



PRESS RELEASE

Solaris showcases its latest products at Busworld 2023

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The international exhibition Busworld, the best-known trade fair for buses and coaches in Europe, starts on Saturday, 7 October. At the exhibition Solaris will showcase its two products. Both are zero-emission buses featuring new technical solutions and impressive performance: the Solaris Urbino 18 electric – product novelty – and the Solaris Urbino 18 hydrogen bus – last year’s premiere. Moreover, the manufacturer invites you to three unique presentations as part of the #SolarisTalks conference. See you at stand no. 502 in Hall 5!

The Busworld exhibition is one the most important events in the public transport industry when it comes to exhibiting bus-related innovations, the latest industry-based trends, and advanced technologies that enhance the development of zero-emission drivelines. This year’s 26th edition takes place from 7 to 12 October 2023 in Brussels. For Solaris, it is an excellent platform for showcasing its new, state-of-the-art solutions as well as for sharing its expertise and swapping experiences. We look forward to seeing you at stand no. 502 in Hall 5.

Solaris is No. 1 in Europe when it comes to e-buses

Over the last few years, Solaris has been consolidating its leading position in the market as a manufacturer of zero- and low-emission buses. In the first half of 2023, its Urbino electric vehicles made up 16.4% of all newly-registered electric buses in Europe, thus securing the bus maker the leading position in the industry. Solaris was the biggest supplier of electric buses in Europe not only in the last half-year, but also taking into account all vehicles delivered over the last decade: from 2012 to end of June 2023, with a cumulative market share of 12.4%.

It is also worth noting that electric buses represented over 37% of all new city buses registered in the last half-year in Europe. Solaris has been proudly leading the field when it comes to these dynamic changes, and has not only continually expanded its zero-emission bus offering, but also invested in the development of battery technology, hydrogen technology and solutions to aid the driver’s work and enhance the safety of passengers.

Intensive development of battery solutions

Since the launch of its first electric bus in 2011, Solaris has delivered over 2150 e-buses to 200 clients from all over Europe. The share of zero-emission vehicles in the manufacturer’s product mix has been increasing every single year. In 2022, battery-powered electric vehicles made up 55% of all units manufactured in Solaris plants, but in the first three quarters of 2023 their share already exceeded 3/4 of the total output (77%).

With the rapidly growing market and demand for zero-emission buses, improving battery performance is a key area for action. Along with developing technologies and broadening its experience, the company has been developing battery solutions by focusing on increasing energy density and extending the battery life cycle. In order to streamline and intensify these activities, a dedicated department has been established within the company: the Solaris Battery Hub. Research, and adjusting the parameters of state-of-the-art battery systems, allows the driving range of vehicles to be significantly extended. The results of the latest work on battery solutions will be demonstrated

in the articulated Urbino 18 electric bus to be displayed at the exhibition in Brussels. Concurrently, the firm has been diligently working on the development of battery solutions for the most popular model in its zero-emission range: the Urbino 12 electric bus.

Solaris Urbino 18 electric

This year's launch of the Urbino 18 electric bus, with its improved design, marks another step in the development of e-bus technology. This zero-emission and extremely quiet vehicle provides both passengers and drivers with comfort and safety, while offering impressive ranges and great operability parameters at the same time. The Solaris Urbino 18 electric bus stands for the highest quality public transport and the future of modern metropolises.

Featuring a new driveline architecture and the latest battery technologies, the Urbino 18 electric bus guarantees all-day operability and amazing efficiency. The bus which is on display is equipped with a 240 kW asynchronous motor and the latest generation Solaris High Energy batteries, boasting a high energy density, which, in turn, means a longer range while maintaining a low battery weight. The manufacturer offers carriers different configurations of battery capacity, all of which are roof-mounted. Using the maximum number of batteries, with a total capacity of over 800 kWh, allows us to achieve a driving range of a staggering 600 km^[1] of zero-emission travel.

Just as in the case of other articulated vehicles with zero-emission drives made by the manufacturer, the Urbino 18 electric can be charged using various charging modes. The basic solution that has also been applied in the bus on display is a plug-in socket placed above the first axle on the right side of the vehicle. Other available options include charging by means of a pantograph or an inverted pantograph lowered from the charging station.

The bus stands out due to its new design which doesn't include a conventional engine tower. Instead of it, the bus has been fitted with a modular driveline with components placed on the roof and in the rear of the vehicle. This solution maximises the passenger capacity, facilitates servicing, and provides a great deal of flexibility when it comes to roof arrangement options. The maximum number of passengers that may get on the Urbino 18 electric bus amounts to 145 persons^[2].

The Urbino 18 electric bus fulfils all safety standards, including new GSR2 and cybersecurity requirements that will enter into force in July 2024 for newly-registered vehicles.

The design of the 18-metre bus, with its modular drive and roof-mounted batteries, has been developed as part of the "Solaris Cybersecure Connectivity" project, pursuant to agreement no. POIR.01.01.01-00-0298/22-00, which is subsidised as part of the Smart Growth 2014-2020 Regional Operational Programme, co-financed through the European Regional Development Fund.

Hydrogen as a fuel of the future

Hydrogen has recently been one of the most frequently mentioned energy sources when it comes to developing a zero-carbon economy. It is being deployed in transport, industry and power generation. Interest in hydrogen-based zero-emission solutions continues to grow in Europe, including in the bus manufacturing industry. Solaris is a leading manufacturer in this market segment. Its order book contains nearly 600 ordered or delivered hydrogen buses. 140 of them already serve passengers in a dozen or so European towns and cities.

At the same time as developing battery solutions, the bus maker has been making new investments in hydrogen-based drivelines. One of Solaris's latest hydrogen-related projects is the construction of the Hydrogen Hall, with a manufacturing line dedicated solely to hydrogen drivelines. The 5500 m² Hall is being built to the highest safety standards and using state-of-the-art protection systems.

Solaris Urbino 18 hydrogen

Another vehicle being displayed at Busworld 2023 is our Urbino 18 hydrogen bus, powered with cutting-edge hydrogen technology. The bus was launched in 2022 and since then, it has managed to win clients in Germany and Italy.

This highly technologically-advanced bus offers a driving range of 600 km^[3] on a single refill, while maintaining all the qualities of an electric drive. A cutting-edge fuel cell is the heart of the Urbino 18 hydrogen vehicle, and it acts as a compact hydrogen power plant. Hydrogen is transformed by the fuel cell into electricity, which propels the driveline. Thanks to hydrogen technology and the latest generation light hydrogen tanks, the vehicle is perfectly suited to longer distances. Fully refuelling the vehicle takes around 20 minutes.

The distinctive bodyline of the Urbino 18 hydrogen bus and its comfortable interior, combined with environmentally-friendly driveline, ensure a unique travel experience both for drivers and passengers.

GSR2

The General Vehicle Safety Regulation 2019/2144 (GSR2) introduces new safety measures to protect passengers, drivers, pedestrians and other road users even better. The provisions will come into force on 7 July 2024 and will apply to all newly-registered vehicles. Solaris has been gearing up for these changes for some time now by choosing the best possible solutions and components. The Technical Office has been intensively working on the effective implementation of all necessary safety systems, including, among other features, blind spot monitoring, traffic sign recognition, driver fatigue monitoring and tyre pressure monitoring systems.

Cybersecurity

Responding to growing demand in the European market for smart, effective and safe public transport solutions for carriers and operators, Solaris has been working on improving the cybersecurity of its products. A cybersecurity system for the vehicle (encompassing software, hardware, protocols and procedures) will be implemented at each stage of a vehicle's development, from its designing, to its manufacturing, operating, and its servicing. All communication with the vehicle will be secured by a new architecture for data management. New bus data exchange systems will help to build a safety, and connectivity, platform for other models and will facilitate fleet production and servicing.

#SolarisTalks

Solaris will host the #SolarisTalks conference for the 4th time in a row, and thus create a platform for insightful discussions about the future of urban transportation and sustainable solutions. On three consecutive days of Busworld 2023, on 9, 10 and 11 October, the manufacturer will hold #SolarisTalks, i. e. a series of presentations and talks on e-mobility. We kindly invite you to attend the presentations we have prepared for you this year:

- on Monday, **9 October, at 11 am, Paweł Swoboda** will present the latest developments in Solaris battery technology
- on Tuesday, **10 October, at 11 am, Olivier Michard** will discuss the designing of extensive sales and after-sales support in the field of hydrogen buses
- on Wednesday, **11 October, at 11 am, Jakub Józwiak** and **Michał Ostachowski** will introduce you to a comprehensive support package for public transport operators.

We look forward to seeing you at #SolarisTalks at 11 am on 9, 10 and 11 October at stand no. 502 in Hall 5!

[\[1\]](#) Based on energy consumption in e-SORT 2 tests.

[\[2\]](#) For GVW 29t.

[\[3\]](#) Based on energy consumption in SORT 2 tests.

Additional information

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About our company

Solaris Bus & Coach sp. z o.o. is one of the leading European bus and trolleybus manufacturers. Benefiting from 27 years of experience and having manufactured over 23,000 vehicles, Solaris affects the quality of city transport in hundreds of cities across Europe every day. Thinking of the future, the firm is setting new standards by dynamically developing its products, in particular in the electromobility sector. Solaris electric buses, trolleybuses and hydrogen buses are cutting-edge solutions for zero emission public transport. Solaris products have been repeatedly awarded for quality and innovation. The Solaris Urbino 12 electric won the prestigious European "Bus of the

Year 2017" competition. In September 2018 Solaris Bus & Coach sp. z o.o. joined CAF Group.