



PRESS RELEASE

Solaris and Voith present Urbino 18 DIWAhybrid

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The new Solaris Urbino 18 DIWAhybrid articulated city bus uses a Voith parallel hybrid system. A 150 kW electric motor supports the diesel engine. Energy is stored in supercapacitors, resulting in reduced fuel consumption and lower wear and tear. Field testing by Bochum-Gelsenkirchener Straßenbahnen AG is under way.

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Reliable, economic and eco-friendly - the new Solaris Urbino 18 with Voith DIWAhybrid system is a trendsetting choice for state-of-the-art public transport. It was designed in cooperation between established partners, using well-proven components. Thousands of Solaris Urbino 18 low-floor city buses already show their credentials throughout Europe. Its new Voith Turbo hybrid drive is based on the seasoned quality of DIWA automatic gearboxes, which are used around the world, and Voith's long-standing experience in developing electric drive systems.

"Together with our partner of many years, Voith Turbo, we now take another important step towards sustainable electric mobility. In choosing the Urbino 18 DIWAhybrid, our customers benefit from a parallel hybrid bus that makes no compromises in economy or reliability," explains Solaris CEO Solange Olszewska.

Dr Volker Zimmermann, Managing Director Voith Turbo, adds: *"Technologies that further reduce costs for transport operators and make buses even more environmentally-friendly have long been our focus. Developing electric drives for the specific operating profiles of city buses is a top priority for us. For our parallel hybrid drive, the Urbino 18 DIWAhybrid is the reference application in Germany and Europe."*

DIWAhybrid: Parallel Hybrid System with Supercapacitor Storage

The new Urbino 18 DIWAhybrid seamlessly fits into existing bus fleets and is straightforward in everyday operation. At the heart of this new bus is the DIWAhybrid parallel hybrid system developed by Voith Turbo.

In the DIWAhybrid system, an asynchronous electric motor supports the diesel engine when pulling away from stops and accelerating. During braking, the asynchronous motor acts as a generator and primary retarder, perfectly complementing the DIWA secondary retarder. This allows electric energy to be recuperated, reducing the use of the driving brake, minimising brake wear and tear and lowering resulting particulate emission.

Energy recaptured during braking is stored in a supercapacitor unit weighing only 410 kg. Its five 125 V modules have a total storage capacity of 0.5 kWh. Supercapacitors as well as the Voith inverter are roof-mounted, eliminating passenger saloon intrusion. Elegant exterior roof panels point to the Urbino 18 DIWAhybrid's trendsetting technology.

The DIWAhybrid system is designed for up to 290 kW power input and a maximum input torque of 1 600 Nm. At 150 kW electric traction power, the DIWAhybrid system reduces the load of the diesel engine enough for the latter to be substantially smaller than on conventional diesel buses. The Urbino 18 DIWAhybrid uses a 6.7-litre, 181 kW (246 PS) Cummins ISB6.7EV 250H diesel engine meeting

the demanding EEV emissions standard.

Thanks to the use of a smaller diesel engine, the weight of the entire bus is just 600 kg above that of a diesel-powered Urbino 18. The passenger saloon layout is identical to the conventional version, with passenger capacity only marginally affected. The Urbino 18 DIWAhybrid has 51 comfortable seats and a room for 161 passengers total.

BOGESTRA AG Chooses Electric Mobility

The Urbino 18 DIWAhybrid was developed with support from the German Federal Ministry of Transport, Building and Urban Development and NOW GmbH National Organisation Hydrogen and Fuel Cell Technology. As part of the Rhein-Ruhr Electric Mobility Model Region, a pre-production vehicle entered service with Bochum-Gelsenkirchener Straßenbahnen AG (BOGESTRA AG) in mid-February 2011. After six months of field testing, the first production vehicles for BOGESTRA AG and other German operators will follow in summer 2011.

BOGESTRA AG has successfully used climate-friendly drive technology since early 2008, when it took delivery of the first hybrid bus in North Rhine-Westphalia. Three more followed in 2010 and when the new Urbino 18 DIWAhybrid arrive in mid-2011, the company's fleet will increase to 15 hybrid buses.

Additional information

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About our company

Solaris Bus & Coach sp. z o.o. is a leading producer of city and intercity buses in Europe. It focuses on the development of low-emission and zero-emission vehicles, i. e. electric and hydrogen buses as well as trolleybuses. Over 25,000 Solaris vehicles have been delivered so far and they ply the streets in 850 towns and cities across 33 countries located throughout Europe as well as beyond it. Solaris is part of the Spanish CAF Group (Construcciones y Auxiliar de Ferrocarriles) S.A. From conception, to the design and manufacturing phases, all Solaris buses are produced in Poland. All activities undertaken by the company are in line with its mission, which is reflected in the brand's promise: to change the image of public transport. Solaris also actively partners with public transport operators and provides them with comprehensive support in their transition to zero-emission mobility. Solaris products have been repeatedly awarded for quality and innovation. The Urbino 18 hydrogen bus has won the prestigious 'Bus of the Year 2025' title.