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Security every step along the way:

In future, electric vehicles will communicate extensively with their enviro nment

Electric vehicles exchange data both while in motion and during the charging process. Total data security and data protection must be guaranteed. This applies to both charging and the billing process. It applies as a principle for green energy charging when we connect electric vehicles to the Smart Grid, and also when we want to use value-added services.

The international standardisation system has created a basis for communication between an electric vehicle and the charging infrastructure in the form of international standard ISO 15118, which is already in place. The process chain and the value chain for charging processes and value-added services also involve billing systems and other players, however. These include third-party providers, energy providers, network operators, fleet managers, vehicle manufacturers, and services such as mapping services. Communication in this area still has not been standardised. In addition, standardisation does not yet cover safeguarding the vehicle, the charging unit itself, or the linked back-end and billing systems. These are the gaps that the DELTA project is designed to close.

Security every step along the way

The charging infrastructure for electric vehicles must be able to exchange data, securely and on a standardised basis, with other players, known as “secondary actors”. That’s why the stated goal of the project is to ensure end-to-end data security for both measurement and billing processes for users of electric mobility systems.

Partner

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DELTA answers important questions:

- What are some specific applications for communication in electric mobility? And what are the specific features of each?
- How can the smart metering requirements currently in place in Germany be applied to electric mobility?
- Which guideline do we need when it comes to handling certificates for end-to-end authentication between electric vehicles and other players?
- How must secure protocols be structured to link back-end IT systems?
- Which measures to safeguard communication, participating entities and the entire back-end infrastructure are needed for secure and manipulation-free charging and billing for electric vehicles?

Project partner

Members of the project consortium are DKE, the German Commission for Electrical, Electronic and Information Technologies of DIN and VDE; FKFS, the Research Institute of Automotive Engineering and Vehicle Engines Stuttgart; SIT, the Fraunhofer Institute for Secure Information Technology; Dr. Marc Mültin; PTB, Germany's National Metrology Institute; the Technical University of Dortmund; Webolution GmbH; and RWE International SE as the lead member. The project is sponsored by the German Federal Ministry for Economic Affairs and Energy, and will run or three years.

For further information and questions over contact us via e-mail dialog@delta-elektromobilitaet.de or visit our website www.delta-elektromobilitaet.de/en/