



Communications Motorsport

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Audi R18 e-tron quattro with new aerodynamics

- **Debut at the 6 Hours of Spa**

Ingolstadt, April 29, 2015 – At the 6 Hours of Spa, the Audi R18 e-tron quattro debuts a new bodywork configuration. It differs significantly from the version with which Audi won the FIA World Endurance Championship WEC season opener at Silverstone. Jan Monchaux, Head of Aerodynamics at Audi Sport, explains the background.

In the meantime it has become a small tradition for Audi to develop different bodywork configurations to be perfectly equipped for the high-speed Le Mans circuit where average lap speeds exceed 240 km/h. To compare: on the track in Shanghai, which is scheduled for November, the drivers reach an average of only 180 km/h – this is an average of 25 percent less.

While the visual changes in previous years were barely recognizable to the untrained eye, Audi has consistently followed a different path since 2013. “The long tail was an effective distinguishing feature for the public,” says Jan Monchaux. Together with his development team, he developed a bodywork version specifically for the 24 Hours of Le Mans. This configuration finished flush with the rear wing and at the same time contained many more detailed solutions. The goal: significantly lower drag by omitting downforce, in order to be better equipped for higher speeds. Downforce is the force that aerodynamic components create. It presses the race car onto the ground and, as a result, permits higher cornering speeds.

When the version that creates less downforce runs for the first time this year at Spa, the differences to the sister specification, which generates higher downforce levels, are more apparent than ever before. A fundamentally different front fairing, modified sidepods, openings relocated on the inner surface of the rear fenders for venting the wheel arches, and the bodywork rear edge featuring an unusual rear wing support, characterize the newly developed race car.



“Because downforce at Le Mans is not as important as it is at other tracks, we developed other solutions and new body shapes,” says Monchaux. “In this way, we reduce the drag. All the turning vanes, wings and similar elements are no longer mounted so steeply in the airflow; the curvature of the wing profile is less.” In addition to the bodywork surfaces, the technology beneath is also affected. “The cooling system’s requirements are different. We were able to reevaluate and adapt the flow across the cooler, because at Le Mans less air mass flow is necessary due to the higher speeds,” he continues. New suspension solutions, which restrict the spring displacement on the car to a smaller range, provide additional help. In this way, the turbulent airflow under the race car is reduced.

With the sum of all innovations, Audi further improves the efficiency of its hybrid sports car. “We expect to benefit from this and to be able to use these advantages on other race tracks,” says Jan Monchaux.

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In 2014, the Audi Group delivered approximately 1,741,100 cars of the Audi brand to its customers. The company achieved revenue of €53.8 billion and an operating profit of €5.15 billion in 2014. Audi operates globally in more than 100 markets and has production facilities in Ingolstadt and Neckarsulm (Germany), Győr (Hungary), Brussels (Belgium), Bratislava (Slovakia), Martorell (Spain), Kaluga (Russia), Aurangabad (India), Changchun and Foshan (China) as well as Jakarta (Indonesia). The brand with the Four Rings will start producing cars in Curitiba (Brazil) this year and in San José Chiapa (Mexico) in 2016. Wholly owned subsidiaries of AUDI AG include quattro GmbH (Neckarsulm), Automobili Lamborghini S.p.A. (Sant’Agata Bolognese, Italy) and sports motorcycle manufacturer Ducati Motor Holding S.p.A. (Bologna, Italy). The company currently employs approximately 80,000 people worldwide, thereof around 58,000 in Germany. Total investment of about €24 billion is planned from 2015 to 2019 – primarily in new products and sustainable technologies. Audi is committed to its corporate responsibility and has anchored the principle of sustainability for its products and processes in its strategy. The long-term goal is CO₂-neutral mobility.