
Audi e-tron quattro concept

Aerodynamically-optimized design with a drag coefficient of 0.25, a purely electric e-tron quattro drivetrain with up to 370 kW of power output – the Audi e-tron quattro concept is an all-electric, full-size class sport SUV. The technology study provides a firm glimpse at the production model to follow in 2018. And it is a statement about the future of electric mobility: It is sporty, efficient and suitable for everyday use.

Pure performance: Three electric motors

The Audi e-tron quattro concept uses the power of three electric motors: One electric motor drives the front axle, the two others act on the rear axle. Together they produce 320 kW. During boosting, the driver can even draw temporarily on 370 kW and more than 800 Nm (*590.0 lb-ft*) of torque. The concept study offers sports car-like performance. When the driver floors the right pedal, the Audi e-tron quattro concept sprints from a standstill to 100 km/h (*62.1 mph*) in 4.6 seconds and quickly reaches the electronically governed top speed of 210 km/h (*130.5 mph*).

The concept with three electric motors which Audi is presenting for the first time makes the technology study an e-tron quattro. An intelligent drive management system controls the interplay between them as appropriate for the situation, while also maximizing efficiency. The driver decides on the degree of recuperation, the driving program S or D and the mode of the Audi drive select system. During sporty driving on a winding road, the Torque Control Manager actively distributes the power between the rear wheels as necessary. This torque vectoring provides for maximum dynamics and stability.

The large lithium-ion battery is integrated into the floor of the passenger compartment. It gives the Audi e-tron quattro concept a balanced axle load distribution and a low center of gravity – prerequisites for dynamic handling. The battery's capacity of 95 kWh enables a range of more than 500 kilometers (*310.7 mi*).

The Combined Charging System (CCS) enables charging with DC or AC electrical current. A full charge with DC electrical current at a charging column with an output of 150 kW takes just around 50 minutes. The study is also designed for use with Audi Wireless Charging (AWC) technology for contactless inductive charging. The charging process is very convenient. The Audi e-tron quattro concept uses a system for piloted parking that guides it to the proper position on the charging plate. When the sun is shining, a large solar roof provides electricity for the drive system battery.

The chassis also expresses the high-tech character of the concept study. The adaptive air suspension sport, which features controlled damping, lowers the body at higher speeds and thus reduces drag. The dynamic-all-wheel steering combines a dynamic steering system on the front axle with a steering system for the rear wheels.

Aerodynamic: the exterior design

The Audi e-tron quattro concept harmoniously combines the design with aerodynamics and the all-electric drivetrain. The five-door technology study is 4.88 meters (*16.0 ft*) long, 1.93 meters (*6.3 ft*) wide and just 1.54 meters (*5.1 ft*) high. Its coupe-like silhouette with the extremely flat greenhouse that tapers strongly toward the rear lends it a very dynamic appearance. The drag coefficient of 0.25 is the new benchmark in the SUV segment, where figures well over 0.30 are typical.

At speeds from 80 km/h (*49.7 mi*), electrically actuated aerodynamic elements on the engine hood, the flanks and at the rear end direct the flow of air as needed to improve the flow through and around the vehicle. The vertical separating edges on the side panels and the fully enclosed floor plan with its newly designed microstructures also help to reduce drag. Cameras replace the exterior mirrors. Wind noise is low on board the car, and there are no engine noises in an electric car in any case. The fascination of electric driving unfolds in the silence.

All primary lighting functions at the front of the car use Matrix laser technology. The bottom section houses a new, distinctive lighting signature comprising five lighting elements. Each of these combines an LED luminary with an extremely flat OLED element (organic light-emitting diode). The rear lights also comprise two sections. Each of the top zones features nine red OLED units for the tail light function, with three more below.

Spacious and comfortable: the interior

The package of the Audi e-tron quattro concept enables a spacious, comfortable interior for four persons and 615 liters (*21.7 cu ft*) of luggage. The interior has a light and open feel to it; its architecture melds harmoniously with the operating and display concept. All displays in the interior use OLED technology. The extremely thin films can be cut to any desired shape.

The concept study is equipped with all the technologies that Audi has developed for piloted driving: radar sensors, a video camera, ultrasonic sensors and a laser scanner. The data these supply come together in the central driver assistance controller (zFAS) in the luggage compartment. It computes a complete model of the car's surroundings in real time and makes this information available to all assistance systems and the systems for piloted driving. These technologies are also nearly ready for use in Audi production



vehicles.

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