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Audi brings the quattro back to the race track

- **World premiere in Munich: the new Audi R18 e-tron quattro**
- **Four-wheel driven diesel hybrid for the 24 Hours of Le Mans**
- **Audi ultra lightweight as base for the application of hybrid technology**

Ingolstadt/Munich, February 29, 2012 – Motor sport is used yet again by AUDI AG to pioneer new technology: the brand with the four ring's new Le Mans race car is the world's first LMP1 car to combine a highly-efficient TDI with a hybrid system. quattro drive also celebrates its comeback to the race track with the prototype – in a entirely new form.

Audi R18 e-tron quattro is the name of the new Le Mans prototype that makes its race debut on May 5 in the 6-hour race at Spa-Francorchamps (Belgium) and fights for overall victory at the famous 24 Hours of Le Mans (France) on June 16/17. Audi unites two technologies in a fascinating way to create a new type of drive, which is also already being tested for future use in production cars: e-tron quattro.

Hiding behind this description is the next generation four-wheel drive with which Audi combines the advantages of the proven quattro drive with the potential of electromobility. To this end one vehicle axle is powered conventionally, the second by electric motors.

"Audi has always consciously selected championships and categories in racing that have a close relationship to production and therefore have technical relevance for the Audi customers," explains Head of Audi Motorsport Dr. Wolfgang Ullrich, who personally drove the new Audi R18 e-tron quattro onto the stage on Wednesday evening during its world premiere in the Audi Training Center at Munich airport – electrically and almost silent. "quattro, TFSI and TDI are three excellent examples of how motorsport has stimulated production development. A similar tendency is apparent with the e-tron quattro: we test a completely new technology on the race track before it's introduced to the Audi production line."

On the Audi R18 e-tron quattro kinetic energy is recovered on the front axle during the braking phase. It is fed as electric into a flywheel accumulator before being retrieved under acceleration again above a speed of 120 km/h. During this procedure only the front axle is integrated. The V6 TDI power plant producing 375 kW (510 hp) continues to transmit its power to the rear wheels. Both systems complement each other to create the new drive principle e-tron quattro.

Project began in February 2010

The project e-tron quattro for motorsport started in February 2010. Only 18 months passed from the initial conceptual ideas to the first test. “This is a relatively short cycle for a technology that has never been tested in motorsport and which still doesn’t even exist in production,” stresses Dr. Martin Mühlmeier, Head of Technology at Audi Sport. “The challenge is correspondingly big.”

Audi Sport developed the Audi R18 ultra in parallel to the Audi R18 e-tron quattro – because Audi takes a two-pronged approach this year in the 24 Hours of Le Mans and in the newly created FIA World Endurance Championship (WEC) – the 2012 model year Audi R18 is built with and without hybrid drive. The trick: the base of both cars is completely identical, which is why the additional logistical effort is kept limited for Audi Sport and the race team.

“The TDI engine invented by Audi is still the most efficient drive in the world,” says Dr. Wolfgang Ullrich. “We are convinced that the TDI has even more potential. This is why Audi not only supports the hybrid in motorsport as it does in production, but in parallel also the further development of the conventional drive.”

Innovation in transmission area

The R18 e-tron quattro’s twin brother more than lives up to its model name ‘R18 ultra’: it is the lightest Le Mans prototype that Audi Sport has ever built. To compensate for the additional weight of the hybrid system the subject of lightweight design and construction was the focus throughout development of the 2011 Le Mans race winning R18 TDI. In addition to the many detail optimizations there is also a genuine innovation in the transmission area: a new gearbox with a carbon-fiber composite housing was developed for the R18 – a premiere for endurance racing.

“The new R18 ultra is a distinct evolution of last year’s Le Mans race winning car,” summarizes Head of Audi Motorsport Dr. Wolfgang Ullrich. “Our drivers’

impressions were very positive from the first moment. Without the weight optimized R18 ultra we would have not been capable of realizing the R18 e-tron quattro which is absolutely identical with the exception of the hybrid system."

Le Mans 2012: two R18 e-tron quattro and two R18 ultra

Audi Sport Team Joest will field two R18 e-tron quattro and two R18 ultra prototypes in the Le Mans 24 Hours on June 16/17. The two hybrid cars are driven by last year's winning trio Marcel Fässler (CH), André Lotterer (D) and Benoît Tréluyer (F) as well as Dindo Capello (I), Tom Kristensen (DK) and Allan McNish (GB) who boast a total of 13 Le Mans wins between them. New signing Loïc Duval (F) starts together with Timo Bernhard (D) and Romain Dumas (F) in an R18 ultra as do Marco Bonanomi (I), Oliver Jarvis (GB) and Mike Rockenfeller (D).

Audi Sport Team Joest also contests the World Championship round at Spa-Francorchamps (Belgium) on May 5 in the same formation. At the same time the race doubles as a dress rehearsal for the 24 Hours of Le Mans. Only Mike Rockenfeller will miss this race due to a clashing date with the DTM.

After the 24 Hours of Le Mans, Audi plans to enter an R18 e-tron quattro and an R18 ultra in the FIA World Endurance Championship (WEC). André Lotterer and Allan McNish have been nominated as the drivers so far.

At the World Championship opener at Sebring (USA) on March 17, Audi Sport Team Joest relies on the proven R18 TDI from last year, which are driven by Marcel Fässler/André Lotterer/Benoît Tréluyer, Dindo Capello/Tom Kristensen/Allan McNish as well as Timo Bernhard/Romain Dumas/Loïc Duval.

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Note for editors:
A comprehensive press kit about the Audi R18 e-tron quattro and the Audi R18 ultra including the technical data is available as PDF file to download from www.audi-motorsport.info. Here you can also find photographs, sound bites, TV footage and other material about the AUDI AG motor sport program.

The Audi Group delivered around 1,302,650 cars of the Audi brand to customers in 2011. From January through the end of September 2011 the Company posted revenue of €32.4 billion and an operating profit of €3.96 billion. Audi produces vehicles in Ingolstadt and Neckarsulm (Germany), Győr (Hungary), Changchun (China) and Brussels (Belgium). The Audi Q7 is built in Bratislava (Slovakia). In July 2010, CKD production of the Audi Q5 was added to the existing Audi A4 and A6 manufacturing operations in Aurangabad (India). At the Brussels plant, production of the Audi A1 has been running since May 2010, while production of the new A1 Sportback began in 2012. The Audi Q3 has been built in Martorell (Spain) since June 2011. The Company is active in more than 100 markets worldwide. AUDI AG's wholly owned subsidiaries include AUDI HUNGARIA MOTOR Kft., Automobili Lamborghini Holding S.p.A. in Sant'Agata Bolognese (Italy) and quattro GmbH in Neckarsulm. Audi currently employs around 63,000 people worldwide, including around 47,900 in Germany. Between 2012 and 2016 the brand with the four rings is planning to invest more than €13 billion – mainly in new products, human resources and the extension of production capacities – in order to sustain the Company's technological lead embodied in its "Vorsprung durch Technik" slogan. Audi is currently expanding its site in Győr (Hungary) and will start production in Foshan (China) in late 2013. By 2015, Audi plans to increase the number of models in its portfolio to 42.

Audi has long been fulfilling its social responsibility on many levels – with the aim of making the future worth living for generations to come. The basis for Audi's lasting success is therefore formed by environmental protection, the conservation of resources, international competitiveness and a forward-looking human resources policy. One example of AUDI AG's commitment to environmental issues is the newly established Audi Environmental Foundation. Under the heading of "Audi balanced mobility," the Company is directing its activities toward a major goal – comprehensive CO_2-neutral mobility.