



Model Line, Innovation and Technology Communications

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Audi promotes EEBUS Standard for Intelligent Connection of Electric Cars and Buildings

- **Involvement in the EEBUS initiative for intelligent home integration of electric cars**
- **Communication standard establishes uniform language in the Internet of Things**
- **Standard release as part of “Plugfest E-Mobility” at Audi Brussels**

Ingolstadt, January 29, 2019 – Audi is actively involved in shaping the digital energy world of the future. The brand with the four rings is involved in the EEBUS initiative to promote networking across manufacturer and industry boundaries. The Audi e-tron (combined electric power consumption in kWh/100 km (62.1 mi)*: 26.2 - 22.6 (WLTP); 24.6 - 23.7 (NEFZ); CO₂ emissions combined in g/km (g/mi): 0) is the first electric car whose charging system uses the new communication standard. At the “Plugfest E-Mobility” at the Audi plant in Brussels, developers are testing cross-industry compatibility before the EEBUS standard for energy communication is introduced in February.

The electric car will play an important role as a power consumer in the digital energy world. As an energy storage device, the electric car has great potential to drive the energy transition forward and absorb peak loads resulting from regenerative generation. Cars are stationary for most of the day, which leaves a great deal of time for flexible charging. Because of this, the new power consumers not only present an additional load on the power grid, but can potentially serve as flexible storage devices in the context of the variable availability of solar and wind power. Inside a building, electric cars and household appliances, heat pumps, and other consumers can coordinate their particular power requirements, thereby preventing overloads. However, this requires all large power generators and consumers to be connected in order to ensure intelligent control of power requirements. This is precisely what the EEBUS initiative has defined as its goal: Seamless and cross-industry communication in the energy system of the future. Audi is working together with more than 70 international companies to create the common language for energy management in the Internet of Things.

Plugfest confirms EEBUS standard release

During the two-day “Plugfest E-Mobility” on January 28 and 29, EEBUS members will test their developments on the basis of the open communication standard at the Audi plant in Brussels. Developers and engineers will perform model tests to check whether the photovoltaics system, the charging infrastructure, the electric car, and the heating system can communicate without interference.

* Figures depending on the chosen equipment level



The devices are connected via what is known as a home energy management system (HEMS). All the information runs together in this control center, which allows all energy-relevant devices to exchange information on their electricity requirements. Following the “Plugfest,” the companies involved will pass the EEBUS specification for the area of e-mobility.

connect charging system: efficient and connected

Audi offers various solutions for charging at home. In its highest expansion stage, the optional connect charging system allows a charging capacity of up to 22 kW. It then takes only around four and a half hours to fully charge the Audi e-tron. The benefits of the system are obvious: With the connect charging system, the Audi e-tron can always be charged with the maximum output possible with the home electrical system and the car. The system also considers the power requirements of other consumers in the household and adjusts accordingly to prevent overloading the home electrical system and thus tripping the breaker. This presumes that the home is equipped with a compatible HEMS to which the charging system connects via the home’s Wi-Fi network. In this context, Audi is cooperating with two partner companies, SMA Solar Technology and Hager Group, both of which are also implementing the standard of the EEBUS initiative.

Sustainable and intelligent charging

In combination with the connect charging system and an appropriately equipped HEMS, the Audi e-tron also takes advantage of variable electricity rates. It can charge the battery when electricity is less expensive while simultaneously considering the customer’s mobility requirements, such as departure time and charge level. The connect charging system gets the necessary rate information either from HEMS or from information the customer enters into the myAudi portal. If the home is equipped with a photovoltaic system, the customer can also optimize the charging process to prefer the electricity generated by the system for charging the Audi e-tron. The electric SUV does this by considering either forecast phases of sunshine or the current flow of electricity at the home’s connection point to the public grid.

Interaction with the power grid

It is conceivable that EEBUS devices will interact with the power grid to an even greater extent in the future. An interface with the grid operator via HEMS is one possible application. This would allow electric cars to even better adapt their charge planning to grid bottlenecks and ensure that the power grid is stable, for example if multiple electric cars are charging on the same road simultaneously. The specifications of the communication standard will be rolled out at the beginning of February 2019. The EEBUS initiative is thus on its way to introducing a Europe-wide standard that connects all major power consumers in the home in a comprehensive and manufacturer-independent way.

Further information on the EEBUS initiative is available at www.eebus.org.

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Further information on official fuel consumption figures and the official specific CO₂ emissions of new passenger cars can be found in the "Guide on the fuel economy, CO₂ emissions and power consumption of all new passenger car models," which is available free of charge at all sales dealerships and from DAT Deutsche Automobil Treuhand GmbH, Hellmuth-Hirth-Str. 1, 73760 Ostfildern-Scharnhausen, Germany (www.dat.de).

The **Audi Group**, with its brands Audi, Ducati and Lamborghini, is one of the most successful manufacturers of automobiles and motorcycles in the premium segment. It is present in more than 100 markets worldwide and produces at 18 locations in 13 countries. 100 percent subsidiaries of AUDI AG include Audi Sport GmbH (Neckarsulm), Automobili Lamborghini S.p.A. (Sant'Agata Bolognese, Italy) and Ducati Motor Holding S.p.A. (Bologna, Italy).

In 2018, the Audi Group delivered to customers about 1.812 million automobiles of the Audi brand, 5,750 sports cars of the Lamborghini brand and 53,004 motorcycles of the Ducati brand. In the 2017 fiscal year, AUDI AG achieved total revenue of €60.1 billion and an operating profit of €5.1 billion. At present, approximately 90,000 people work for the company all over the world, more than 60,000 of them in Germany. Audi focuses on sustainable products and technologies for the future of mobility.
