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Audi show cars

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Audi A6 L e-tron concept

Audi is presenting its first luxury-class e-tron concept car – a technology study known as the Audi A6 L e-tron concept at Auto China 2012 in Beijing. The plug-in hybrid has a powerful drive system that enables a driving range of 80 km *(49.71 miles)* on pure electric power, and it was specifically designed to fulfill Chinese needs.

The A6 L e-tron concept is an important step towards future electric mobility in China for Audi. With its first e-tron technology study in the luxury class, the company is showing what a locally produced New Energy Vehicle from Audi might look like.

The basis for this study is the new A6 L, the most successful premium automobile and Audi's bestselling model in China. Audi produces this business sedan at the Changchun plant in a joint venture with FAW.

The A6 L e-tron concept is precisely tailored to the requirements of Chinese customers. Plug-in hybrids that can travel long distances electrically – thereby enabling zero emissions driving in local areas – are ideal for use in rapidly growing megacities. Beyond its drive system, the A6 L e-tron concept has all of the qualities that customers value in Audi cars: prestige, comfort and sporty performance.

Parallel hybrid system: intelligently combined TFSI and electric motor

The technology study is a parallel hybrid. It brings together a 2.0 TFSI that outputs 155 kW (211 hp) and an electric motor with 70 kW (95 hp) peak power. The liquid-cooled lithium-ion battery is located in a collision-protected space at the rear of the vehicle. In electric mode, the Audi A6 L e-tron concept can travel up to 80 km *(49.71 miles)* at a constant speed of 60 km/h *(37.28 mph)*. At any given moment, the hybrid control module chooses the best suited operating mode with the focus on driving range.

This technology platform can be operated with only the internal combustion engine, only the electric drive, or in hybrid mode. In addition, it can recover energy during deceleration, or it can boost output power for strong acceleration by combining the two drives. The Audi A6 L e-tron concept delivers sporty performance.

Setting a course for the future: Audi's e-tron strategy

The rapid advance in urbanization and the associated need to reduce CO_2 emissions are a key determining factor for new drive technologies. Audi views electric mobility as a key future technology and is working on highly efficient solutions that simultaneously offer the customer a typical Audi driving experience.

Audi has already launched electrified drive systems in volume production with full hybrid models that have highly advanced lithium-ion technology. The Q5 hybrid quattro, A6 hybrid and A8 hybrid can drive up to three kilometers *(1.86 miles)* on electric power. In combined mode, which uses the internal combustion engine and electric motor, customers experience sporty driving performance and significantly better fuel economy.

The next step is to implement drive systems in which electric driving is the primary focus. The term Audi e-tron refers to technologies ranging from PHEV (Plug-in Hybrid Electric Vehicle) to range extenders and finally vehicles powered purely by electric batteries or fuel cells.

In its first Audi e-tron concept car, Audi already showed how this future might look. And in the case of the R8 e-tron, this vision will be realized in a short production run later this year.

Audi is using A1 e-tron and A3 e-tron test vehicles to acquire important customer feedback, which can be incorporated in later production cars. The first product will be the A3 e-tron in 2014. It will be followed by other New Energy Vehicles. In this way, e-tron will become established as a further attractive drive technology option alongside TDI and TFSI.

Elegant: the styling

The Audi A6 L e-tron concept is notable for its elegant styling. The sedan, which has a 3.01 meter *(9.88 feet)* wheelbase, is 5.02 meters *(16.47 feet)* long and 1.87 meters *(6.14 feet)* wide, but only 1.46 meters *(4.79 feet)* tall. Its long engine hood, its low, extended roof line and the sharp lines on its sides create an athletic overall look. Characteristic Audi LED headlights emphasize the car's determined expression.

The car's exterior styling shows its differences from the production car. At the front, the single-frame grille with its slender cross-bars and the nearly covered air intakes attract the eye – both features are typical of all e-tron models. Powerful 21-inch wheels in e-tron design and the special rear diffuser highlight the car's progressive character. On the body, signatures identify the prototype's technology, while under the engine hood a styling capsule covers engine components. A ribbed contour at its center symbolizes the hybrid drive.

Lightweight and strong with Audi ultra: the body

The body of the A6 L e-tron concept is identical to that of the Audi A6 L. It is lightweight, rigid and safe to a maximum degree, due to application of the ultra lightweight principle. Consisting of approximately ten percent aluminum, it weighs about 15 percent less than a comparable all-steel design. Aluminum components in the load-bearing structure and exterior skin, as well as the high-tech steels used in the occupant cell, make the body significantly lighter.

Each new future Audi model will be lighter in weight than the previous model. This makes the brand a frontrunner in reversing the upward weight spiral. In designing car bodies, developers will intelligently use new combinations of materials, including carbon fiber-reinforced polymer (CFRP). For Audi, ultra lightweight construction does not solely focus on one material, rather it seeks a flexible approach that utilizes a wide variety of materials – but with one goal: to attain the best performance with the least material usage at the best places.

Furthermore, advanced materials and construction methods achieve an extremely low sound level in the interior of the Audi A6 L e-tron concept. Excellent vibration comfort is attained by fine-tuning components and by hydraulically damping axle and drive mounts.

Comfortable and sporty: the chassis

Audi's ultra lightweight construction competence is also found in the chassis, which combines a high level of comfort with sporty handling. The links are made of aluminum. The power steering, like the brake booster and the air conditioning compressor, utilizes an electromechanical drive.

At the limits of performance in driving through curves, the electronic transverse differential lock – a function of electronic stabilization control (ESC) – stabilizes the Audi A6 L e-tron concept by making small interventions at the front wheel on the outside of the curve.

Luxurious: interior and features

As in the Audi A6 L before it, the interior of the technology platform continues the elegant styling of its exterior design. Its defining element is an arc under the windshield – the wrap-around – that surrounds the driver and front passenger. The front of the instrument panel is designed in the form of a flowing wave. All of the interior details illustrate the aesthetic standard with which Audi builds its vehicles. All materials have been carefully selected and meticulously worked into the design.

The controls are intuitive. The powermeter replaces the tachometer; its pointer indicates total drive system power on a scale of zero to 100 percent. Colored segments indicate the current operating state of the A6 L e-tron concept; an auxiliary instrument visualizes the charge state of the lithium-ion battery.

Meanwhile, the energy flow indicator tells the driver the current operating mode and which hybrid drive components are currently active. It can be called up from the driver information system or MMI monitor. The large screen shows a bar diagram of average fuel economy and indicates the amount of recovered energy over five-minute intervals.

The Audi A6 L e-tron concept offers a lot of space at all seating positions. It integrates all of the model line's luxury-class features. The seats offer ventilation and massage functions, the Bose surround system delivers good sound, and the deluxe automatic air conditioning system with air ionizer ensures a pleasant climate in the car. Ambient lighting adds subtle highlights to the interior illumination.

The driver assistance and safety systems also satisfy the highest standards. Audi active lane assist supports the driver in lane-keeping, while Audi side assist helps to change lanes. When it is dark, the night vision assistant highlights detected pedestrians even at a distance; the parking assistant helps in parking. The Audi pre sense system can reduce the severity of accidents and their consequences in many cases.

The car's features also include MMI navigation plus. Many functions of the large hard-drive navigation system can be controlled by touchpad character input; the touch-sensitive pad, MMI touch, recognizes 29,000 Chinese characters. A team of engineers developed these functions at the Audi Infotainment Tech Center (ITC) in Beijing, where infotainment components from Germany are adapted to suit the wishes of Chinese customers.

Audi Q3 jinlong yufeng

At Auto China 2012 in Beijing, Audi is presenting two themed vehicles based on the Q3 – the Q3 jinlong yufeng and the RS Q3 concept. Both cars interpret the character of the compact SUV, which will launch on the Chinese market this year, in a very special way – the one is recreationally oriented and rugged while the other was systematically designed for dynamic performance.

2012 is the Chinese year of the dragon. Jinlong yufeng means “Golden Dragon in the Wind.” In this way, jinlong yufeng fits in with the character of the themed vehicle. It follows the Detroit showcar and the RS Q3 concept as another variant of the compact Audi Q3 SUV and is based on the trendy and fast-moving sport of kitesurfing, in which the objective is to fearlessly control the power of the wind.

Mounted to the roof of the Audi Q3 jinlong yufeng are two kiteboards made of carbon fiber-reinforced polymer (CFRP). The designers developed a flat outdoor pouch as a special cargo floor liner. It not only provides protection against dirt, but can also be used to stow wet beach articles or can even be used as a sun umbrella or a seat cover. The kite itself can be stowed in a kite pouch, which was also specially designed for this themed vehicle. Two rugged and compact fun sport cameras known as “Audi Cams” are stored in the left side wall of the cargo space.

Kite surfers can mount the Audi Cams to the sail bar, their equipment or a helmet with an elastic band. The images are transmitted to the car via a strong WLAN router connection. From there, they can be sent with Bluetooth car phone online to any receiver via UMTS – a new unconventional idea within the range of features of Audi connect.

Zest for life and energy: the exterior

The Audi Q3 jinlong yufeng is an off-road vehicle for young, active sports enthusiasts. Its paint finish is Liuli Yellow, a luminous monochrome color that expresses a zest for life and high energy. The body add-on parts, many of which match those of the off-road package for production cars, are painted in matt quartz; this paint, built up from different gray pigments, has a natural look and is slightly rough to the touch. The high-gloss package adds small highlights around the windows.

Vertical aluminum struts in the single-frame radiator grille extend over its full height; they form a wave shape in the area where the logo appears on the production cars. The struts match the two-tone color scheme of the Audi Q3 jinlong yufeng: their sides are painted in a quartz color, while their front edges have a high-gloss finish. Certain areas inside the xenon plus headlights are tinted in anthracite, and aluminum panels cover the upper sections of the air intakes. The underbody guard protecting the engine is made of aluminum.

Flared wheel arches and brushed stainless steel running boards are prominent features on the sides of the Audi Q3 jinlong yufeng; these items will soon be added to the Q3 accessories program. The front cross-bar of the aluminum roof rail integrates small LED spotlights for illuminating the area around the car. The two flush tailpipes of the dual-branch exhaust system are integrated in the diffuser, which is partly made of aluminum – as is the rear underbody guard.

Yellow as contrasting color: the interior

Three colors dominate inside the themed vehicle, – black, gray and yellow. The roofliner consists of titanium gray Alcantara; many of the interior surfaces are black in color. The instrument panel is upholstered in black Fine Nappa leather and is decorated with yellow contrasting seams.

Fine aluminum accents glisten in the instrument cluster; cross-ribs and small fins give the dials and pointers a sculpted look. The leather-trimmed steering wheel has contrasting yellow seams, and behind it there are two large shift paddles for control of the seven-speed S tronic. The sturdy foot rests and pedal set are made of stainless steel with rubber caps.

The seats are upholstered in woven leather – narrow strips of leather just a few tenths of a millimeter wide are interwoven with yarn. The material is accentuated by yellow piping and contrasting seams. The side panels of the seat cushions and seatbacks are bright in yellow Velvet leather – a material whose look is similar to that of nubuck leather, but with a finer grain. Yellow Velvet leather is also integrated in parts of the door trim panels.

Stainless steel mesh is used for decorative inlays. Other decorative panels in high-gloss black appear all around the instruments and in large areas of the center console and tunnel; display elements and controls appear to hover in front of them. The gear selection lever has an aluminum plate with the “Q3” signature, and yellow seams decorate its shift boot.

High performance: the powertrain

The Audi Q3 jinlong yufeng employs a powerful engine. The 2.5 TFSI, a five-cylinder unit with direct injection and turbocharging, produces 228 kW (310 hp) from 2,480 cc engine displacement. The cylinder numbers are marked, and the valve cover is painted red. A cover panel conceals sections of the engine.

Power from the turbocharged five-cylinder engine flows to a seven-speed S tronic and then to the quattro permanent all-wheel drive. The Audi Q3 jinlong yufeng sprints from zero to 100 km/h *(62.14 mph)* in 5.5 seconds and can keep accelerating to a top speed of 250 km/h *(155.34 mph)*.

The five-arm wheels are 8.5 J x 20 in size; their faces are machine-polished, while their sides are painted in matt quartz paint, similar in appearance to the single-frame grille. The off-road tires are 255/45. The front and rear track widths are 40 millimeters *(1.57 inches)* wider than those of the production version, while the ride height of the body is about 30 mm *(1.18 inches)* higher.

Audi RS Q3 concept

The blue painted Audi RS Q3 concept is a vehicle based on the theme of thrilling dynamic performance. Its engine, a 2.5 TFSI with 265 kW (360 hp) of power, and its body – lowered about 25 mm *(0.98 inches)* and widened with sharp visual details – explore the potential of the Q3 model series in a new way.

Brushed and polished aluminum trim frames the Audi RS Q3 concept's single-frame radiator grille. Its black grille insert exhibits a new geometry – the honeycombs are slightly offset to one another deeper inside, creating a distinct three-dimensional effect. The lower area of the grille integrates another sculpted feature – a silver quattro signature. The headlights are slightly tinted; inside them, some chrome parts are dark or covered by panels of carbon fiber-reinforced polymer (CFRP).

The bumper was redesigned; there are now powerful edges around the outer air intakes. They are subdivided into two segments – the inner sections have honeycomb screen inserts, while their outer sections, made of CFRP, have a smooth funnel shape. The front spoiler is also made of CFRP. Its lower section is matt black. The entire lower section of the bumper is coated with blue clearcoat paint.

The same combination of black and blue tinted areas is repeated on the sides of the Audi RS Q3 concept – on the trim strips of the doors and sills and on the add-on parts of the wheel housings. The door mirror housings consist of black CFRP, while matt aluminum trim frames the side windows. The roof spoiler runs a long way towards the rear; its middle section has been slightly shortened compared to its outer sections. It is painted in the body color Ordos Blue – a matt blue with a slight yellow tint.

At the rear, the lower bumper section has a sporty and angular style. The diffuser insert, which integrates the two large elliptical tailpipes in typical RS look, has been shifted far upward. Here too, Audi designers chose a combination of blue clearcoat and black CFRP. The rear lights and auxiliary lights in the bumper are tinted in anthracite and are made of clear glass.

Blue and black: the interior

In the interior of the Audi RS Q3 concept, which gets plenty of light through a glass sunroof, cool black is the dominant color – on the roofliner, floor carpet, floor mats, leather-upholstered instrument panel and on large areas of the seat upholstery, which consists of Fine Nappa leather. Dark blue Alcantara is used as a contrasting element on the seat covers.

The contrasting blue color is used in an inventive way in the CFRP decorative panels – the panel material was produced by weaving brilliant blue luminescent glass fibers into it. The steering wheel has large control stalks made of CFRP, which are framed by aluminum accents. Most of the wheel is covered with black Velvet leather – a leather that gives the hands a secure grip and repels dirt very well. In the door trim panels, there are surfaces in blue Alcantara.

The inside door handle has a perforated lightweight construction look as in every RS model. In the tachometer, Chinese characters replace the usual Arabic numerals. RS Q3 badges adorn the instrument cluster, the seatbacks, door sill plates and floor mats.

The styling of the engine compartment is also extremely sporty in appearance. A layered-carbon trim panel covers the area around the five-cylinder engine that sports a red valve cover, and two laterally arranged ventilation screens feed air to the engine. As is the practice in car racing, the cylinder numbers are marked on their spark plug covers. An aluminum housing holds the open sports air filter, and the filtered air tube is made of stainless steel.

Powerful: the drivetrain

The extremely powerful 2.5 TFSI in the RS Q3 concept combines two classic Audi technologies – gasoline direct injection and turbocharging. From 2,480 cc of engine displacement, it generates 265 kW (360 hp) of power. The car catapults itself from zero to 100 km/h *(62.14 mph)* in 5.2 seconds, and its propulsive force takes it to a top speed of 265 km/h *(164.66 mph)*.

A seven-speed S tronic transfers the forces of the sonorous 2.5 TFSI to the quattro permanent all-wheel drive. Generally, it directs these forces almost exclusively to the front wheels. When slip is detected there, it can redistribute forces to the rear axle via a hydraulic multi-plate clutch with electronic control – instantaneously and variably.

The alloy wheels of the Audi RS Q3 concept continue the dynamic RS Q styling and have the dimensions 8.5 J x 20. The front surfaces are high-gloss, while the sides are sandblasted. The tire size of 255/30 is not exactly typical for an SUV, but certainly for an RS model.