

Communications Motorsport

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Audi with most fuel-efficient powertrain at Le Mans

- Fierce competition in group of hybrid sports cars
- R18 e-tron quattro diesel hybrid sports car with most fuel-efficient powertrain
- Prof. Dr.-Ing. Ulrich Hackenberg: "Audi has arguably never before faced such a difficult task at Le Mans"

Ingolstadt, June 9, 2014 – Audi has been competing at Le Mans since 1999 in order to achieve sporting success with technological innovations. Never before has an LMP1 race car sporting the four rings been as light, fuel-saving and efficient as the current Audi R18 e-tron quattro. As required by the regulations, its fuel consumption per 100 kilometers has to be up to 30 percent lower than that of the previous models. Despite these tough requirements, Audi is endeavoring to battle for its 13th victory in the Le Mans 24 Hours on June 14 and 15.

Audi has been setting efficiency standards with its ultra technology. Since 2001, TFSI gasoline direct injection helped to considerably reduce fuel consumption at Le Mans, and subsequently in Audi's production automobiles as well. Since 2006, Audi caused a sensation with the TDI engine and five victories at Le Mans. Since 2012, the diesel hybrid drive of the R18 e-tron quattro has been unbeaten at La Sarthe. The next major step results from the efficiency regulations in 2014. Fundamentally new rules determine that Audi and its rivals in the battle for overall victory have to economize on fuel – up to 30 percent less is available this year, depending on the concept and rating. And this requires a highly efficient race car.

Audi has developed a fundamentally new sports prototype for 2014. The leading innovations include the Audi laser light. This pioneering technology further improves active vision and is simultaneously introduced in the Audi R8 LMX (fuel consumption combined in l per 100 km: 12.9; CO₂ emissions combined in g/km: 299). For the powertrain, Audi, in the 25th year of the TDI engine, has developed a new 4.0-liter V6 unit for Le Mans. It has been purposefully designed for efficiency



and, together with many other optimizations of the race car, such as aerodynamics, helps save energy. Compared with the 2006 5.5-liter V12 Audi R10 TDI, the first TDI engine used at Le Mans, the current race car consumes about 40 percent less fuel – while achieving comparable lap times.

In concrete terms, 138.7 megajoules of fuel energy are available to the new R18 etron quattro per lap at Le Mans. This amounts to 6.16 liters less per 100 kilometers than the gasoline engines of the challengers, Toyota and Porsche, are allowed to consume. If the best teams, as last was the case in the 2012 season that saw only brief safety car periods, covered 378 laps, then Audi's high-performance TDI engine would have 317.52 liters less fuel available in the course of 24 hours than the gasoline units. This results in an easily understandable comparative situation that every customer is familiar with in normal road traffic: how efficient is a diesel and how efficient a gasoline engine?

The situation at Le Mans is aggravated by the sum of all ratings. A complex set of rules assesses the various technical concepts. Through energy allocations and fuel flow quantities, as well as the pit stop intervals resulting from fuel consumption and fuel tank capacity, the regulations aim to achieve an 'equivalence of technology.'

"Audi has arguably never before faced such a difficult task at Le Mans as this year," says Prof. Dr.-Ing. Ulrich Hackenberg, Member of the Board of Management of AUDI AG for Technical Development. "The current rating means that the efficiency advantages based on the principle of the TDI engine no longer suffice to also achieve an advantage across the racing distance. Still, we're taking on this challenge in order to demonstrate our technological expertise. More than ever before, the perfect showing by a cohesive team will be crucial at Le Mans."

Last year's winners Loïc Duval (F) and Tom Kristensen (DK), who is the Le Mans record holder with nine victories to his credit, are sharing the number 1 R18 e-tron quattro with Lucas di Grassi (BR). Car number 2 is driven by Marcel Fässler/André Lotterer/Benoît Tréluyer (CH/D/F), who decided the iconic endurance race in their favor in 2011 and 2012. At the wheel of car number 3 is the Le Mans rookie Filipe Albuquerque (P). He is sharing the cockpit with Marco Bonanomi (I) and Oliver Jarvis (GB), who have previously been on podium in the 24-hour race.

With that, Audi has a powerful, well-balanced squad that combines a total of 16 Le Mans victories. Head of Audi Motorsport Dr. Wolfgang Ullrich and Chris Reinke, Head of LMP at Audi, can equally rely on their drivers and on Audi Sport Team Joest. Still, Audi's 16th run at Le Mans will be more challenging than ever before. On the test day at Le Mans, on June 1, Audi successfully completed its preparations. When



the 82nd edition of the Le Mans 24 Hours begins at 15.00 on June 14, Audi, in addition to drawing on its expertise and abilities, will need some racing fortune. Eurosport will be airing full-length coverage of the race. At www.audimotorsport.com spectators can also watch the race from the cockpit perspective of the R18 e-tron quattro. Various telemetry data are available as well.

Topics of the weekend

- How strong will the individual manufacturers and their race car concepts be at Le Mans?
- Will Audi be able to continue its string of success in the iconic event?
- Will the most fuel-efficient race car also be in front at the end?
- How balanced are Audi's driver pairings?
- How many spectators will visit the classic race this year?

Quotes by the officials

Dr. Wolfgang Ullrich (Head of Audi Motorsport): "With three manufacturers now competing in the LMP1H category, the level of the event has clearly risen once more. This does not degrade any of the past races, as special challenges arise every year, not always just because of the competition but also because of the race itself. There have been years at Le Mans in which we were successful even though our car wasn't the fastest one. We can recognize the true picture only in the race. We aim to be perfect and to battle for victory with speed and reliability."

Chris Reinke (Head of LMP): "The preparation time was very long, considering that the new regulations were created over the period of several years and that the concept design and development stage was followed by a long testing phase and the first two races of the season. That was a very complex task. I'm convinced that we developed a good race car. Now we're looking forward to the direct comparison of all manufacturers in the race."

Ralf Jüttner (Team Director Audi Sport Team Joest): "Le Mans 2014 will be one of the races in which we can't afford to make any mistakes. The regulations do not want to see a race car that's superior to the competitors, for instance in terms of lap times. But that's not the only thing. Our aim is to give the drivers a car that allows them to drive three- or four-hour stints as closely as possible to the limit without getting tired. This aspect will decide the race. So, as a team, we need to work out a good set-up. We've been in comparable situations before and managed to do a zero-defect job then as well. We want to try and do that again this time."



Facts and quotes by the Audi drivers

Lucas di Grassi (29/BR), Audi R18 e-tron quattro #1 (Audi Sport Team Joest)

- Achieved a podium finish on his Le Mans debut a year ago
- Contests the full FIA World Endurance Championship for the first time this year "A year ago I experienced my debut at Le Mans. The track and the whole facility are incredible. And it's huge fun to drive the R18 e-tron quattro for this team. In 2013, I immediately finished on podium and was voted rookie of the year. Now I'm running with two very experienced team-mates who, as world champions, deserve driving car number 1. I want to learn as much as possible from them. I'm hoping for a good result."

Loïc Duval (31/F), Audi R18 e-tron quattro #1 (Audi Sport Team Joest)

- Is returning to Le Mans as last year's winner
- Will be 32 years old during the Le Mans week

"Between our victory a year ago and the test day I didn't drive on this track. I really like this circuit and am looking forward to driving the R18 e-tron quattro on it. Hopefully, I can again achieve a good result with Tom and Lucas because it's the most important race of the year. And it's fun to drive in front of such a large audience."

Tom Kristensen (46/DK), Audi R18 e-tron quattro #1 (Audi Sport Team Joest)

- · Celebrated his ninth Le Mans victory last year
- In May, finished a 24-hour mountain bike race in third place

"For the fans, for us drivers and for all the others, there's only one truth: the next race is the one that counts, not the previous ones. And the next race is always the hardest one. It's great to also be competing against a brand like Porsche this year – in keeping with our claim: 'welcome challenges.' We're going to give our best at Le Mans. The test day already showed that we can make maximum demands on our car. Now, if we want to have a chance, we need to prove that for 24 hours."

Marcel Fässler (38/CH), Audi R18 e-tron quattro #2 (Audi Sport Team Joest)

- In 2011, was the first Swiss to have won the Le Mans 24 Hours
- Has been driving with André Lotterer and Benoît Tréluyer as team-mates since
 2010

"Le Mans will be a hard nut to crack this year. The previous races were demanding too, but this year will even be more extreme. That's the real challenge for us drivers: the on-track competition in direct battle is the intriguing part. And that's what I'm extremely looking forward to."

André Lotterer (32/D), Audi R18 e-tron quattro #2 (Audi Sport Team Joest)

In 2012, was WEC Champion with Marcel Fässler and Benoît Tréluyer



• Three years ago, won the Le Mans 24 Hours for the first time with Audi "This will be a very thrilling Le Mans this time. Toyota is our challenger for the third year now and Porsche is an additional one. Three manufacturers are competing with new cars and three totally different concepts under new regulatory conditions. Each brand has different strengths but maybe the performance level will be pretty similar. We've can't afford to make any mistakes and we'll be driving at the limit. That's what we're looking forward to. And I hope, so are the spectators."

Benoît Tréluyer (37/F), Audi R18 e-tron quattro #2 (Audi Sport Team Joest)

- · Has won the Le Mans 24 Hours twice before with Audi
- Grew up in Alençon, 50 kilometers north of Le Mans

"The Le Mans 24 Hours is always a challenging race that's only over when the checkered flag falls. This year, completely new regulations apply. We know the potential of our car and the complex technology. We're in a stronger position now than we last were at Silverstone or at Spa and understand the car better. Our R18 etron quattro with the aerodynamics for Le Mans should be pretty good."

Filipe Albuquerque (28/P), Audi R18 e-tron quattro #3 (Audi Sport Team Joest)

- Is the only Audi driver this year to experience his Le Mans debut
- Will celebrate his 29th birthday one day before the race starts

"We're facing one of the world's biggest races. My debut in this race is a special thing and for me it's a privilege to be able to compete for Audi. The brand is committed to battling for victory. My team-mates have helped me a lot in preparing for the race and I'm looking forward to our joint run."

Marco Bonanomi (29/I), Audi R18 e-tron quattro #3 (Audi Sport Team Joest)

- Two years ago, in third place, immediately won a trophy at Le Mans
- Drove the new R18 e-tron quattro at Spa in May

"The feeling of competing at Le Mans is always something special for a race driver. I waited for this for a long time and am ready. We've gathered a lot of data that will help us. Our team has thoroughly prepared the car. Obviously, we're meeting with tough rivals, so it'll be a nice challenge. And I'm looking forward to working with Filipe Albuquerque and Oliver Jarvis."

Oliver Jarvis (30/GB), Audi R18 e-tron quattro #3 (Audi Sport Team Joest)

- In 2012 and 2013, was on podium with Audi at Le Mans
- Is contesting his first WEC race in the 2014 season in France

"No matter who the competitors are, and against which cars we're driving, this race is always particularly tough and fascinating. Toyota is challenging us with an even more powerful car than in the past and, at the same time, Porsche is returning. That'll be a big spectacle and a fascinating week. The atmosphere at Le Mans is unique and the circuit is one of the most beautiful ones in the world. I've been on



podium twice here but you can't only hope. You've got to prepare one hundred percent."

The Audi drivers at Le Mans

Filipe Albuquerque (P): * Jun 13, 1985 in Coimbra (P); residence: Coimbra (P); single (partner: Joana); height: 1.74 m; weight: 65 kg; Audi driver since 2011; Le Mans victories: 0; WEC races: 1; WEC victories: 0; WEC pole positions: 0; fastest WEC laps: 0; best result Le Mans 24 Hours: –

Marco Bonanomi (I): * Mar 12, 1985 in Lecco (I); residence: Colle Brianza (I); single; height: 1.76 m; weight: 69 kg; Audi driver since 2011; Le Mans victories: 0; WEC races: 3; WEC victories: 0; WEC pole positions: 0; fastest WEC laps: 0; best result Le Mans 24 Hours: 3

Lucas di Grassi (BR): * Aug 11, 1984 in São Paulo (BR), residence: Monaco (MC); married to Anna; height: 1.79 m; weight: 75 kg; Audi driver since 2012; Le Mans victories: 0; WEC races: 5; WEC victories: 0; WEC pole positions: 0; fastest WEC laps: 1; best result Le Mans 24 Hours: 3

Loïc Duval (F): * Jun 12, 1982 in Chartres (F); residence: Genf (CH); married to Gaëlle, one son (Hugo); height: 1.78 m; weight: 70 kg; Audi driver since 2012; Le Mans victories: 1; WEC races: 13; WEC victories: 4; WEC pole positions: 2; fastest WEC laps: 1; best result Le Mans 24 Hours: 1

Marcel Fässler (CH): * May 27, 1976 in Einsiedeln (CH); residence: Gross (CH); married to Isabel, four daughters (Shana, Elin, Yael and Delia); height: 1.78 m; weight: 78 kg; Audi driver since 2008; Le Mans victories: 2; WEC races: 18; WEC victories: 6; WEC pole positions: 2; fastest WEC laps: 1; best result Le Mans 24 Hours: 1

Oliver Jarvis (GB): * Jan 09, 1984 in Burwell (GB); residence: Burwell (GB); single; height: 1.80 m; weight: 70 kg; Audi driver since 2008; Le Mans victories: 0; WEC races: 4; WEC victories: 0; WEC pole positions: 0; fastest WEC laps: 0; best result Le Mans 24 Hours: 3

Tom Kristensen (DK): * Jul 07, 1967 in Hobro (DK); residence: Monaco (MC); single (partner: Hanne), two sons (Oliver and Oswald) and one daughter (Carla Marlou); height: 1.74 m; weight: 72 kg; Audi driver since 2000, Le Mans victories: 9; WEC races: 18; WEC victories: 4; WEC pole positions: 0; fastest WEC laps: 2; best result Le Mans 24 Hours: 1



André Lotterer (D): * Nov 19, 1981 in Duisburg (D); residence: Tokyo (J); single; height: 1.84 m; weight: 74 kg; Audi driver since 2010; Le Mans victories: 2; WEC races: 18; WEC victories: 6; WEC pole positions: 4; fastest WEC laps: 5; best result Le Mans 24 Hours: 1

Benoît Tréluyer (F): * Dec 07, 1976 in Alençon (F); residence: Gordes (F); married to Melanie, one son (Jules); height: 1.78 m; weight: 68 kg; Audi driver since 2010; Le Mans victories: 2; WEC races: 18; WEC victories: 6; WEC pole positions: 3; fastest WEC laps: 2; best result Le Mans 24 Hours: 1

All Le Mans winners (since 2000)

2000 Frank Biela/Tom Kristensen/Emanuele Pirro (Audi)

2001 Frank Biela/Tom Kristensen/Emanuele Pirro (Audi)

2002 Frank Biela/Tom Kristensen/Emanuele Pirro (Audi)

2003 Dindo Capello/Tom Kristensen/Guy Smith (Bentley)

2004 Seiji Ara/Dindo Capello/Tom Kristensen (Audi)

2005 Tom Kristensen/]] Lehto/Marco Werner (Audi)

2006 Frank Biela/Emanuele Pirro/Marco Werner (Audi)

2007 Frank Biela/Emanuele Pirro/Marco Werner (Audi)

2008 Dindo Capello/Tom Kristensen/Allan McNish (Audi)

2009 David Brabham/Marc Gené/Alexander Wurz (Peugeot)

2010 Timo Bernhard/Romain Dumas/Mike Rockenfeller (Audi)

2011 Marcel Fässler/André Lotterer/Benoît Tréluyer (Audi)

2012 Marcel Fässler/André Lotterer/Benoît Tréluyer (Audi)

2013 Loïc Duval/Tom Kristensen/Allan McNish (Audi)

Track info

Track length: 13.629 km Race duration: 24 hours

Qualifying record on this track: Stéphane Sarrazin (Peugeot), 3m 18.513s (247.159

km/h), Jun 11, 2008

Race record on this track: Loïc Duval (Peugeot), 3m 19.074s (246.463 km/h), Jun

13, 2010

Pole position 2013: Loïc Duval (Audi), 3m 22.349s (242.474 km/h), Jun 19, 2013 Fastest lap 2013: André Lotterer (Audi), 3m 22.746s (241.999 km/h), Jun 22, 2013

FIA WEC titles

2012 Marcel Fässler/André Lotterer/Benoît Tréluyer (Audi) 2013 Loïc Duval/Tom Kristensen/Allan McNish (Audi)



Tom Kristensen about the track at Le Mans

"Describing Le Mans in a few words is almost impossible. A number of challenges are spread across the 13.6 kilometers: relatively slow chicanes such as those following the start and finish and on the Hundaudières straight, very fast sections like the first part of Indianapolis and the Porsche corners, the two corners in Mulsanne and Arnage, where we shift all the way down to first gear, and the straights of course. In four sections we reach a speed of more than 300 km/h. The traffic being generated when four categories share a field is always a topic on such a high-speed circuit. Only part of the track is permanently used for racing. The major part is public roads closed to traffic which simply feel different than a race track. The fascination remains unique."

Timetable

Sunday, June 8

14.30–19.00 Technical and administrative scrutineering

Monday, June 9

10.00-18.00 Technical and administrative scrutineering

Tuesday, June 10

17.00-18.30 Autograph session

Wednesday, June 11

16.00–20.00 Free practice 22.00–24.00 Qualifying

Thursday, June 12

19.00-21.00 Qualifying 22.00-24.00 Qualifying

Friday, June 13

10.00-20.00 Pit walk

14.00 Audi press conference

17.30–19.30 Driver parade

Saturday, June 14

09.00-09.45 Warm-up

14.22 Beginning of starting procedure

15.00 Start



Sunday, June 15

15.00 Finish

15.30 ACO press conference

- End -

The Audi Group delivered approximately 1,575,500 cars of the Audi brand to customers in 2013. As one of the most successful models, the Audi A3 has been awarded the title of "World Car of the Year 2014" by an international jury of journalists (combined fuel consumption in I/100 km: 7.1–3.2; combined CO₂ emissions in g/km: 165–85). In 2013, the company reported revenue of €49.9 billion and an operating profit of €5.03 billion. The company 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 (China) and Jakarta (Indonesia). Since the end of 2013, the brand with the Four Rings has also been producing cars in Foshan (China). In 2015, Audi will start production in São José dos Pinhais (Brazil), followed by 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 Ducati Motor Holding S.p.A. (Bologna, Italy), the sports motorcycle manufacturer. The company currently employs more than 73,500 people worldwide, of which more than 52,500 in Germany. Total investment of around €22 billion is planned from 2014 to 2018 – 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.