, comes with 240 kW engine power and 2300 Nm torque. Battery life is guaranteed not to decrease below 70% for 5 years or 250,000 km. The vehicle can be charged from a single charging socket ad AC (22 kW) or DC (140 kW). In addition to quick charging (DC) capabilities in only two hours with 600 V operating voltage, the batteries can also be charged via a home charge (AC) in eight hours. Novociti Volt's quick charge system enables a range up to 50 km in just 10 minutes. Besides the Novociti Volt has three solar panels on its roof in support of low-voltage (24 V) equipments and so helps to enhance the vehicle's range. Novociti Volt is equipped with "Aconnect" telematics system, which analyses vehicle data such as vehicle speed, battery

level, energy consumption, throttle and brake pedal position, etc., and generates solutions to improve efficiency of fleets and companies. The system also reports driver errors with images to determine the driver's score.

Citivolt 12

The second electric vehicle showcased at the Anadolu Isuzu booth is Citivolt 12. With a length of 12 meters and a battery-electric (BEV) drive system, Citivolt 12 can accommodate up to 90 people, with 30 seated and 60 standing passengers. Citivolt's low-floor monocoque body and kneeling system offer priority passengers and those with disabilities to have easy

access to the vehicle. Lithium-ion batteries with 351 kWh capacity ensure a range up to 300 km. The Siemens electric motor comes with 230 kW peak engine power and 3000 Nm peak torque. As part of the warranty, battery life is guaranteed not to fall below 70% for eight years or 400,000 km. With a liquid cooling system for the battery pack, the vehicle operates easily in all weather conditions. The battery can be charged using a DC charger to maximum 120 kW. Citivolt 12 also features 600 V operating voltage for quick charge in only four hours. With the regenerative braking system, energy released during braking and acceleration can be recovered by 30% on average. (Hall 6, booth 638)



Miss & Mister Busworld 2019

Viktoria Sooki, PR & marketing manager at Electrobus Europe (joint venture CRRC and Ikarus), and Heinz Kiess, head of sales & marketing at MAN, were awarded the respective titles of Miss and Mister Busworld 2019.

In doing so, they are following in the footsteps of their predecessors, Charlotte Engels (Automet) and Dirk Snauwaert (Van Hool), who won the title in 2017 for their many years of commitment to Busworld.

FREE AIRPORT SHUTTLE



Direct connection between Brussels airport and the exhibition

Till 23 October 2019 the Busworld Europe Shuttle will be accommodated by the Van Hool diesel hybrid Exqui.City 24 trambuses. A premier for Belgium, as it will be the first time that these trambuses are in operation on the public roads. These trambuses will be put into daily operation later on the BRT line 820.

The Busworld Europe Shuttle leaves every hour at the bus parking lot (level 0) in Brussels Airport and will bring you in only 45 minutes directly to Busworld Europe at the Brussels Expo (without any stops), or the other way around. The shuttle will drop you off at the main entrance in front of Hall 2.

TIME SCHEDULE - Tuesday 22 October:

Brussels Airport > Brussels Expo: 11:30 AM, 12:30 PM, 1:30 PM, 2:30 PM, 3:30 PM, 4:30 PM
Brussels Expo > Brussels Airport: 12:30 PM, 1:30 PM, 2:30 PM, 3:30 PM, 4:30 PM, 5:30 PM

TIME SCHEDULE - Wednesday 23 October:

Brussels Airport > Brussels Expo: 12:30 PM, 1:30 PM, 2:30 PM, 3:30 PM, 4:30 PM, 5:30 PM
Brussels Expo > Brussels Airport: 1:30 PM, 2:30 PM, 3:30 PM, 4:30 PM, 5:30 PM, 6:30 PM

LOCATIONS TO HOP ON AND OFF:

Brussels Airport, bus parking lot at level 0
Brussels Expo, Hall 2, main entrance

Indcar presents the Strada e-City

The Spanish bus manufacturer Indcar is celebrating the 25th edition of Busworld with the introduction of the Strada e-City Low Entry, a 100% electric city minibus that took part in the prestigious Minibus Euro Test in Madrid earlier this year.

The 100% electric Strada e-City Low Entry has a capacity of up to 22 passengers and can run for up to 16 hours on a battery charge, for which the Strada e-City has a package of five batteries on board. At Busworld, Indcar will have a 550 m2 exhibition stand in hall 5, where the company will be showing six buses.

Another new feature is the Mobi City L7: the smallest minibus in the Mobi range. With a length of seven metres, approved as Class I, the L7 has a capacity of up to 41 passengers. With a new design for the Wing, Indcar claims to have succeeded in emphasising the strong points of the model: spaciousness and maximum com-

fort for the passengers and the driver, and plenty of luggage space. The new Wing 2020 is built on the New Daily chassis with a 220 hp engine. The Indcar Next L9 is based on the DAF LF chassis and features 37 seats in a VIP finish. Since 1888, Indcar has been specialized in building minibuses and minicoaches. It is located in the Spanish Arbúcies (Girona) and has two production sites: one in Spain and one in Romania and two more sales offices in France and Italy outside Spain. (Hall 5, stand 525)



New fast charging pantograph from Schunk

At the 25th edition of Busworld, Schunk will take the opportunity to present its new pantograph SLS 103 for electric buses. According to Schunk, this is a 'technological milestone that sets unparalleled standards in the market for pantograph systems.'

The new fast-charging SLS 103 pantograph is compactly built for use on the roof of single or double-decker electric buses and operates according to the 'panto up' principle: the bus stops under the charging station and the roof-mounted panto connects to the charging station and recharges the batteries. The charging process can take place in the depot or at a charging station on the way. Schunk states that charging starts within a few seconds with a capacity of up to 1 MW. (Hall 2, stand 203)

Culinary indulgence on the star level of Busworld

Tomorrowland chief for catering at Van Hool

Anyone offering buses, coaches and mobility solutions for the future has no choice but to present their employees, customers and foreign guests an ambitious, future catering concept. That's how they felt at Van Hool, who immediately recruited Tomorrowland's kitchen chef and catering coordinator, Bart Vuylsteke, for Busworld. An initiative that spoils employees and guests with culinary delights. As you can see, it's not just the vehicles that appeal to Van Hool.

"For the catering facilities at our Busworld stand, we were looking for a concept that was both in line with our Belgian origins and with the quality of the vehicles we build," explains Dirk Snauwaert. "We had already met Bart Vuylsteke, the chef and catering coordinator of the Tomorrowland festivals in Boom and Alpe d'Huez a few times and asked him if he would work for us during the Busworld event. Together with his wife Annemie, who is a trained chocolatier, Bart leads the refined butcher shop 'Meat' in Okegem (Ninove). In his spare time he is responsible for the catering for Tomorrowland, which must be fully in line with the spirit, philosophy and quality represented by Tomorrowland. He selects catering partners and star chefs, orders ingredients and drinks and



ensures that everything is prepared and presented with the utmost care."

Authentic, innovative and Belgian

"By mutual agreement, we have opted for a top-level catering service that is authentic, innovative and Belgian. We work exclusively with fresh ingredients and meals are served on site. For safety reasons, we have even installed a mini-kitchen with deep fryer just outside the hall in order to be able to serve our guests at least solid and crunchy 'Belgian fries,'" says Dirk Snauwaert.

Three catering concepts have been developed. In the first place, Van Hool employees are provided with fresh sandwiches, various salads, soup and refreshments every day. These are relatively small snacks to be consumed in between. A second concept are the bistro brasserie dishes served during the happy hour

from 17.30 pm to 18.30 pm. About eighty guests are spoiled daily with 'Belgian fries', pork cheek stew, homemade balls, chicken satays, vol-au-vent croquettes and cheese croquettes that are served with mayonnaise, truffle mayonnaise or ketchup.

Gastronomically refined

The third menu includes a gastronomically refined meal offered by CEO Filip Van Hool to his guests, who are welcomed in a Michelin-starred restaurant. On Monday, for example, a 'beef secreto with quinoa' was served, followed by a 'cod fillet on a structure of leek, accompanied by muslin with fresh North Sea shrimps', in other words, a finger-licking sensation. With the catering inspired by Tomorrowland, Van Hool also proves that it is perfectly possible to create a rare and tasty culinary experience for employees and guests at a trade fair.

MirrorEye awarded the "Innovation Label" at Busworld

They were shown on a lot of stands, buses and coaches without mirrors but equipped with the MirrorEye system of Stoneridge-Orlaco. The system consists of two 'high definition' cameras that replace the mirrors, completed with two screens mounted on the A-pillars. The advantages: a better view of what is happening behind you, hardly any more blind spots, a much larger viewing angle, less damage and approximately three percent savings on fuel consumption.

To start with the latter. Mirrors catch a lot of wind, depending on the bus or coach. That's why Orlaco maintains a large margin for the savings to be made. But it is clear that the MirrorEye system is better suited for aerodynamics, mirrors are large and therefore windcatchers.

Here at Busworld, no less than ten OEMs, the manufacturers, have equipped their buses and coaches with MirrorEye. VDL, Solaris, Temsa, BYD and Caetano, among others, are aware of the advantages for their customers and offer MirrorEye from the factory. It seems that transport authorities will follow the example of Transport for London, which decided that from 2021 new buses with mirrors should no longer be purchased.

Stoneridge-Orlaco has already taken this into account, because MirrorEye can be attached to any bus via a smart mounting system. For fleet owners with different

brands of buses this can be a solution. MirrorEye is approved to replace 'Class 2 and 4' mirrors. A special feature is that a 'Class 5' camera can be added to eliminate the blind spot almost completely. The driver doesn't have to worry about light and dark differences. The system adapts itself within 200 milliseconds, which is useful when entering a tunnel. Visibility also remains good at night thanks to the use of infrared and great software adaptations.

Stoneridge-Orlaco does not deliver directly to bus and coach companies, but the system is available as a retrofit. The price is determined by the supplier, but lies in the range of 4,500 to 5,000 euros. "But", senior account manager Tristan Domin explains, "you get something in

return: the driver has much more visibility, almost no blind spots and with the help of the guides on the screens, when reversing or parking, he can determine where the back of his coach is located at an accuracy of just a few centimetres. It also makes a huge difference in the cost of broken mirrors, which is quite common, and it saves a lot of money on fuel. Do the math", as we say in the Netherlands." Orlaco was originally a Dutch company where the development and production departments are located.

Not only the ten bus and coach manufacturers at Busworld have discovered MirrorEye, in America the FMCSA certificate has been awarded, which means that permission has been granted to drive MirrorEye completely 'mirrorless'.



Frenelsa with customized electric retarders

Frenelsa is present at Busworld Brussels with customized electrical retarders. The Spanish company is established in 1974 and produces innovative retarders, and doing so contributes in reducing the emission of dust from the normal service brakes.

The Frenelsa retarder works with a magnetic field created by 8 coils that gradually can slow down the vehicle. The retarder works without friction. The magnetic field does the work. Moreover the Frenelsa retarder is silent. The retarder is fitted within the driveshaft. When operated the magnetic field slows down the discs, surrounding the coils, on which sides the driveshaft is mounted. It can easily be retrofitted in vans, minibuses, buses and trucks, even if they are already a number of years on the road. According to Frenelsa the retarder extends up to 7 times the lifecycle of service brakes,

which means a positive result on the TCO. The Frenelsa retarder range starts with a retarder for 3 tons vans, such as the Mercedes-Benz Sprinter, VW Crafter, For Transit, Iveco Daily etc., and delivers 350 Nm of torque. For heavier vehicles such as light duty trucks, buses and heavy duty trucks from 5 tons to 44 tons, Frenelsa offers retarders with a torque from 550 Nm to even 3500 Nm. (Hall 8, booth 827)



New VDL Citea SLE-129 Electric

The VDL Citea SLE-129 Electric is a full size low-entry public transport bus that will be exhibited for the first time during this Busworld edition in Brussels. Its powertrain is based on that of the SLF and is equipped with a 288 kWh high capacity battery pack. This allows the bus to be used regionally at larger intervals between charging sessions. Fast charging is done via a pantograph mounted on the roof or mounted 'on the street'. The bus shown at Busworld has a layout based on a maximum number of forward facing seats and is also equipped with a third door. One of the requirements the Scandinavian market demands from a low-entry bus used for both urban and regional purposes.

At Busworld, there is also an SLFA-180 Electric with a 288 kWh high capacity battery pack and a pantograph. There are now more than 260 of the Citea SLFA-180 and SLFA-181 Electric vehicles in operation. The VDL schedule for 2019 still includes the delivery of approximately 420 electric buses. In the Netherlands alone, there are more than 300 electric VDL buses in operation, which result in CO2 emission savings of more than 20,000 tonnes per year. (Hall 6, stand 635)



Kiepe's IMC, overhead line charging

Kiepe Electric's Motion Charging Technology (IMC) is a powerful charging concept for e-buses and eliminates the often bottlenecked 'charging station'. IMC enables buses to charge via overhead lines while driving and to easily switch to battery power when travelling in areas without power lines.

With the latest IMC version, IMC500, Kiepe has succeeded in charging the bus up to 500 kW of power while driving. According to Kiepe, it is possible to power all subsystems simultaneously where overhead lines are available: two 160 kW motors, the HVAC system and the battery. Kiepe emphasises that the higher the charging percentage, the less time the vehicle has to stay under overhead lines to replenish the battery, which reduces the number of overhead lines needed. For IMC500, an overhead line system of about 20% of the total route would be enough. IMC can be equipped with Kiepe Electric's innovative



Smart Fleet Management (SFM). This is a self-learning AI energy management system capable of scheduling service intervals to increase the net availability of the bus. SFM collects data on consumption, route and performance and enables - in time - automatic and predictive bus control. This system works with Kiepe Fleet Management (KFM), which reduces maintenance costs and plans future servicing and repairs, the intelligent Kiepe Traction Control (KTC) and the new Kiepe Electric Traction Inverter (KTI). Vossloh Kiepe has been part of the Knorr Bremse Group since 2017 and has been renamed Kiepe Electric GmbH. (Hall 5, stand 514)



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