+48 68 328 20 68

contact@ekoenergetyka.com.pl

www.ekoenergetyka.com.pl

PRESS RELEASE

Ekoenergetyka-Polska delivers charging stations supporting the V2G functionality to Solaris Charging Park in Bolechow.

Zielona Gora, 25.10.2022

Solaris Charging Park in Bolechow near Poznan is an innovative, multi-stand, electric vehicle charging station for: e-buses, hydrogen buses and trolley-buses. Ekoenergetyka Polska delivered a multi-output charging station with high maximum power of 600 kW and the V2G functionality, thanks to innovative adaptation of the ISO 15118-2 protocol.

Solaris Charging Park has been designed to expand the production line and demonstrate new solutions in the scope of charging. It also enables testing of new technologies and functions during charging and discharging of the manufactured vehicles. This is Poland's first charging park to support the Vehicle-to-Grid (V2G) functionality, which is a bidirectional power flow between the electric vehicles and the power grid. This technology enables flexible charging and discharging of the buses. An undeniable advantage of this technology is more efficient cost management thanks to discharging of the buses for test purposes and using them as mobile energy storages.

Analysis of the V2G technology potential indicates that access to dispersed energy sources may be crucial for balancing the electric energy system during peak power demand periods. For our country, the potential of the V2G technology is of particular importance, due to the need for limiting the role of coal in the national power industry. Thanks to V2G, apart from the transport function, vehicles can serve as mobile energy storages integrated with the grid. The bidirectional energy flow means that power can be „purchased" during low demand period and higher generation from Renewable Energy Sources (RES), and the „sold" to the grind during higher tariffs and peak demand.

The unique system designed and supplied by Ekoenergetyka-Polska at the Solaris Charging Park is a 600kW charging station with power coupling on 3 separate tracks, which enables as many as 3 vehicles to be charged simultaneously. The customer has a very wide range of connectors to choose from: CCS Combo-2, OppCharge Schunk, Panto Up EC Engineering, Panto Up Schunk, Cable Reel CCS Combo-2, Stinger CCS

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Combo-2, as well as an HPC (liquid-cooled) connector and trolley traction. Importantly, the power switching control of this charger is carried out via a dedicated application, which is part of the (Charging Station Management System) CSMS- class backend system supplied by Ekoenergetyka Polska. The statuses of the charging points are sent to the Solaris Bus information kiosk in real time.

Experts from Ekoenergetyka-Polska, together with Solaris Bus&Coach, started work on adapting the ISO 15118-2 first edition protocol as early as November 2021. It proved to be crucial to identify and develop the changes within ISO-15118-2, which were implemented both on the side of Solaris electric buses and Ekoenergetyka-Polska charging stations.

"The Solaris Charging Park project makes us realise how important V2G technology already is for the market. Particularly at the present time, when energy costs have risen significantly, and in the future we have to take into account restrictions in energy availability and possible further price increases. - emphasises Michał Małecki, Director of the Research and Software Development Department at Ekoenergetyka-Polska S.A. - In anticipation of the implementation of the second edition of the ISO-15118 standard, we have designed, implemented and deployed a solution which, with its functionality, includes the discharging process from the future ISO-15118-20 standard. This long-awaited solution for manufacturers such as SBC can be introduced at other electric vehicle manufacturers until the second edition of the standard is implemented on the market. It is planned that the charging station launched in Bolechów by Ekoenergetyka-Polska will be upgraded in the future in terms of software to fully comply with the ISO-15118-20 standard."

Already in May this year, specialists from Ekoenergetyka-Polska successfully performed V2G tests on the EE mobile charger with a Solaris vehicle. Since then, it can be said that a "dedicated standard" for V2G has been created, which will be used by Solaris Bus&Coach in the production and testing of electric buses. This solution allows manufacturers such as SBC to use V2G prior to the market implementation of ISO 15118-20 (ed. 2). Building on the already implemented protocol developed between Solaris and Ekoenergetyka, further development steps are planned for, for example, sequential charging and discharging of vehicles during the production process. This solution also opens up opportunities for other vehicle manufacturers to implement V2G under the current 1st edition of ISO 15118 using unique solutions of Ekoenergetyka-Polska S.A.

Further information:
Justyna Śmielska-Saniuk
Senior PR Specialist
Tel.: +48 507 289 152
email: justyna.smielska-saniuk@ekoenergetyka.com.pl