



Audi at Wörthersee Tour 2013

- **“Motorsport meets quattro” on the Audi stand**
- **TT ultra quattro concept – minimal weight for maximum driving pleasure**
- **Four race cars and eight series-production models in the 3,500 square meter “Home of quattro” with interactive course**

Audi is turning the Wörthersee 2013 into the “Home of quattro”. At the large gathering from May 8 to 11 in Reifnitz (Kärnten), the premium brand will unveil the Audi TT ultra quattro concept – which combines minimal weight and maximum sportiness. A wide range of high-performance cars will also give fans another taste of sportiness. In addition to the legendary Sport quattro S1, the very latest RS models and thoroughbred race cars are also on show. The Audi R18 e-tron quattro, which was the first hybrid car to win the 24 Hours of Le Mans last year, will also be part of the action at the lakeside.

At the start of May every year, the Wörthersee is the place to be for every car and Audi aficionado. Audi will therefore be showcasing a special highlight in 2013: the Audi TT ultra quattro concept. The showcar combines a lean 1,111 kilograms (*2,449.34 lb*) total weight with a 2.0 TFSI engine, whose 228 kW (310 hp) and 400 Nm effortlessly propel the coupé. From a standstill the TT ultra quattro concept is catapulted in 4.2 seconds to 100 km/h (*62.14 mph*). Its power-to-weight ratio of 3.6 kg/hp is on a par with thoroughbred super sports cars. And it is also worthwhile looking at the detail, not least because the concept car pays homage to automotive lightweight construction.

Even the current series-production car with a body weight of just 206 kilograms (*454.15 lb*) plus 98 kilograms (*216.05 lb*) for the detachable body parts is testimony to the outstanding lightweight construction expertise of Audi. The engineers from Ingolstadt and Neckarsulm concertedly fine-tuned the Audi Space Frame (ASF) in the current TT generation to come up with the body for the Wörthersee showcar, shedding another 43 kilograms (*94.80 lb*) from the body structure. Together with the optimized detachable body parts, the result is a weight saving of 100 kilograms (*220.46 lb*).



Audi has adopted an intelligent mix of materials according to the motto: the right amount of the right material in the right place. The Audi TT ultra quattro concept uses carbon-fiber reinforced polymer (CFRP) in the rear end, the center tunnel, in the B-pillars and in the roof. Magnesium components in the floor and as hinge reinforcement reduce weight even further.

The combination of lightness and sportiness is also reflected in the looks. Compared with the series-production model, the Audi designers have substantially honed the showcar's contours even further. With its large spoilers, the TT ultra quattro concept proudly displays its motorsport genes. The base of the rear wing is manufactured as a supporting component from milled aluminum, while the wing, as a functional element, is made of visible carbon.

The concept car is painted in the special color crystal white. The CFRP used on the exterior adds a striking touch on the hood, the roof, the sides and the trunk. In the interior the same material also adorns the door trim, the center console and the cross-bracing that replaces the rear seat bench. The developers have also fitted the bucket seats from the R8 GT to the concept study; their chassis alone, made out of fiberglass-reinforced plastic (FRP), reduce weight by 22 kilograms (*48.50 lb*). The driver does not have to make any compromises when it comes to equipment and appointments: air conditioning, electric window controls and an electromechanical parking brake come as standard on the TT ultra quattro concept. A veritable highlight: the exterior mirrors are replaced by compact cameras which transfer the images directly into the digital cockpit.

To reverse the weight spiral, the Audi ultra lightweight construction concept is applied to all elements in the automobile. The developers have further optimized each component. The front brakes feature ceramic discs with an aluminum fixed caliper, the exhaust system made out of titanium ends in a single central tailpipe. The wheels also reduce weight by 20 kilograms (*44.09 lb*). Spokes made out of high-strength aluminum are bolted directly to the CFRP wheel.

Every gram counts, particularly on the suspension. Here the unsprung masses have been reduced, thus improving comfort and handling. On the TT ultra quattro concept the coil springs are not made out of steel but from fiberglass-reinforced plastic (FRP). The core of the all-new springs consists of long glass fibers twisted together and impregnated with epoxy resin.



A machine wraps additional fibers around this core, which is only a few millimeters in diameter, at alternating angles of plus and minus 45 degrees to the longitudinal axis. These layers support each other and act in either compression or tension. The use of FRP at this point cuts weight by 40 percent while maintaining good characteristics – 6 kilograms (*13.23 lb*) in relation to the car as a whole.

To further hone the handling of the TT, the developers have taken away weight from the ends of the car and moved it into the middle. The lithium-ion starter battery, for instance, is located in the interior under the driver's seat. It is much smaller than a lead battery and weighs as little as just under four kilograms (*8.82 lb*).

Overall, all these lightweight construction measures make the concept car about 300 kilograms (*661.39 lb*) lighter than the comparable sporty series-production model. All of which helps minimize the inertial mass that the 228 kW (310 hp) 2.0-liter TFSI engine contends with during acceleration. The modified high-end four-cylinder unit develops its maximum torque of 400 Nm between 1,900 and 5,000 rpm, putting it on a par with the power of the V8. Modifications to the crankcase, the crankshaft, the balancer shafts, the flywheel, the oil sump, the bolts and certain ancillary units that make the engine 25 kilograms (*55.12 lb*) lighter have all helped get the engine into tip-top shape.

Thus the Audi TT ultra quattro concept offers the kind of driving experience that automotive fans on the Wörthersee expect from a genuine high-performance model. Like the "Ur-quattro" from 1980 and more than five million series-production vehicles since, this year's showcar is also fitted with the quattro permanent all-wheel drive. Grip is therefore always ensured despite the impressive performance. With its six speed transmission, the TT ultra quattro concept is 1.3 seconds faster than the series-production model when accelerating from 0 to 100 km/h (*62.14 mph*). The top speed is 280 km/h (*173.98 mph*).

The Audi showcar demonstrates the technical possibilities of an intelligent mix of materials. In this way considerable weight savings can even be achieved on an existing series-production model. Usage of these technologies is conceivable for future small-batch series.



The Audi stand at the Wörthersee

With high performance, success and lightweight construction, Audi is presenting at the Wörthersee in the “Home of quattro” not only the TT ultra quattro concept but also four race cars and eight series-production models.

The highlights include the new Audi RS 6 Avant. The high-performance model from quattro GmbH offers more efficiency and greater performance with reduced weight. Thanks to ultra lightweight construction, the RS 6 Avant weighs just under 100 kilograms (*220.46 lb*) less. The reduced weight helps cut fuel consumption from 14.0 to 9.8 liters per 100 kilometers. With the V8 twin-turbocharged 4.0 TFSI developing 412 kW (560 hp) the power-to-weight ratio of the RS 6 Avant is 3.4 kg/hp. The same figure for the predecessor was 3.5 kg/hp, despite the V10 engine. It accelerates from 0 to 100 km/h (*62.14 mph*) in just 3.9 seconds. If the customer wishes, the top speed can be increased to 305 km/h (*189.52 mph*).

In addition to the RS 6 Avant, there is also the new RS 7 Sportback. It embodies dynamism in its most stunning form. Its strong pulse also comes courtesy of the twin-turbocharged 4.0 TFSI V8. The output of 412 kW (560 hp) is on tap between 5,700 and 6,600 rpm. A constant 750 Nm (*553.17 lb-ft*) of torque are available between 1,750 and 5,500 rpm. In addition to the rocket-like propulsion, the sound is an important constituent of the driving experience: switchable flaps in the exhaust system make the engine sound even fuller at the push of a button or under strong acceleration. Audi also offers an optional sport exhaust system.

The Audi RS 5 Cabriolet impresses as a four-seater with soft top in a unique combination of elegance and power. Its 4.2 FSI, a high-revving V8 engine, outputs 331 kW (450 hp). It accelerates the high-performance sports car from 0 to 100 km/h (*62.14 mph*) in 4.9 seconds.

The Audi stand will also showcase the new Audi RS Q3 as the first RS model in the successful Q family. It is the fourth model that quattro GmbH will launch this year. An award-winning high-performance engine lies under the hood of the RS Q3 in the guise of the 2.5 TFSI engine, which boasts peak output of 228 kW (310 hp). Since 2010, an international panel of automotive journalists has named the five cylinder engine “International Engine of the Year” in its category three years in a row.



In 2012, Audi completely revamped the R8 family. The new flagship model, the R8 V10 plus, awaits fans. It develops 404 kW (550 hp) and has a peak torque of 540 Nm (*398.28 lb-ft*) at 6,500 rpm. The R8 V10 plus with the S tronic accelerates from 0 to 100 km/h (*62.14 mph*) in 3.5 seconds and only at 317 km/h (*196.97 mph*) does the rolling resistance become too much for the forward momentum.

In a nutshell, quattro GmbH has stood for high-performance and high-tech for 30 years: fascination quattro. With this anniversary, the focus on the rallies in the 80s through which the Audi quattro drive has become the world's most famous all-wheel drive system. Audi has brought a key milestone of this history to the GTI gathering at the Wörthersee: the Audi Sport quattro S1. It made its World Championship debut in 1985 at the Argentine Rally. Walter Röhrl with co-driver Christian Geistdörfer clinched the first overall victory in an S1 at the San Remo Rally in Italy in October of the same year. The Sport quattro S1 on show was used with Walter Röhrl and Christian Geistdörfer onboard at the Monte Carlo Rally in January 1986.

The Audi S3 is another protagonist at the GTI gathering on the Wörthersee. Its outstanding characteristics include everyday suitability, impressive power, and groundbreaking efficiency. It manages to pull off this feat thanks to the all-new 2.0 TFSI engine which develops 300 hp and 380 Nm (*280.27 lb-ft*) of torque.

The DTM season gets underway on the Hockenheimring on May 5. Eight RS 5 DTM cars will be lining up on the starting grid for Audi this year. Fans will be able to experience the race cars up close on the Audi stand at the Wörthersee. "Motorsport is part of the Audi DNA and a test laboratory for series production," says Wolfgang Dürheimer, Board Member for Technical Development at AUDI AG.

In 2012 the Audi R8 LMS ultra was the race car to beat. In four years it has scooped 18 championships. Fans will also be able to see it in Reifnitz.

Another race car, the victorious R18 e-tron quattro, sits alongside the TT ultra quattro concept on the Audi stage. Last year it became the first hybrid race car to win the legendary Le Mans 24-Hours and recently clocked up another historic success for Audi at the 12-Hour Race in Sebring.



Audi fans can look forward to another special attraction at the Wörthersee: The Ducati Superbike 1199 Panigale R graces the stand as special guest. Inspired by the race track, the new queen of Ducati's superbike family offers outstanding performance and cutting-edge technology. In 2012 the sports motorcycle manufacturer Ducati Motor Holding S.p.A. became a wholly-owned subsidiary of AUDI AG.

New accessories for the Audi A1.

Guests will see an Audi A1 with a new competition kit right alongside the entrance to the "Home of quattro". Since the Audi A1 was launched, Audi Genuine Accessories has been offering new customization kits twice a year. The competition kit R18 is based on the look of the successful Audi R18 e-tron quattro race car and has been reinterpreted for the Audi A1 as competition kit R18 gray and R18 red.