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Audi urbansphere concept – Premium Platform Electric

### **Drive system and charging**

The technology platform of the Audi urbansphere – the Premium Platform Electric or PPE – was designed exclusively for battery-electric drive systems and therefore takes full advantage of all the benefits of this technology. The key element of the PPE is a battery module between the axles, which – as in the Audi grandsphere – holds around 120 kilowatt hours of energy. Audi has succeeded in achieving a flat layout for the battery by using almost the entire base of the vehicle between the axles. Together with the large 24-inch wheels, this produces basic proportions that are perfect not only from a design perspective. The core benefits include a long interior and therefore legroom in both rows of seats. Additionally, the absence of a gearbox cover and a cardan tunnel increases spatial comfort in electric cars.

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The Audi urbansphere concept's two electric motors are capable of delivering a total output of 295 kilowatts and a system torque of 690 newton meters. These are impressive figures that are often not fully utilized when driving in dense urban traffic. Nevertheless, the Audi urbansphere is still equipped with permanent quattro four-wheel drive – an essential feature for the brand's high-performance models.

The concept car has one electric motor on each of the front and rear axles which, by means of electronic coordination, implements the permanently available all-wheel drive as required, balancing these perfectly against economy and range requirements.

One innovative feature is that the motor on the front axle can be deactivated as required in order to reduce friction and thus energy consumption when coasting. 8/8

### **Fast charging, high range**

The heart of the drive system is the 800 volt charging technology. It ensures that the battery can be charged with up to 270 kilowatts at fast-charging stations in the shortest possible time. As such, charging times approach those of a conventional stop to refuel a car powered by an internal combustion engine: just ten minutes are enough to charge the battery to a level sufficient to power the car more than 300 kilometers (*186 miles*). In addition, the battery, which holds more than 120 kilowatt hours, can be charged from 5 to 80 percent in less than 25 minutes. This means that a range of up to 750 kilometers (*466 miles*) can be expected according to the WLTP standard – and even when used for more energy-intensive city and short-distance trips, it is generally possible to avoid making

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unexpected stops to charge.

### **Air suspension for maximum comfort**

The front wheels are connected via a 5-link axle that has been specially optimized for electric vehicles. In the rear, there is a multi-link axle that, like the front axle, is made of lightweight aluminum. Despite the long 3.40 meter (*11 foot*) wheelbase, the steerable rear wheels provide excellent maneuverability.

The Audi urbansphere concept, like its closest relative the grandsphere, features Audi adaptive air suspension – a single-chamber air suspension system with semi-active damper control. It offers outstanding comfort not only on city highways, but even on the uneven, often patched asphalt of downtown streets with no noticeable body movement.

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