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Audi at the IAA 2017: Autonomous driving in three steps

- **New flagship Audi A8 and two concept cars**
- **Show cars with intelligent Audi AI technologies for levels 4 and 5**
- **Additional highlights: Audi A4 Avant g-tron and two new R and RS models**

Ingolstadt/Frankfurt am Main, September 8, 2017 – Progress in three levels: Audi is showcasing its autonomous driving strategy at the IAA 2017. The new Audi A8 incorporates conditional automated driving at level 3 as standard. Two concept cars will also be demonstrating the Audi vision for level 4 and level 5. They also provide insights into the brand's future Audi AI technologies. Other production models – from sporty to ultra-efficient – round off the motor show presence of the brand with the four rings.

Conditional automated driving at level 3 as standard: the new Audi A8
The new A8 is the world's first volume-production car to be designed for conditional automated driving at level 3 in accordance with international standards. On highways and multi-lane motorways with a physical barrier separating the two directions of traffic, the Audi AI traffic jam pilot takes over the driving task in slow-moving traffic up to 60 km/h *(37.3 mph)*. The system handles starting from a stop, accelerating, steering and braking in its lane. If the driver has activated the traffic jam pilot at the AI button on the center console, they can take their foot off the accelerator and their hands off the steering wheel for longer periods. Unlike at level 2, they no longer need to monitor the car permanently and, depending on current national regulations, can turn to other activities supported by the on-board infotainment system. The driver must remain alert and capable of taking over the task of driving when the system prompts them to do so.

The Audi AI traffic jam pilot is based on two technologies, which Audi is the first manufacturer anywhere in the world to incorporate as standard: The central driver assistance controller (zFAS), which generates an image of the surroundings while driving by fusing sensor data. At the same time, a second data fusion takes place in the radar control unit. Meanwhile, the laser scanner, the second innovation, provides detailed information on vehicles cutting in and on the roadside peripheral structures, for instance.

Introduction of the Audi AI traffic jam pilot requires both clarity regarding the legal parameters for each country and specific adaptation and testing of the system. Moreover, varying worldwide homologation procedures and their deadlines must be observed. For these reasons, Audi will initiate series production of the traffic jam pilot in the new A8 incrementally, depending on the legal situation in the respective country.

Highly automated at level 4: concept car with new technology
This Audi study is an SUV coupé measuring 4.90 meters *(16.1 ft)* long. Based on the Audi e-tron Sportback concept, it adopts the concept's dynamic lines, the progressive lighting technology, the functionally elegant interior and the electric quattro drive with three electric motors and a combined peak output of 370 kW.

A new highlight of the study are intelligent technologies which reduce the driver's workload and open up many opportunities for spending time in the car pleasantly and usefully. These systems are summarized under the term Audi AI and, in many cases, use strategies from the field of artificial intelligence and machine learning. They are networked seamlessly with the cloud and with other vehicles (car-to-X) – giving them the capability to learn and think in a proactive and empathetic way. Thanks to these systems, the driver gains more time, more safety, more efficiency and more customization. For highly automated driving at level 4 the SUV coupé uses a next-generation zFAS. It provides information for the highway pilot which can take over the driving task at speeds up to 130 km/h *(80.8 mph)* and automatically change lane.

Autonomously on course for the future: concept car drives at level 5
The second Audi concept car for the IAA is heading autonomously into the future. It offers its occupants entirely new freedoms where they no longer have to concentrate on road traffic. Passengers can use the extra time on something other than driving. To this end, the show car combines many new features in the area of connectivity, communication and operation, which make traveling extremely comfortable. Thanks to Audi AI these systems are intelligent and forward-thinking.

The new concept car from the Ingolstadt-based automaker is designed primarily for long journeys. It is powered by four electric motors. The car is situated in the D segment, the automotive top tier, and has a range between 700 and 800 kilometers *(435.0 - 497.1 mi)*.
The interior and exterior design of the full-size model is spectacular and groundbreaking.
It offers brand-new possibilities which an all-electric, self-driving car opens up for designers.

Further premieres and activities: efficient, sporty and connected

Fuel consumption of the models named:
A4 Avant g-tron: CNG consumption in kg/100 km: 4.3 - 3.8*; combined fuel consumption in l/100km: 6.5 - 5.5* *(36.2 - 42.8 US mpg)*; combined CO_2 emissions in g/km (CNG): 117 - 102* *(188.3 - 164.2 g/mi)*; combined CO_2 emissions in g/km (gasoline): 147 - 126* *(236.6 - 202.8 g/mi)*
A5 Sportback g-tron: CNG consumption in kg/100 km: 4.2 - 3.8*; combined fuel consumption in l/100 km: 6.3 - 5.6* *(37.3 - 42.0 US mpg)*; combined CO_2 emissions in g/km (CNG): 114 - 102* *(183.5 - 164.2 g/mi)*; combined CO_2 emissions in g/km (gasoline): 143 - 126* *(230.1 - 202.8 g/mi)*

With the A4 Avant g-tron and A5 Sportback g-tron which can now be ordered, Audi is making an attractive offer for climate-friendly and, at the same time, economical mobility. Its 2.0 TFSI delivers 125 kW (170 hp) and 270 Nm *(199.1 lb-ft)* of torque and, fitted with the seven-speed S tronic, consumes just 3.8 kilograms of natural gas (CNG) per 100 kilometers *(62.1 mi)* in the NEDC cycle. That is equivalent to CO_2 emissions of 102 grams per kilometer *(164.2 g/mi)* and fuel costs of around four euros (as at: September 2017). The total range is 950 kilometers *(590.3 mi)*, up to 500 kilometers *(310.7 mi)* in gas mode. The g-tron fleet is especially eco-friendly when running on Audi e-gas. Through the end of May 2018, the brand with the four rings will be offering to supply every customer with e-gas as standard, in other words at no extra charge. In the well-to-wheel analysis, Audi e-gas reduces CO_2 emissions by 80 percent**.

Audi Sport GmbH will be celebrating two world premieres as part of IAA 2017. The fourth generation of the high-performance Avant is another impressive chapter in the success story of the first RS model, the RS 2 Avant. The Audi subsidiary will also be showcasing for the first time a limited special model with rear-wheel drive.

Audi and HERE Technologies are forging closer links all the time. In the new A8, the automaker is already using multiple services and new technologies from HERE, one of the leading software companies for digital navigation maps and location-based services.
Audi itself has a stake in HERE, with both companies looking to work together even more closely in future. They will jointly be presenting their products in the New Mobility World that is part of the IAA.

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* Figures depend on the tires/wheels used and on the transmission version
**In pure e-gas mode (CNG) with a well-to-wheel analysis (a life cycle assessment that includes fuel production and normal driving of the automobile), in comparison with an equivalent model in the same performance class with a conventional gasoline engine