PRESS RELEASE

Thomas Speidel, Dr. Thorsten Ochs of ADS-TEC Energy and Stefan Reichert, Fraunhofer ISE, are nominated as a team for the Deutscher Zukunftspreis 2022

Thomas Speidel, CEO of ADS-TEC Energy plc (NASDAQ: ADSE) and managing partner of the ADS-TEC Group; Dr. Thorsten Ochs, chief technology officer of ADS-TEC Energy; and Stefan Reichert, group head "Power Converter Units" at Fraunhofer Institute for Solar Energy Systems ISE, have been nominated for the German Future Prize 2022 for the development of the storage-based, ultra-fast charging system, "ChargeBox."

The ChargeBox system enables fast charging of e-vehicles up to 320 kilowatts (kW) using power-limited networks and therefore minimizing or avoiding costly expansion of electrical network infrastructure. The ChargeBox charging system is a building block toward climate neutrality in road traffic. "We are extremely pleased about this nomination and are very proud to be nominated from a large number of top-class engineering and research and development projects," said Speidel, Ochs and Reichert.
The nomination ceremony will be live streamed and can be accessed here.

Speidel, Ochs and Reichert, who are also representing their colleagues at ADS-TEC Energy and Fraunhofer ISE involved in the project, were nominated as one of a total of three teams for this year's German Future Prize. The prize is offered and awarded by German President Frank-Walter Steinmeier and recognizes innovative inventions and research results as well as outstanding technical, engineering and scientific achievements that lead to application-ready, promising products. The ChargeBox system is one such development and is already successfully in use at over 1,000 charging points in Europe and the USA.

Speidel explained the vision behind the developed battery-based charging system: "The transformation to a climate-neutral energy economy is one of the greatest challenges of our time. In particular, tomorrow's energy system will be more electric, more digital and more decentralized. In addition, today's electricity, heat and mobility sectors will increasingly interact to compensate for volatility in renewable energy supply. The ChargeBox exemplifies how generation and consumption will be brought into new relationships in the future, even compensating for power bottlenecks."

A central technological challenge in the development of the ChargeBox was to realize the required power density, efficiency and complexity in a small installation space. This

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was achieved by using state-of-the-art silicon carbide semiconductors, on which the multi-stage converter system was built.
Reichert explains, "We have been using this material for our research for years, applying new components for photovoltaic inverters, among other things. Here, the technology has now been successfully transferred to stationary chargers. Silicon carbide transistors enable a higher switching speed and clock frequency. As a result, the converters are both highly compact and efficient. For example, the efficiency of the power conversion system in the ChargeBox is a good 95% when charging the battery storage unit from the grid, and over 98% when current flows between the battery storage unit and the vehicle battery."

ADS-TEC Energy started to transfer the ChargeBox to series production in 2020 and has established a new production site in Saxony, near Dresden, in addition to the development site at the company headquarters in Nürtingen near Stuttgart. The system consists of an internal battery storage unit, the very compact and powerful current transformers and a cooling unit adapted to it. It is technically safe, tested, certified and globally applicable. Since ChargeBox operation is whisper-quiet, it is ideally suited for use in residential areas and other locations in inner-city areas as well as in rural areas. In addition, the entire system requires only one and a half square meters of space. It includes two remotely positionable charging outlets, known as "charge dispensers," which offer the possibility of charging two cars simultaneously - with 160 kW each. If only one dispenser is used, up to 320 kW of output power is possible.

Fast charging as the basis for acceptance of e-mobility

Inspiration for the ChargeBox development was provided by the car manufacturer Porsche, which was seeking a battery-buffered fast-charging solution for power-limited grid situations. With ChargeBox, charging in minutes instead of hours becomes possible everywhere, even at power-limited locations. It use will accelerate acceptance for e-mobility within society. The ChargeBox contains a whole range of innovative elements for which several dozen patents are pending. In addition, the system is expandable and can also be used to charge trucks and buses in the future. Behind the ChargeBox technology is an extended team of professionals that are helping ADS-TEC Energy to significantly shape e-mobility and dissolve the potential limitation imposed by grids. The involvement of customers and partners—Porsche, in particular— has also contributed to the significant success of the project, as well as the diverse content and financial support that was required in this exceptionally complex project.

About Deutscher Zukunftspreis

For more than 25 years, the Deutscher Zukunftspreis, the German President's Prize for Technology and Innovation, has nominated and honored pioneering inventions and

research results in fields ranging from robotics to materials research and from software development to biochemistry.

It is not possible to apply for the prize; instead, nominations are submitted by renowned scientific and business institutions. A jury consisting of independent experts from science and practice decides on the final round nominees and the winning team in a multi-stage process. This year's winning team will receive its award from German President Frank-Walter Steinmeier in Berlin on October 26, 2022.

https://www.deutscher-zukunftspreis.de/en

About ADS-TEC Energy

ADS-TEC Energy plc, a public limited company incorporated in Ireland and publicly listed on NASDAQ ("ADS-TEC Energy"), serves as a holding company for ADS-TEC Energy GmbH, our operating company incorporated in Germany ("ADSE GM") and ADS-TEC Energy Inc., a US subsidiary of ADS-TEC Energy GmbH ("ADSE US" and together with ADS-TEC Energy and ADSE GM, "ADSE"). ADSE is a global leader in battery-buffered, ultra-fast charging technology that draws on more than 10 years of experience with lithium-ion technologies, storage solutions and fast charging systems, including the corresponding energy management systems. Its battery-based, fast charging technology enables electric vehicles to ultrafast charge even on low powered grids and features a very compact design. The high quality and functionality of the battery systems are due to a particularly high depth of development and in-house production. With its advanced system platforms, ADSE is a valuable partner for automotive, OEMs, utility companies and charge-operators.
More information on www.adstec-energy.com

More Information

https://www.ise.fraunhofer.de/en/business-areas/power-electronics-grids-and-smart-systems/power-electronics-and-grid-integration/power-electronics-for-electric-mobility.html

Stefan Reichert, Fraunhofer ISE, Thomas Speidel and Dr. Thorsten Ochs (both ADS-TEC Energy) are nominated for the Deutscher Zukunftspreis 2022. © Deutscher Zukunftspreis

Dipl.- Ing. Stefan Reichert developed the power electronics for the ChargeBox with colleagues from the Power Converter Units group at Fraunhofer ISE. © Deutscher Zukunftspreis

The ChargeBox allows up to two vehicles to be fast-charged at one charging station, even with a power-limited grid connection. © Deutscher Zukunftspreis