



Communications Model Lines, Innovation and Technology

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“Audi e-tron extreme” Station 1: Siemens high-voltage test bay at Berlin switchgear plant

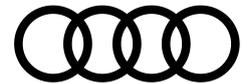
Ultra-high voltage: The Audi e-tron prototype in a Faraday cage

- **Fast charging with up to 150 kW in the Ionomy network**
- **Wide-ranging options for charging at home and on the move**
- **Range of over 400 kilometers (248.5 mi) in the WLTP driving cycle**

Ingolstadt/Berlin, April 20, 2018 – The production version of the Audi e-tron prototype heralds the dawn of a new era for the brand with the four rings: The company is transforming from a classic carmaker to a systems supplier for mobility offering its customers tailored solutions for charging, whether at home or on the move. The production version of the Audi e-tron prototype is the first car on the market that can charge at charging stations with up to 150 kW. In approximately 30 minutes, the electric SUV is then ready to set off on the next long stage of its journey. Its large lithium-ion battery provides for a range of more than 400 kilometers (248.5 mi) in the WLTP driving cycle.

The scenario: dancing lights and pulsating crackling over the car’s roof

The Faraday cage at the Siemens high-voltage test bay in the Berlin switchgear plant measures 42 x 32 by 25 meters (137.8 x 105.0 x 82 ft). A team of electricians and engineers at the world’s largest switchgear production facility is researching lightning impulse voltages of up to three million volts. Built in 1958, the parabolic hall houses an impulse voltage generator the size of a house. And the Audi e-tron prototype is right on the middle of it. Flashes of light dance with a pulsating crackle over the car’s roof, lighting up the 25 meter (82.0 ft) high hall. The experts have aimed a flashover voltage at the car. This experiment symbolizes something that people have been dreaming of for thousands of years: to capture lightning bolts and use their energy. Even today you can’t use a lightning bolt to charge an electric car, but the engineers have come a step closer to realizing the vision of lightning-fast charging. The production version of the Audi e-tron prototype is the first car on the market that can be charged with up to 150 kW.



Charging on the move: with up to 150 kW at high-power charging stations

At high-power charging stations using the European charging standard Combined Charging System (CCS), such as those in the Ionity network, the Audi e-tron prototype is ready to set off on the next long-distance stage of its journey in approximately half an hour. The key feature behind this is the sophisticated thermal management system for the lithium-ion battery. Located in the vehicle floor, it stores 95 kWh of energy to provide a range of over 400 kilometers (*248.5 mi*) in the realistic WLTP test cycle. The SUV offers full everyday usability. Plans call for 400 of these high-power charging (HPC) stations at intervals of 120 kilometers (*74.6 mi*) along European highways and main transport routes by 2020. In addition to fast charging with direct current, the electric SUV can also be charged on the move with alternating current at AC chargers, with up to 11 kW standard and optionally with 22 kW.

At market launch, Audi will provide e-tron customers simplified access to roughly 80 percent of all charging stations in Europe with a proprietary charging service. Whether it's AC or DC, 11 kW or 150 kW – just one card is all customers need to start the process. Customers have to register one time on the myAudi portal and conclude an individual charging contract. Billing is automatic and requires no physical form of payment. The procedure will become even more convenient with the function Plug & Charge, which is set to debut in 2019. A card will no longer be needed – the car authorizes itself and unlocks the charging station.

Longer trips can be planned either in the myAudi app or directly in the car. In both cases the customer is shown the appropriate route with the required charging points. The navigation system considers not only the traffic situation but also the battery's charge and includes the required charging time in its arrival time calculation. DC charging stations and most AC chargers throughout Europe are included.

Charging at home: standard with 11 kW, optionally with 22 kW

Audi offers various solutions for charging at home. If desired, an electrician referred by the local Audi dealer will check which charging options are available in the customer's garage and install the corresponding technology. The standard mobile charging system can be used in two ways: with a charging power of up to 2.3 kW when connected to a 230 volt household outlet and with up to 11 kW when connected to a 400 volt three-phase outlet. In the latter case, the battery can be fully recharged in roughly 8.5 hours. With the optional connect charging system, charging power doubles to 22 kW provided that the electric SUV is equipped with the required second charger.

Together with a home energy management system, the connect charging system also offers intelligent charging functions. For example, the Audi e-tron prototype can charge with the maximum output possible permitted by the home electrical system and the car while also considering the demand of other consumers in the household.



This prevents overloading of the home electrical system. Furthermore, customers can define their own personal priorities, such as charging when electricity is less expensive. If the home is equipped with a photovoltaic system, the car can be charged preferentially using the electricity generated by the system, and charging even considers forecast phases of sunshine.

The myAudi app provides for convenient operation from the couch. It can be used to plan, control and monitor the charging and pre-heating/-cooling of the electric SUV. Customers can set a departure time, for example, so that the Audi e-tron prototype is charged and/or heated/cooled at the desired time. The app also displays charging and driving data.

Additional information about the Audi e-tron prototype are available at www.e-tron.audi.

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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 16 locations in twelve 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 2017, the Audi Group delivered to customers about 1.878 million automobiles of the Audi brand, 3,815 sports cars of the Lamborghini brand and 55,900 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.