



SMA Solar Technology AG—Press Release

When the Electric Car Communicates With the Heating—Digitized Charging Infrastructure Results in Successful, Sustainable E-Mobility

- **Second EEBUS e-mobility Plugfest at Volkswagen’s Transparent Factory in Dresden.**
- **By intelligently networking electric cars with smart homes and smart buildings, the German automotive industry is making successful and sustainable e-mobility possible.**
- **Electric cars are often charged at home. To do this, they have to coordinate their energy requirements with other loads. EEBUS provides a global language for communicating across all industries and manufacturers.**

Niestetal/Dresden, October 5, 2017 - Today, a modern residential building can produce significantly more energy than it needs with a PV system. It’s already extremely economical to charge the growing number of electric cars using this excess electricity. This is one of the reasons why over 80% of electric cars are charged at private charging stations.¹

Networking with EEBUS prevents conflicts in electricity supply

The electricity demand of electric cars may compete with other loads in the house. In the future, all generators and loads, such as PV systems, heating, home appliances and even charging stations for electric cars, will thus have to be connected with each other to optimally use energy in all areas of application. The EEBUS initiative is developing a common, standardized language that makes communication across all energy sectors possible.

In practice, the EEBUS specifications define three core e-mobility areas via which energy managers and charging equipment communicate:

- **Increasing efficiency:** As much self-generated electricity as possible will be used for charging electric cars.
- **Relieving the utility grid:** The charging process will be agreed with the grid operator.
- **Overload safety:** The electric car and its charging technology always take the entire house into account. If a boiler switches on, for example, the charging current will be reduced to prevent an overload.

¹ Investigation by the German National Platform for Electric Mobility, as of September 2017. <http://nationale-plattform-elektromobilitaet.de/themen/ladeinfrastruktur>



Networking through EEBUS will enable a quick expansion of charging technology infrastructure. In many cases, the power required by charging stations already exceeds the available capacity of the utility grid. Intelligent energy management avoids intervention in the utility grid and can save on expensive construction works.

Electric car charging technology and energy managers working together closely

The Volkswagen Group is developing intelligent charging equipment that communicates with other domestic technology via EEBUS. This equipment's interaction with energy managers and domestic technology appliances is being put to the test at Plugfest. "A sustainable e-mobility concept also includes the integration of electric cars into the energy management systems of buildings and smart homes," said Dr. Gunnar Bärwaldt, Group Development Coordinator for Charging at the Volkswagen Group. "The Volkswagen Group is relying on EEBUS to make its charging technology compatible with domestic technology on as broad a basis as possible."

In the domestic network, communication is organized by a control center, such as the ennexOS energy management platform by SMA Solar Technology AG. "With the EEBUS specifications, we integrate all energy generators, loads and storage systems across the electricity, heating and e-mobility sectors into the system and use a fully automated approach to ensure that energy is being used efficiently, without sacrificing convenience," explained Frank Blessing, Senior Business Development Manager of Energy Services at SMA Solar Technology AG. "This means that households and companies can make significant savings on electricity costs.

At the EEBUS Plugfest, companies from different areas of domestic technology and e-mobility are testing the interaction of their systems. In addition to SMA, this includes electrical and smart home specialist Hager and heating system manufacturer Viessmann, while connected solutions for electric cars and their charging technology are being tested both by Volkswagen Group experts and charging station specialists Mennekes.

Joint development of the standardized language for energy

The Plugfest events are part of the final stages in the development of the EEBUS standard for finished products in a particular area of application. Working in cross-industry working groups, EEBUS member companies have already determined which use cases are important for the efficient and safe collaboration of electric car charging equipment and other domestic technology, for example. These use cases will first be developed in close collaboration and only then modeled in SPINE, the technical language of EEBUS standard.

SPINE stands for "Smart Premises Interoperable Neutral message Exchange" and represents the backbone (spine) of EEBUS communication. SPINE messages between individual participants in the energy network can be transmitted via all major network and smart home standards, regardless of platform and with secure encryption.



About EEBUS

EEBus Initiative e.V. is an independent association with over 60 members—predominantly leading European manufacturers in the fields of smart home technology, networked domestic technology, e-mobility and energy. Together with its members, this association develops the open EEBUS standard—the global language of energy in the internet of things. With this language, devices and systems can communicate with each other about the efficient use of energy, regardless of their manufacturer. All developed specifications are internationally standardized and freely accessible.

For more information and an up-to-date list of members, visit www.eebus.org.

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About SMA

The SMA Group with sales of around €1 billion in 2016 is the global market leader for solar inverters, a key component of all PV plants. SMA offers a wide range of products and solutions that allow for high energy yields for residential and commercial PV systems and large-scale PV power plants. To increase PV self-consumption efficiently, SMA system technology can easily be combined with different battery technologies. Intelligent energy management solutions, comprehensive services and operational management of PV power plants round off SMA's range. The company is headquartered in Niestetal, near Kassel, Germany, is represented in 20 countries and has more than 3,000 employees worldwide, including 500 working in Development. SMA's multi-award-winning technology is protected by approximately 900 patents and utility models. Since 2008, the Group's parent company, SMA Solar Technology AG, has been listed on the Prime Standard of the Frankfurt Stock Exchange (S92) and is currently the only company in the solar industry that is listed in the TecDAX index.

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