NUMEROUS NEWCOMERS AT BUSWORLD EUROPE

For the 26th Busworld Europe, the second to be held at Brussels Expo, more exhibitors will be present than ever before, including several bus manufacturers participating for the first time. Also noteworthy is the (slight) breakthrough of hydrogen as an alternative propulsion system.

"Between the previous Busworld edition in 2019 and the current edition, there are four years due to the coronavirus pandemic," says managing director Mieke Glorieux. "With a biennial edition, as soon as one edition was over, the next one began. Four years is a huge time span, also because the market has changed enormously in the meantime. Often, new contacts are also at work with manufacturers and supply companies."

"At the request of the manufacturers, we adjusted the exhibition days. This allows ‘decision makers’ to be present from Monday to Wednesday. Van Hool, Daimler and Iveco have stands as large as they were before. Others have reduced their stand space. Volvo is the only manufacturer to have dropped out due to a changed strategy in which they are relying on Egyptian MCV and Spain’s Sunsundegui for the construction of their bodywork."

» continued article see p. 2
The free space will be filled by numerous newcomers such as Turkey's Karadag, which is focusing on city and school buses, and Turkey's Habas, which operates mainly with gas buses. India's JBM Group will be attending a Busworld exhibition for the first time. From China, Yutong, BYS, Golden Dragon and Higer as well as newcomer Zhongtong, among others, will be present. Hungarian Ikarus Bus which has a partnership with Chinese CRRC and Czech Skoda will also be present for the first time while Slovenian Tam Europe makes it comeback after several years. The German company Arthurbus, focusing on electric and hydrogen buses, will also be present.

Also noteworthy are the numerous supply companies with charging infrastructure and batteries for electric buses or with refuelling stations and facilities for hydrogen fuel cell buses.

With many new exhibitors, Busworld Europe expects around 40,000 visitors, the same number as in 2019.

**ZERO EMISSION BUS CONFERENCE GUEST AT BUSWORLD FOUNDATION**

In collaboration with European Zero Emission Bus Conference, Busworld Foundation presents a four-day programme focusing on alternative propulsions.

“Zero Emission Bus Conference is organising its conference for the fifth time, and for the first time in collaboration with Busworld Europe,” says an extremely satisfied Jan Deman, director of Busworld Foundation. “During the first three days, all focus will be on public transport, while the fourth day will focus on zero-emission applications for touring coaches as well as the necessary logistics infrastructure to charge batteries or refuel with hydrogen while on the road. The sessions will take place in the morning or afternoon, allowing participants to visit Busworld Europe afterwards.”

Besides the Zero Emission Bus Conference, Busworld Foundation also provides other events. “On 10 October, we are organising a symposium on driver safety,” continues Jan Deman. “Here the results of a Norwegian study analysing bus accidents will be presented. Safety systems will be set out and preventive action to avoid accidents elaborated. Furthermore, IRU will propose a study on the acute driver shortage and possible solutions will also be provided.”

On 11 October, the whole day will be focusing on ‘Digital Mobility Solutions for Bus & Coach Operations’. Topics discussed there will include MaaS concepts, ticketing platforms and payment systems. The focus will also be on keeping energy costs in electric buses under control, charging batteries optimally and planning trips accordingly. Finally, the future of self-driving bus services will be discussed and experiences will be shared.

Following the Zero Emission Bus Conference on 12 October, which will focus on zero-emission coaches, a symposium will take place on the future of touring coach tourism, driving and rest times, accessibility of city centres and the future of group travel.
SOLAR GLASS FROM FINLAND

JTSolar glass, designed and manufactured by Jaakko-Tuote Oy, is a new luxury green line innovation for the vehicle industry. An investment that pays back itself. JTSolar is attending Busworld for the first time. Jaakko-Tuote Oy is a Finnish family business that designs, develops and manufactures high-quality safety glass products for demanding applications with over 50 years of experience. Shape of Excellence, the slogan and the company policy are based on customer-oriented service with flexibility and expertise from start to finish. JTSolar glass is ECE43R approved, toughened laminated safety glass with integrated solar cells. The solar solution is designed to be vehicle integrated, taking into consideration all requirements of the automotive sector. The glass can be manufactured in many sizes and the number of cells can be increased.

DOWNLOAD THE BUSWORLD APP AND OPTIMIZE YOUR VISIT!

The Busworld App replaces the paper catalogue. It has a floorplan, an exhibitor list, a product list, a seminar list and you can even see other visitors and contact them.

HOW TO DOWNLOAD?
Step 1: Activate your profile if you did not do this yet. An e-mail was sent to you from busworldapp@busworld.org on 1 September or later (when you ordered your ticket). You need to open this e-mail and activate your profile by choosing a password.

Step 2: Download the app on your phone (use QR code or look in your store for “Busworld”).

Step 3: Login with your e-mail and password. If you forgot your password, click on “Forgot Password?” and you can set a new password.

Step 4: Use the app as much as you can.
The renowned Busworld Vehicle Awards

The 20th edition of this competition took place on 30 September with 14 competing vehicles: 8 buses and 6 coaches. And the winners are...

Digital Operational Excellence
- Ivoce Bus
  IVECO ON Heavy Buses Digital Services
  Hall 4 | Booth 402B
- TOTT UP
  GPS Training Partner
  Hall 11 | Booth 1114
- ZF Group
  SCALAR
  Hall 5 | Booth 537

E-Mobility Management
- Chargepoint
  Battery Health Package
  HALL 9 | Booth 937
- MAN Truck & Bus
  eManager
  Hall 4 | Booth 401
- Rampini
  Hy4Drive
  Hall 6 | Booth 606A

Digital Awards
- Anadolu Isuzu
  V2X
  Hall 4 | Booth 403
- Daimler Buses
  Active Drive Assist 2
  Hall 5 | Booth 503
- Karsan
  Autonomous e-ATAK
  Hall 5 | Booth 501

Busword Innovations, your opinion counts

In 2023, visitors can decide if an Innovation Nominee is innovative for them or not? Out of 26 candidates 10 nominees were selected by the Busworld Awards jury. Go to their booth, evaluate the new product, scan the voring QR code and... vote! If the product gets 50% or more YES votes, it will become an official Busworld Europe Innovation 2023.

- C Trine Engineering
  EcoRapidBusDesign
  Hall 11| Booth 1182B
- Generation Phoenix
  Eleather
  Hall 7 | Booth 718
- IRIZAR
  Irizar i6S Efficient hydrogen
  Hall 6 | Booth 602
- Jaakko-Tuote Oy
  JTSolar glass
  Hall 8 | Booth 861
- Konvekta AG
  Konvekta C02 heat pump thermal management system for electric double-decker buses
  Hall 5 | Booth 508
- Robert Bosch Automotive Steering GmbH
  ServE
  Hall 5 | Booth 501
- Saint-Gobain Sekurit
  Transport Reflexcontrol
  Hall 7 | Booth 760B
- Superlee Corporation
  3 in 1 DRL/DI/POS combination light
  Hall 9 | Booth 958
- Thermo King
  Athena ENVI heat pump with R744
  Hall 8 | Booth 808B
- Twiliner
  Twiliner coach seat
  Hall 2 | Booth 227

In 2023, visitors can decide if an Innovation Nominee is innovative for them or not? Out of 26 candidates 10 nominees were selected by the Busworld Awards jury. Go to their booth, evaluate the new product, scan the voring QR code and... vote! If the product gets 50% or more YES votes, it will become an official Busworld Europe Innovation 2023.
Under a bright sun and armed with paper, biros, smartphone to take pictures and possibly measuring equipment, 32 judges judged the eight zero-emission buses and the six coaches competing for the Busworld Europe Awards 2023 on Saturday 30 September.

In the connection avenue between Brussels Expo and the shiny Atomium, the fourteen vehicles were glittering in all their glory. Employees of the respective manufacturers quickly polished away a few spots or quickly browsed through technical manuals.

In the Busworld Awards, the ‘bus’ category was limited to zero-emission vehicles such as battery-electric buses or hydrogen fuel cell buses.

Among the entrants were: the Anadolu Isuzu CitiVOLT 12m, the Ebusco 3.0, the Higer Fencer F1 Integral EV, the IVECO E-way by Heuliez, the Mercedes-Benz eCitaro, the Temsa LD SB E, the VDL Citea New Generation and the Yutong U18.

Competing for the coach awards were the Neoplan Tourliner L, the Marcopolo Paradiso G8 1800 DD, Scania Irizar i6s Efficient, the Setra S 516 HDH, the Van Hool T16 Astron, the Yutong T15 E and the Zhongtong Bus H12.

Technology, eco-friendliness, driving behaviour, safety and comfort for driver and passengers were evaluated. The digital applications present in the vehicle were thoroughly reviewed, as were tour guide facilities.

The judges often exchanged extensive views with manufacturers on the effective operational deployment of buses and coaches powered by batteries and CNG. Questions arose about the impact of these alternative drives on available luggage space.

For the buses, it was already clear that almost all manufacturers opt for a stylish interior with ‘wood’ paneling, colour-changing LED lighting, digital info boards and USB ports. A new element was the ‘Special Observations’ judging panel that looked for all kinds of gadgets and applications not covered by the listed evaluation criteria. We are curious to see if they found anything spectacular and innovative.
Busworld Testing Days
Marc Van Houtte
jury chairman of Busworld Awards

“We need to look at the overall picture of buses and coaches with alternative propulsion”

“At the Busworld Awards, there was a number of evolutions without any really big innovations,” says jury chairman Marc Vanhoutte of Busworld Awards. “Just think of new platforms for zero-emission buses, alternatively powered coaches, improved dashboards and camera systems. But we also need to look at the overall picture in which vehicles with alternative propulsion are moving.”

“As opposed to four years ago, when electric buses were still built as variants of diesel buses, we did see vehicles built on a completely new platform,” Marc Vanhoutte points out. “This has a number of advantages in terms of weight, battery pack placement and stability while driving. But we as judges also looked at the wider picture. An electric bus is part of a whole within the operation. Battery status and consumption need to be monitored in real-time because they impact depot management, charge management, charge planning and operational deployment of the vehicle at that specific moment. Connectivity with other applications is required. A second concern was battery life and replacing them at, say, 80%. We need to weigh that against the residual value of those batteries and their usability for energy storage.

Among coaches and intercity buses, the first alternative propulsion vehicles made their appearance at the Busworld Awards. “When you insert batteries, hydrogen and fuel cells, the question arises as to where you leave the luggage. For an intercity bus, it is possible because those passengers carry less luggage, but for a tourist round trip, it becomes a problem. With electric coaches, we also looked at the distance one can travel and the time you need to recharge on the way. To be honest, I don’t think the internal combustion engine is dead yet and we need to look at alternative fuels like HVO. Hydrogen certainly offers possibilities, but we have to consider the total cost of producing hydrogen,” said Marc Vanhoutte.

There were definitely remarkable innovations in terms of new, more ergonomic, dashboards and improved camera systems replacing the exterior mirrors.

For Marc Vanhoutte, the internal combustion engine is not yet a thing of the past.
There is more to Busworld Europe than discovering the latest products and services in bus and coach industry. You can also take part in our extensive knowledge program where you will be able to gain and share new insights on various hot topics. It’s also a great time to meet with other participants and experts.

The 5th edition of the European Zero Emission Bus Conference will be held during Busworld Europe for the first time spread over 4 half days from October 9th till 12th. We go from the current states of the technology and market, to the infrastructure challenge and financing the whole project. On Thursday we’ll finish with a special focus on zero emission coaches and long distance services.

On Tuesday afternoon October 10th the bus or coach driver will be the center of attention in the Driver Safety Seminar and the Driver Shortage Roundtable. Two items that are of utmost importance to bus and coach operators, as well as vehicle manufacturers. At the end of the day there’s time to meet up with all stakeholders involved in the various knowledge events during the Network Dinner and share your experiences accompanied with bites and drinks.

Everything in our life is getting more digital day by day in order to improve the user experience and be more (time & cost) efficient. And so is passenger transport too. Thousands of software engineers are working continuously on things like predictive maintenance, autonomous buses, Maas-platforms, connectivity between complete environments, energy management systems, ITS, and so on. Get the latest updates first hand during the Digital Mobility Solutions Conference on Wednesday October 11th. Join as a rookie in the morning, leave as an expert in the evening and start to investigate the digital opportunities in your business.

The knowledge program of Busworld Europe 2023 will be concluded on Thursday October 12th with a session and network event on The Future of Coach Tourism. Coach operators are facing challenging times. Although a renewed attention for group tourism by coach is clearly felt in the market, difficult access regulations for coaches in city centres and the new drive and rest time regulations for coach drivers promise to be logistical nuisance.
CATERING POINTS

1. Eat: Fastfood
   Belgian Fries & burgers

2. Nina
   Assortment of Italian pasta & pinsa

3. Poule et Poulette
   Chicken nuggets, chicken wings and fries, soupe tom ka gai & wrap with chicken

4. Pico Bello
   Assortment of pasta & panini

5. Thai Café
   Thai Specialties

6. Be Shop 5
   Mini market with sandwiches, hot dishes, soft drinks, snacks and hot beverages

7. Brasserie S8
   Table service 'Brasserie'

8. Eaters
   Asian streetfood with pokeballs & bahn mi

9. Mr. Boudin
   Belgian upgrade hot-dog

10. Belgian Beer Bar
    Belgian beers, salads, sandwiches, croques & sweets

11. Q’6 Gin bar by Open Up Farm Distillery
    Gin bar & meet stew based on gin

12. Dim’s
    Dim sum & bao

13. Fritket De Carte
    Belgian fries & fricandeau and paulycoc

14. Mamy
    Crepe Monsieur, pancakes & cookies

15. Joris
    Assortment of belgian artisan sweets

16. Hot-Dog
    Hot-dog

17. Cocotte en scène
    Fresh juices, smoothies & healthy bagels

18. Le Pain Quotidien
    Gin sandwiches, salads, soups & sweets

19. Ellis Gourmet Burger
    Famous burgers & fries

20. Be Shop 9
    Mini market with sandwiches, hot dishes, soft drinks, snacks and hot beverages

21. Chess Catering
    Self-service with pasta, salads, vol-au-vent, 1/2 chicken

22. Les délices d’Eric
    Assortments of hot coffee, pancakes, waffles, sweets, sandwiches &

23. Kaffee veio
    Kürksta, waffle & croque monsieurs

24. La belle liegaise
    Waffles, sweets

Opening hours catering

07-11 OCT
10:00 until 19:00
12 OCT
10:00 until 18:00
Van Hool reveals ExquiCity for Ile-de-Frances

At the press day Van Hool revealed the first of 56 double-articulated battery-electric ExquiCity tram buses that will be deployed on two Bus Rapid Transit lines in the Ile-de-France region, including the busiest line in the Paris agglomeration and a third optional line. The ExquiCitys stand out for their more aesthetically pleasing and elegant front which was previously developed for the Mettis network in Metz.

For the development of this new ExquiCity variant, Van Hool collaborated with Kiepe Electric and Alstom. This world exclusive includes 24-metre-long, double-armoured electric buses from Van Hool, powered by Kiepe Electric’s high-power fast-charge batteries, charged by Alstom’s static charging system via conduction on the ground (SRS). The framework agreement covers a minimum of 56 vehicles.

The solution offered by the Van Hool - Kiepe Electric - Alstom consortium is intended for the T Zen 4 and T Zen 5 express bus lines in the south of Paris and for a third line under option. For passengers, this solution offers more space, comfort, silence, accessibility and speed.

For Kiepe Electric, the cooperation marks a milestone and the beginning of our presence in the public transport market through e-BRT lines. Kiepe Electric provides the traction system for two driven shafts in each vehicle. The order also includes traction batteries, auxiliary power inverters, cooling systems and power distribution units (high-voltage distribution). It is also a first for Alstom because the SRS static fast-charging system is used via conduction on the ground. This solution is already in use on 15 kilometres of tram lines in Nice, where it allows for automatic and fast charging at the station without additional restrictions on its operation. The 24-metre-long, double-shaft, ExquiCity 24 vehicles can carry about 140 passengers each and are fully accessible to persons with reduced mobility.

For further information
europe.thermoking.com

VISIT US AT BUSWORLD EUROPE 2023
OCTOBER 7 – 12
BRUSSELS – BELGIUM
HALL 4 – STAND 426

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For further information europe.thermoking.com
MAN Lion’s City E is Bus of the Year 2023

Last year the MAN Lion’s City E was selected as ‘Bus of the Year 2023’. The MAN was awarded this prestigious title by the International Bus of the Year Jury after a four-day Bus Euro Test in which it was compared to four strong competitors. This Bus Euro Test took place in 2022 in Limerick, Ireland.

The MAN Lion’s City E was selected by the 23 jury members as the best out of five participants: Higer Azure, Karsan eATA, MAN Lion’s City E, Mercedes-Benz eCitaro and Volvo BZL Electric with MCV body. All electrically powered buses. Unanimously, the jury praised the workplace for the driver with a well-adjustable seat, steering wheel and dashboard (VDV concept). The instrument panel features clear, large gauges. The six battery packs on the roof have a maximum output of 480 kWh. MAN has already managed to squeeze out more than 500 kilometres on a single charge. Moreover, MAN offers its customers two charging strategies: max kilometres per charge (350 km) or longer battery life (270 km range). Charging is via a CCS plug with up to 150 kW. Charging at 375 kW is a possibility.

SUCCESS STORY

During the Bus Euro Test, this Lion’s City E also proved to be one of the quietest. Together with the ZF hydraulic PCV damper system - suspension - it offers a comfortable driving experience. The electric motor - ‘central drive’, 160 kW, 2100 Nm peak and 1300 Nm continuous - is well tuned and performs smoothly. The degree of recovery of braking and coasting energy is easily controlled via a lever on the steering wheel (retarder operation).

The judge was also very positive about the interior which looks spacious and bright. The driver’s workplace was rated as one of the best on the market: visibility is fine, almost no blind spot thanks in part to the use of cameras instead of mirrors. With more than 1,000 orders and the title International Bus of the Year MAN boasts a success story.

The 360-degree charging solution to electrify your bus fleet

ABB E-mobility knows the importance of flexibility to bus operators, especially as they attempt to navigate rapidly evolving fleet and infrastructure requirements. That’s why our new HVC360 power cabinet offers not just best-in-class power density, but smart energy management too. Intuitive and robust, it ensures a seamless end-user experience and integrates hassle-free into existing infrastructure.

Compatible with both CCS and pantographs, HVC360’s cutting-edge design allows the installation of dispensers up to 150m from the power cabinet itself and supports up to four outlets at once. The solution is configurable, scalable and upgradeable, perfectly meeting the individual challenges of fleet and depot electrification.

But ABB E-mobility’s 360-degree solution is about more than just hardware. Backed up by a 97% up-time commitment with industry-leading service as well as smart software solutions, the HVC360 covers every element of the transition to electric mobility.

Simple integration with existing business tools, automated charge planning, and real-time monitoring all help to ensure a smooth transition to e-bus operation, while technology including real-time emissions reduction reporting and proactive service monitoring promotes sustainability and reliability.

Visit us on the ABB E-mobility stand in Hall 7, Booth 784 to learn more.
What’s new at Thermo King?

Thermo King, a brand of climate innovator Trane Technologies, is the world leader in temperature-controlled sustainable transport solutions. Since 1938, this brand has offered solutions for conditioned transport. “We do not just want to present products, but also highlight Thermo King’s commitment to a personalised approach to thermal bus management systems,” says Urszula von Kreijfelt, Chief Commercial Officer of Thermo King Bus.

The new product presented at Busworld is the Thermo King Athenia™ ENVI reversible heat pump on R-744 (CO2). It is an “all-in-one” rooftop unit, with an eco-friendly natural refrigerant, optimised to keep driver and passengers at the adequate level of comfort through heating, cooling and fresh air regulation. R-744, often referred to as CO2, is a natural, non-toxic, non-flammable, non-ozone-depleting refrigerant with a global warming potential (GWP) of only 1.

Thanks to its possibilities, the new Thermo King Athenia™ ENVI heat pump is optimised to offer passengers maximum comfort both in summer when cooling is required, but also in winter without the need for additional heating or an additional boiler.

The device operates in both heating mode (down to -25 °C) and air-conditioning mode (up to +50 °C). It simultaneously protects the batteries in the bus driveline by providing cooled or heated water to condition them during charging and discharging.

The integrated battery temperature management system optimises overall energy consumption. The “all-in-one” unit uses waste heat from other sources in the vehicle to further optimise energy consumption and thus contribute to passenger comfort.

Thermo King Athenia™ ENVI heat pumps are already being used on “Ebusco” buses in Berlin, one of the largest fleets of electric buses in Germany for prolonged comfort. Thermo King is also presenting two other products: Thermo King Athenia™ APX, a cooling system more specifically designed for hot countries, and the Thermo King S30E Heat Pump, a compact, monobloc, ultra-slim rooftop heat pump for minibuses and midibuses of less than 12 metres.
Iveco Bus with full range of electric buses

With a range of new electric buses, Iveco Bus is taking the next step in its transition to an all-electric line-up: Crossway LE Elec, Streetway Elec, E-Way and the eDaily. Striking detail, all with a different driveline.

Iveco Bus claims to be Europe’s number two in terms of production and sales numbers. In 2022, the company delivered 13,000 buses in Europe, a 23 per cent market share. Order inflow has grown by 53 per cent. “We want to be and remain frontrunners in the energy transition of passenger transport with a focus on TCO. It is an ecosystem based on e-buses with battery technology from Fiat Power Train to the necessary charging infrastructure and accompanying service. The next step in this process will be the introduction of fuel cell buses,” says Domenico Nucera, president of Iveco Bus. To achieve this, it has now also set up an expertise centre, ‘Energy Mobility Solution’.

**CROSSWAY LOW ENTRY ELEC**

With the new electric Crossway Low Entry Elec, Iveco Bus offers a vehicle for both Class 1, urban transport, and Class 2, regional transport and in a 12 (44 seats) or 13-metre (48 seats) version. Battery packs range from 346, 416 to 485 kWh for Class 1 and 416 and 485 kWh for Class 2.

A full charge takes five hours at the plug, but a panto-down is optional. A Siemens centre motor with an output of 240 kW (2200 Nm) provides the propulsion. As a basis, Iveco Bus has opted for the CNG version of the Crossway with the reinforced roof. There will also be a new hybrid version of this gas version.

The Streetway Elec, on the other hand, is designed for intensive urban transport with the same battery packs, NMC li-ion, as the Crossway. The main difference is its engine: the Streetway Elec has a Voith of 310 kW.

**E-WAY**

Of the E-Way, ‘By Heuliez’, the three ‘smaller’ 9.5 m, 10.7 m and 12 m models are equipped with a Siemens Elfa III e-motor (185 kW, 3000 Nm), the 18.75 m articulated version gets the 330 kW (5000 Nm). The drive axle for all models is a ZF AVE133. A 346 kWh battery pack is available for the 9.5m version and 416 kWh for the 10.7m E-Way.

For the 12 m version, there are three battery packs: 346, 416 or 485 kWh, and it can be fitted with panto-up or panto-down charging equipment. The same goes for the articulated E-Way, which, however, has more batteries packages to choose from: 416, 485, 554 or 624 kWh. The two longest versions also come in a ‘Linium’ BRT (Bus Rapid Transit) version.

**E-DAILY FC**

The smallest Iveco Bus, the eDaily 72C Elec (7.2 tonnes) comes with a 140 kW Actia engine. Three FPT li-ion battery packs deliver 111 kWh of energy and are located at the bottom of the chassis. For an electric lift, a 15 kW ePTO is optional. There will also be an eDaily FC, i.e. with fuelcell, for which Iveco Bus is collaborating with Hyundai Motor Group. The fuel cell in the eDaily FC produces 95 kW of power. It weighs 175 kilograms. On hydrogen, the eDaily FC can carry 12 kilograms.
The traveller is the most demanding customer

A cosy seat, atmospheric ceiling lighting and a virtually silent ride: travellers in a contemporary coach appreciate comfort. Constructors also understand that travellers do not base their experiences on the vehicle’s propulsion form, but rather on physical perceptions.

In all the discussions on the different propulsion types, it is sometimes overlooked that a coach is primarily just a means of transport for travelers. A transport mode that gets him or her to a destination in the most comfortable way. There was a time when a microphone for the tour guide, a ventilation hatch in the luggage rack and a storage net in the back of the seat were all the epitome of luxury in a coach. Today, comfort comes with much higher demands.

Coachbuilders work hard to make the journey as comfortable as possible for the user. Large windows deeply cut into the bodywork offer more visibility to the outside world. To block bright light, the windows are made of solar control glass. This not only prevents rising interior temperatures but also simultaneously saves energy for air conditioning.

COLOURFUL LIGHTING

During trips in darkness, passengers are spoilt with light rails in the ceiling, side walls and aisle. The driver can switch the colour of the LED rails as desired. Creating a pleasant atmosphere in which the customer feels comfortable. Then the trip is already largely successful.

Sometimes the very best is barely enough as is the case in the luxury coach Marcopolo Paradiso, featuring only 35 seats spread over two floors. Seats is an understatement for these imposing pieces of furniture. These wide sofas with massage function offer a wonderful soft seating comfort. Its headrests were developed by NASA for space travel. The Brazilian coachbuilder is one of the few manufacturers offering a vehicle with separate toilets for ladies and gentlemen.

While such excesses are out of the question in a city bus, a lot of comfort-enhancing gadgets do make the journey more enjoyable for everyday travellers. Frequency and punctuality remain the user’s top priority. Without respecting these concepts, even the most comfortable vehicle will be met with little sympathy. But these are the very elements that are beyond the constructor’s control, unless they would be caused by technical defects.

REFRESHING CITY BUSES

New city buses no longer want to look boring. While the basic concept determines the user-friendliness of the vehicle such as the number of seats and standing places and the number of access doors, the transporter can make a difference with the interior layout. For example, Heuliez’s electric city bus is an innovative concept with a very airy interior. The constructor created such an interior with a bright interior lining and partly wooden paneling in the ceiling. “We want to avoid a tunnel feeling by providing a large rear window and slightly translucent seat backs. The blue seats are a wink to Lake Annecy, the French city that will deploy these buses”, reveals Thierry Vanfraechem, sales manager at Iveco Bus.

The doors of China’s Yutong city bus open automatically when a person is in danger of being trapped.

Nor are sliding - preferably automatic - ramps for wheelchair users. Imagine being trapped between the doors with an arm or leg! The articulated Chinese Yutong city bus features a safety device that immediately opens the doors automatically before a trapped person will injure themselves. Another forward-looking aspect is different coloured coverings for a raised floor. This way, falls can be avoided. Details that contribute to safer transport.
MAN Truck & Bus presents at Busworld 2023 the NEOPLAN Tourliner of the new model year which has received a major technical upgrade with for instance the OptiView digital mirror-replacement system. To coincide with the 20-year anniversary of the NEOPLAN Tourliner, the model will also be launched as a particularly high quality Diamond Edition.

The NEOPLAN Tourliner coach was launched as a new entry-level class 20 years ago. Following shortly after MAN’s takeover of Gottlob Auwärter GmbH & Co KG in Stuttgart-Möhringen, this was one of the first coaches to be built on the common MAN technology platform. More than 3,850 vehicles have been sold since its launch – two thirds of them in the popular 12-metre two-axle version. The second generation of the Tourliner was presented in 2016 and has the distinctive Sharp Cut design. Its aerodynamic design was revamped to achieve improvements of around 20 per cent. Over the years the Tourliner received interior enhancements with features such as a floor in boat deck look, the chrome handrails, and the backlit elements on the luggage racks.

The Tourliner is available in four variants. The smallest variant with a length of 12.1 metres seats for a maximum of 53 passengers. The three-axle medium-sized variant – the Tourliner C with a length of 13.4 metres – can accommodate up to 57 passengers. The extra-long two-axle vehicle followed as the latest addition to the family at the Busworld 2017. The two-axle version of the Tourliner C with a length of 13.1 metres is optimised, in particular, for maximum seating, offering up to 59 seats – according to Neoplan “ideal for long-distance scheduled service”. As the largest variant with a length of 13.9 metres the three-axle Tourliner L offers space for up to 63 passengers.

MAN Lion’s City E.

The MAN Lion’s City E is perfectly suited to meet the most demanding requirements of urban public transport. The “Bus of the Year 2023” combines future-proof battery technology with advanced driving comfort and safety in order to offer you far-reaching advantages. In combination with MAN Transport Solutions and MAN DigitalServices you benefit from more value and less effort. www.man.eu/lionscity-e
Van Hool has been in existence since 1947. And what was true then is still true today: we are passionate about transport and driven by technical innovation. That is common knowledge. Not just in Belgium, but all over the world. We create groundbreaking solutions that delight customers and pave the way for the future.