Audi
MediaInfo

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Silvia Gramlich: “The charging speed is decisive”

- **Short interview with Silvia Gramlich, Development of Charging Time and Charging Efficiency**
- **Audi e-tron 55** models with exceptional charging performance**

Ingolstadt, June 2, 2020 – The suitability of e-cars for everyday use is a decisive purchasing criterion. Silvia Gramlich, Development of Charging Time and Charging Efficiency at Audi, explains in a short interview how the complex battery concept in the e-tron models ensures exceptional charging performance.**

Silvia, electric vehicles are the automotive future. The charging process is one of the highly customer-relevant topics. As an expert, what is your recommendation for buyers of e-cars? What should they pay attention to?
Obviously, a car’s suitability for everyday use. And there are two key aspects in this context: The first one is full rechargeability at home overnight. Thanks to a three-phase 11-kilowatt onboard charger our e-tron** models with their large batteries achieve this in just under nine hours. The other aspect is good long-distance suitability – which was a key objective right from the beginning of the development of the e-tron**.

How did Audi achieve this?
Our solution is a sophisticated battery concept enabling the battery to be charged with 150 kW direct current. Compared with the competition, that’s a good value, but far from the whole truth. Charging speed is crucial in this context.

Why is “charging speed” so important?
Customers should not just be interested in the maximum value of charging power, but rather in how it progresses and may have to be reduced during a charging process, because otherwise the batteries – for physical reasons – heat up. Thanks to elaborate thermal management, among other things, our concept in the Audi e-tron** enables exceptional charging performance across the entire charging period compared with the competition. As a result, our customers can fully charge the car very quickly, because we can keep our charging capacity at a high level across a longer period of time. To illustrate the point: charging curves of our competitors very often look like a Sugar Loaf Mountain while ours tend to look more like Table Mountain in Cape Town. The crucial question for customers is: how many kilowatt hours can I recharge in what period of time? For the e-tron 55** and e-tron Sportback 55**, the rule of

** The collective fuel consumption values of all models named and available on the German market can be found in the list provided at the end of this MediaInfo.

thumb is: when charging begins at a charge level of 5%, ten minutes of charging time, ideally at a fast-charging column, are sufficient for up to 110 kilometers of range according to WLTP, after nearly 30 minutes, the 80% level has been achieved while a full charging process takes around 45 minutes.

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Fuel consumption of the models named
(Information on fuel/electricity consumption and CO_2 emissions as well as efficiency classes in ranges depending on the tires and alloy wheel rims used and the chosen equipment level of the car.)

Audi e-tron 50 quattro
Combined electric power consumption in kWh/100 km: 26.6–22.4 (WLTP); 24.3–21.9 (NEDC);
CO_2 emissions combined in g/km: 0

Audi e-tron 55 quattro
Combined electric power consumption in kWh/100 km: 26.4–22.4 (WLTP); 23.1–21.0 (NEDC)
CO_2 emissions combined in g/km: 0

Audi e-tron Sportback 50 quattro
Combined electric power consumption in kWh/100 km: 26.3–21.6 (WLTP); 23.9–21.4 (NEDC)
CO_2 emissions combined in g/km: 0

Audi e-tron Sportback 55 quattro
Combined electric power consumption in kWh/100 km: 26.0–21.9 (WLTP); 22.7–20.6 (NEDC)
CO_2 emissions combined in g/km: 0

The indicated consumption and emissions values were determined according to the legally specified measuring methods. Since September 1, 2017, type approval for certain new vehicles has been performed in accordance with the Worldwide Harmonized Light Vehicles Test Procedure (WLTP), a more realistic test procedure for measuring fuel consumption and CO_2 emissions. Beginning September 1, 2018, the WLTP will gradually replace the New European Driving Cycle (NEDC). Due to the realistic test conditions, the fuel consumption and CO_2 emission values measured are in many cases higher than the values measured according to the NEDC. Vehicle taxation could change accordingly as of September 1, 2018. Additional information about the differences between WLTP and NEDC is available at www.audi.de/wltp.

At the moment, it is still mandatory to communicate the NEDC values. In the case of new vehicles for which type approval was performed using WLTP, the NEDC values are derived from the WLTP values. WLTP values can be provided voluntarily until their use becomes mandatory. If NEDC values are indicated as a range, they do not refer to one, specific vehicle and are not an integral element of the offer. They are provided only for the purpose of comparison between the various vehicle types. Additional equipment and accessories (attachment parts, tire size, etc.) can change relevant vehicle parameters, such as weight, rolling resistance and aerodynamics and, like weather and traffic conditions as well as individual driving style, influence a vehicle's electrical consumption, CO_2 emissions and performance figures. Fuel consumption and CO_2 emissions figures given in ranges depend on the tires/wheels used and chosen equipment level.

Further information on official fuel consumption figures and the official specific CO_2 emissions of new passenger cars can be found in the "Guide on the fuel economy, CO_2 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 16 locations in 11 countries. 100 percent subsidiaries of AUDI AG include Audi Sport GmbH (Neckarsulm, Germany), Automobili Lamborghini S.p.A. (Sant'Agata Bolognese, Italy) and Ducati Motor Holding S.p.A. (Bologna, Italy).

In 2019, the Audi Group delivered to customers about 1.845 million automobiles of the Audi brand, 8,205 sports cars of the Lamborghini brand and 53,183 motorcycles of the Ducati brand. In the 2019 fiscal year, AUDI AG achieved total revenue of € 55.7 billion and an operating profit of € 4.5 billion. At present, 90,000 people work for the company all over the world, 60,000 of them in Germany. Audi focuses on sustainable products and technologies for the future of mobility.
