**Audi Sport GmbH** Communications Audi Sport customer racing D-85045 Ingolstadt

July 2021

## MOTORSPORT INFORMATION

## Audi R8 LMS GT3 (2021)

•	Audi R8 LMS for the 2022 season	2
•	Interview with Chris Reinke	3
•	Audi R8 LMS	4
•	Audi R8 LMS technical data	8
•	Race car and production model	9
•	International fielding and support	11
•	2021 fielding opportunities	12
•	Partners	14
•	Audi Sport customer racing	15
•	Contact details	16

#### Second evolution of the Audi R8 LMS GT3

Around the globe, the Audi R8 LMS is first-class in GT3 racing. To ensure that it remains so in the future, Audi Sport has further refined the concept in a second evolution. The GT3 race car will thus be even more customer-friendly from the 2022 season. The sporting track record of the mid-engine coupe from Germany so far includes 83 drivers titles worldwide as well as 106 other championship successes, plus eight overall victories in 12-hour races and 13 in 24-hour races. Whether in club racing or with professionals – the Audi R8 LMS is one of the most popular and successful GT3 race cars worldwide.

Audi Sport customer racing has optimized the R8 LMS for even better drivability in the five areas of aerodynamics, engine characteristics, climate control, chassis and traction control. "The opinion of our customers remains decisive. The new evolution stage meets their needs even more," says Chris Reinke, Head of Audi Sport customer racing. The brand will finish testing the second evolution package before the end of the 2021 season so that customers can compete with it from 2022. Audi Sport is thus ideally equipped for the future in a competitive environment of up to ten brands in the multi-faceted GT3 starting fields. Racing series such as the GT World Challenge in America, Europe and Australia, the ADAC GT Masters, the DTM, but also endurance races such as the 24-hour races at Spa and the Nürburgring rely on the GT3 class.

Audi Sport customer racing is offering the second evolution of the R8 LMS for the 2022 season at a price of 429,000 euros (plus VAT). Customers can rely on an international network for support, service and parts distribution. The branches in Japan, China, Australia, the USA and Canada look after the local markets. At major international events, Audi Sport customer racing is also present with customer sport advisors from Germany.

While customer teams all over the world contest their own programs with the race car that can deliver up to 430 kW (585 hp) depending on the regulations, Audi Sport customer racing has its sights set on international success in its entries. As a manufacturer from the very beginning, the brand remains a registered participant in the Intercontinental GT Challenge for the sixth consecutive year with three major endurance races in Africa, America and Europe. Audi Sport customer racing is also expressing interest in the Macau Grand Prix and the second edition of the FIA Motorsport Games.

#### Interview with Chris Reinke

## "Customer wishes consistently implemented"

Chris Reinke, Head of Audi Sport customer racing, talks about the second evolution of the Audi R8 LMS.

# With the R8 LMS GT3 evo II, you have presented the next stage of your top model. What were the development goals?

With the first evolution of 2019, we have already embarked on a path that focuses more strongly on the customer teams and the wishes from amateur sport. We have now maintained this direction with many new ideas. Whether it's engine characteristics, interior climate control, chassis, or traction control, we have consistently implemented the wishes that our globally active teams have brought to us.

#### What advantages do the customer teams have as a result of the innovations?

The innovations improve the driveability and they allow drivers without a professional background in particular to make better use of the power potential and torque curve for consistent lap times. Air conditioning makes it easier to concentrate in the cockpit even over long distances. The chassis features a new shock absorber solution that makes it easier for the teams to set the car up. And modified software means that traction control can be used even more individually to suit individual needs and different tire characteristics.

#### At what price will customers receive these innovations?

The economy of the evolution package is a key differentiator for Audi Sport customer racing compared with many a competitor. We have changed the car in five important areas. In return, the price increase from 398,000 to 429,000 euros (plus VAT) is moderate compared with the competition. Of course, all assemblies can be retrofitted to existing vehicles. For this fair offer, our customers receive an even better race car.

#### Audi R8 LMS

## Second evolution even easier to drive

Since 2015, the second generation of the Audi R8 LMS has been setting standards in terms of lightweight design, safety and aerodynamic efficiency. This was followed at the end of 2018 by a visually and technically modified first evolution version. The evo II variant presented in 2021 continues along the same path. The internationally successful GT3 model from Germany can now be used even more easily in racing classes with an amateur background. Also in 2021, the second generation set a production record with 138 cars built, overtaking the previous model, which was built 137 times.

The team of engineers has set its sights on five areas for the second evolution: aerodynamics, engine characteristics, interior climate control, chassis and traction control. "In every single area, the customer teams benefit from our new developments in tough everyday racing," says Chris Reinke, Head of Audi Sport customer racing. "The Audi R8 LMS is easier to drive and can be set up in a better way. And with the air conditioning it allows for greater conditioning comfort. This enhances concentration in the cockpit."

The most visually striking change is the new rear wing suspended from behind. It fits seamlessly into the Audi Sport customer racing family look because the GT2 variant of the R8 LMS and the RS 3 LMS touring car also follow this principle. Instead of top aerodynamic values, the focus of the Audi R8 LMS evo II is once again on improved drivability. A smaller proportion of the downforce generated is now accounted for by the floor than before. Instead, a larger percentage is generated via the rear wing. This makes the mid-engine sports car aerodynamically less sensitive under braking.

Audi has already succeeded in achieving more constant downforce across different ranges in the previous evolution stage. Different ride heights achieved by the teams through chassis settings, but also the driving conditions at different speeds or in situations such as braking for corners and during acceleration have since had a smaller impact on the airflow. This results in greater aerodynamic stability, which gives a steadier driving feel.

The engine has a new intake system with a better torque curve. Intake passages extended by 30 millimeters increase torque in the low and mid-range. As a result, the almost standard power unit offers greater potential than before when accelerating from lower speeds.

The teams also benefit from an improvement in power transmission. The already familiar traction control system adapts the flow of power from the engine via the three-plate racing clutch and the sequential six-speed transmission to the tires to suit the road conditions. Various program characteristics can be selected in the cockpit. A new feature is the ability to regulate the intervention of the traction control system at the apex of the curve and the end of this process independently of one another over the entire adjustment range. Two new switches on the steering wheel facilitate this refined tuning.

The revised components also include the four-way adjustable shock absorbers in the chassis. They replace their two-way variable predecessors. Audi Sport has already tested the new solution in races at the Nürburgring. The advantage for the teams: the wider range of adjustment options in the chassis without additional conversions.

An air conditioning system rounds off the package of the R8 LMS evo II. Its operating principle of extracting heat from the cockpit via a refrigeration circuit, transporting it to the outside and releasing it there, corresponds to that of a standard system in road-legal vehicles. Particularly over longer distances and at higher outside temperatures, the air conditioning helps maintain concentration in the cockpit, avoid mistakes and achieve steadier lap times.

While Audi Sport customer racing presented these innovations in July 2021, the customer teams will receive a concept that has proven itself in all other areas. The chassis of the production model and the race car directly derived from it have been built in the same facility at Audi Sport GmbH at Böllinger Höfe since September 2015. The final assembly of the race car is performed at the customer racing site in Biberach.

In terms of safety, the current generation of the Audi R8 LMS plays a pioneering role, having clearly surpassed the requirements of the regulations ever since its launch. Thanks to a modified structure of the front end and a carbon fiber reinforced plastic (CFRP) crash element at the rear, the GT3 sports car fulfills the crash test requirements for Le Mans prototypes (LMP). The sophisticated Audi Sport Protection Seat PSO3 with its structural stiffness and adaptability to various driver physiques is setting standards in seating technology. It is firmly connected to the chassis, which increases stiffness. A rail-mounted, easily adjustable foot lever unit and a height- and length-adjustable safety steering column can be adapted to individual needs in many ways. By introducing the rescue hatch in the roof of the kind used in DTM race touring cars Audi was a pioneer in GT3 racing in 2015. Following a crash, the hatch makes it possible to pull off the helmet upward in a way that is gentle on the spine and to apply a KED (Kendrick Extrication Device).

Lightweight design is another one of Audi's areas of expertise. In spite of the additional weight resulting from the aforementioned innovations, the race car's dry weight is clearly lower than before. The homologation weight that has been reduced compared with the first generation of the Audi R8 LMS can easily be achieved even in endurance racing trim with additional headlights and air conditioning for the helmet and seat. The intelligent material mix of aluminum in the Audi Space Frame (ASF) combined with the structural CFRP center tunnel and the CFRP back wall as well as the steel roll cage make the chassis alone about 30 kilograms lighter than that of the first generation – since 2015, it has tipped the scales at merely 252 kilograms. At the same time, the torsional stiffness of the supporting frame has increased by 39 percent.

Although the race car features a more complex material mix, Audi has interlinked the manufacturing process of the production car and the race car even more closely than before. At a manufacturing facility at the Böllinger Höfe industrial park in Heilbronn, Audi Sport GmbH jointly produces both chassis variants. In spite of the race car receiving modified cast-aluminum nodes and a steel roll cage, the racing chassis of the R8 LMS remains integrated in the basic production process up to and including the point of roof assembly and cathodic dip painting (CDP), which is a type of priming. Only after these process steps, the race cars are completed at the Heilbronn-Biberach site.

Audi uses production parts in the R8 LMS wherever they make technical and economic sense in racing. The V10 engine with 5.2 liters of displacement and up to 430 kW (585 hp) of output in racing is produced on the same assembly line as the production unit. It remains nearly unchanged and, with a scheduled service interval of 10,000 kilometers and rebuild interval of 20,000 kilometers, sets standards in racing. Audi Sport uses modified or completely new assemblies only where they are required by motorsport regulations or by the significantly higher loads encountered in on-track competition. For instance, the production ASF chassis is only modified while the bodywork consists of CFRP. Installed in the suspensions are wishbones that are strictly designed for racing. Fielding in the customers' hands has proven the durability of the overall construction. Teams that are active in customer endurance racing completed more than 75,000 kilometers in practice, qualifying and racing operations with individual chassis of the Audi R8 LMS in less than three years.

The Audi R8 LMS has proven its viability as an all-round race car for customer racing around the world. It meets the challenges posed on all race tracks in all climatic zones, has won titles in Saudi Arabia as well as in Central Europe, Asia, Australia or New Zealand. The model has been successful in sprint competitions around the globe as well as in 12-hour races in Malaysia, Australia, and in the Gulf 12 Hours or in the

24-hour classics at the Nürburgring, at Spa, in the GTD class at Daytona, and in Dubai. The long service intervals enable economical operation and thanks to its racing qualities and high safety the Audi R8 LMS is equally popular with pros and amateurs.

## Technical data

## Audi R8 LMS

## As of July 2021

## Model

Model	Audi R8 LMS (2022)
Vehicle	
Vehicle type	Sports car according to FIA GT3 regulations
Chassis	Audi Space Frame (ASF) featuring an aluminum CFRP hybrid design
	with stressed steel roll cage
Bodywork	CFRP and aluminum
Safety concept	Energy-absorbing aluminum and CFRP crash structures front and rear.
	Safety concept meets FIA LMP1 crash requirements. Rescue hatch in roof
Engine	000/40
Type	90° V10 gasoline engine, longitudinally mounted in front of the rear axle, four valves
	per cylinder, four double overhead camshafts, gasoline direct injection,
Emission control system	optimized intake section length
Emission control system	One upstream oxygen sensor, one metallic racing catalytic converter per bank
Engine management Engine lubrication	Bosch Motorsport Motronic MS6.4  Dry sump (adopted from production model)
•	5,200 cc (bore x stroke 84.5 mm x 92.9 mm)
Cubic capacity Power output	Variable by means of restrictors up to 430 kW (585 hp) *
Torque	Over 550 Nm
Drivetrain/transmission	Over 330 Mill
Type of drive	Rear-wheel drive, ASR traction control (twelve-stage)
Clutch	Electrohydraulically operated sintered three-place racing clutch (ECA)
Transmission	Sequential, pneumatically operated 6-speed performance transmission with paddle
1141131111331011	shifters
Differential	Mechanical limited slip differential, variable preload
Drive shafts	Constant-velocity joint shafts
Suspension/steering/brakes	
Steering	Servo-assisted rack and pinion steering
Suspension	Double wishbones front and rear, suspension struts with coil springs and four-way gas
	pressure dampers. Ride height, toe and camber infinitely variable, three-way adjustable
	stabilizers front and rear
Brakes	Hydraulic dual-circuit braking system, variable brake pressure distribution (front
	axle/rear axle), steel brake discs front (380 x 36 mm) and
	rear (355 x 32 mm), racing ABS (twelve-stage)
Wheels	Forged aluminum wheels,
	Front 12.5" x 18" offset 45.65, rear 13" x 18" offset 43
Tires	Front 30-68/18, rear 31-71/18
Weight/dimensions	
Length/width/height	4.599 mm/1,997 mm/1,171 mm
Wheelbase	2,700 mm
Dry weight acc. to homologation	1,235 kg
Fuel cell capacity	120 l (FT3 safety fuel cell)
<b>Equipment</b> Fire extinguishing system	Asserting to FIA Standard RRSE 2015
Controls	According to FIA Standard 8865-2015  Height- and length-adjustable safety steering column, multi-functional steering wheel,
Controts	quick-adjustable pedals mounted on rails
Seat system	Audi Sport Protection Seat PS03 acc. to FIA 8862-2009 with six-point mounting
Refueling system	Krontec RFC-88-TN, optionally Capless system
Air conditioning	Standard cooling system
Electrical system	Motorsport electrical system

EUR 429,000 (plus VAT)

Price

 $<sup>\</sup>ensuremath{^*}$  established by BoP of the series organizers

#### Race car and production model

#### Close relatives

Direct synergies between racing and production: The Audi R8 LMS is based on the Audi R8 (Audi R8: combined fuel consumption in l/100 km: 13.3-12.9; CO<sub>2</sub> emissions in g/km: 301-293. Fuel consumption, CO<sub>2</sub> emissions and efficiency classes given in ranges depend on the tires/wheels used). It is even more powerful than its predecessor. About 50 percent carry-over parts characterize the versions for the road and the race track.

Audi Sport carries the genes from motorsport to the road, and no other model embodies this idea as consistently as the Audi R8. Its development was characterized by close cooperation between the racing and the Technical Development Departments. The production model and race car share a common basis.

For example, the chassis: The close connection between the production and the race car starts with the design stage and ends with manufacturing. The Audi R8 is made at a production site that has specifically been established for the sports car – the Böllinger Höfe industrial park in Heilbronn. In addition to the production model, the chassis of the race car is produced at the factory. The sports car is subsequently completed with racing-specific components. Both versions come from the same facility. For the assembly of the individual motorsport components, the racing chassis is removed from the production line and subsequently reintroduced.

For example, the lightweight design: Characteristic for the Audi Space Frame (ASF) is the multi-material lightweight design. Carbon fiber reinforced plastic (CFRP) components form the B-pillars, the center tunnel and the rear wall. The front end, the roof arch and the rear end are assembled as a framework of cast aluminum nodes and profiles, some of which consist of new alloys. As in any ASF, every component has been precisely designed for its place and purpose. For example, a number of components are integrated in the body shell according to their respective functions. The body shell is now 15 percent lighter than that of the first-generation Audi R8. Particularly in terms of stiffness, the body of the new Audi R8 sets standards. The resulting quality of the lightweight design is the benchmark among competitors. The race car is precisely based on this ASF body as well. Complemented by a steel roll cage, the chassis in the race car is 30 kilograms lighter than the one of the first generation, but has 39 percent more torsional stiffness.

For example, the engine: The ten-cylinder engine is assembled by hand at the engine plant in Győr, Hungary. The engines for both the road-going and the racing version are

almost completely identical. The standard dry-sump lubrication of the 5.2 FSI engine is a classic motorsport technology. It allows for low installation of the unit which benefits the center of gravity. The pump module operates with several scavenging stages and ensures lubrication under all conditions – even with lateral accelerations in the range of 1.5 g that the production R8 may reach. As a result, the engine offers reserves that are completely sufficient for racing purposes as well. The robust V10 in racing has been designed for a service interval of 10,000 kilometers and 20,000 kilometers for the first rebuild. Many teams use the engine for further cycles. These unusually high figures in racing are a crucial advantage in analyzing the cost effectiveness of the race car.

#### International fielding and support

## Customer support around the globe

Founded in 2009, Audi Sport customer racing produced more than 275 GT3 race cars of the Audi R8 LMS. The race cars from two model generations have found buyers all over the world. The teams can rely on a global support.

The customer racing program has had an international scope from the very beginning. Right in its debut season, in 2009, the first generation of the Audi R8 LMS, in addition to a title in Germany, won a European championship trophy and a championship in Belgium. Besides other European countries, Australia, Asia and America soon became markets as well.

To satisfy all owners, Audi Sport has established a system of comprehensive support. Since the 2015 season, Audi Sport customer racing has had its headquarters in Neuburg an der Donau and been responsible for all European teams. On the other continents, service partners support the program. In the United States of America, it is Audi Sport customer racing USA and in Asia, Audi Sport customer racing Asia and Audi Sport customer racing Japan. In the Pacific region, Audi Sport customer racing Australia is responsible. Since 2018, teams in Canada have had a dedicated point of contact with Audi Sport customer racing Canada.

In addition to this permanent support, customer racing consultants from Germany are deployed. They are on site at selected, strategically important events and provide advice to the teams relating to maintenance, setup work and repairs. At major racing series or important single events, Audi Sport customer racing service trailers are the hubs in the paddocks. Overseas, special freight containers serve as logistics centers. "Our customers keep confirming to us how much they're impressed not only with our products but also our support," says Chris Reinke, Head of Audi Sport customer racing. "For many teams, this is a key selling point and that's why we've constantly enhanced our services over the course of the years."

#### 2021 fielding opportunities

## Racing all over the world

There are numerous GT3 racing series in North America, Europe, Asia and Australia. This type of race car is just as much in demand for sprints as for endurance racing. Young talents as well as experienced privateers and professionals appreciate the qualities of this race car class.

#### Asia

Circuit Hero

Asian Le Mans Series www.asianlemansseries.com China GT Championship www.chinagt.net.cn/en

www.zic.com.cn/en/race/pan-pearlriver-delta-super-racing-festival GT World Challenge Asia www.gt-world-challenge-asia.com NGK UAE Procar Championship www.dubaiautodrome.ae/motorsport/

uae-procar

Super GT www.supergt.net Super Taikyu www.supertaikyu.com

**Thailand Super Series** www.thailandsuperseries.net

#### Europe

**ADAC GT Masters** www.adac-gt-masters.de British GT Championship www.britishgt.com

Campionato Italiano GT www.acisport.it/en/CIGT/home

Danish Endurance Championship www.padborgpark.dk/motorsport/dec

DTM www.dtm.com Eset V4 Cup www.eset-v4.com

FIA Central European Zone www.cez-motorsport.com GT und Tourenwagen Racing Series www.facebook.com/

gtundtourenwagenracingseries

GT World Challenge Europe www.gt-world-challenge-europe.com

**GTC Race** www.gtc-race.de International GT Open www.gtopen.net

Michelin Le Mans Cup www.lemanscup.com/en Nürburgring Langstrecken-Serie www.nuerburgring-langstrecken-serie.de

Racing NM www.racingnm.no

Spezial Tourenwagen Trophy www.spezial-tourenwagen-trophy.de

#### International

24H Series www.24hseries.com

FIA Motorsport Games www.fiamotorsportgames.com

Intercontinental GT Challenge www.intercontinentalgtchallenge.com

#### **Endurance races**

Gulf 12h www.gulf12hours.com
Nürburgring 24h www.24h-rennen.de
Spa 24h www.total24hours.com
Thunderhill 25h www.nasa25hour.com

#### **North America**

GT America www.qtamerica.us

GT World Challenge America www.gt-world-challenge-america.com

IMSA WeatherTech SportsCar Championship www.imsa.com

#### Oceania

GT World Challenge Australia www.gt-world-challenge-australia.com

New Zealand Endurance Championship www.motorsport.org.nz/

championships-series/ endurance-championship

North Island Endurance Series www.nierdc.com

NSW CAMS Championship www.prodsports.com.au
South Island Endurance Series www.facebook.com/sierdcnz
Victorian State Circuit Racing Championships www.vicstateraceseries.com

#### **South America**

Endurance Brasil www.endurancebrasil.com

#### **Partners**

## The partners of Audi Sport customer racing

Audi Sport customer racing cooperates with four partners in its GT3 racing program.

#### Casamoda

CASAMODA Heinrich Katt GmbH & Co. KG with its two fashion brands CASAMODA and VENTI is a European market leader of high-quality menswear for leisure and business. The company, which is rich in tradition, was founded in 1924 and has developed in recent years from a pure shirt specialist to a complete outfitter. Quality and partnership form the basis for a successful cooperation. CASAMODA equips Audi Sport with high-quality and modern team gear.

#### Eibach

Eibach enjoys a reputation worldwide as a leading manufacturer of high-quality suspension and chassis systems as well as technical specialty springs for demanding uses. The range of applications covers almost all high-quality areas of industrial and automotive engineering. For decades, Eibach has also been an important partner in the world of high-performance motorsport.

#### Hör Technologie GmbH

The precision parts manufacturer Hör Technologie has been involved in motorsport, aerospace and motorcycle industry, and the automotive sector for decades. The know-how covers development, design, manufacture, heat treatment and quality control. From the prototype to production, Hör Technologie offers tailor-made customer solutions in transmission technology and camshaft technology.

#### **OZ Group**

OZ is an Italian company with a worldwide sales organization and a multi-brand marketing strategy. Its headquarters and production site are in San Martino di Lupari near Padua in Italy. OZ sells light alloy wheels via a worldwide network of branches and authorized sales partners. OZ stands for Italian top quality in the world of wheels and is an important supplier to various sectors such as motorsport, aftermarket, motorcycle and OEM with tailored projects for luxury car manufacturers.

#### **Audi Sport customer racing**

## Established model program on four pillars

Audi's customer sports program began in 2009 with the GT3 model Audi R8 LMS. In 2015, the sports car appeared in its second generation. Audi presented a first evolution at the end of 2018 and the second evolution in July 2021. An entry-level touring car, the Audi RS 3 LMS, was available to order from the end of 2016, followed by an optional upgrade kit in 2020. In 2021, Audi presented the second generation of the touring car. The entry-level Audi R8 LMS GT4 sports car appeared in 2017 and received an evolution package at the end of 2019. Since 2019, the Audi R8 LMS GT2 has completed the broad-based model range of Audi Sport customer racing, whose products are among the youngest and therefore most modern on the market.

The models' market successes prove how close Audi Sport customer racing's offering is to the teams' needs. The Audi RS 3 LMS with up to 257 kW (350 hp) was produced in its first generation in a run of 180 units and has won more than 50 titles worldwide. Audi presented its successor for the 2021 season. The Audi R8 LMS GT4 is the ideal entry-level model for getting to know GT racing in sprints or endurance races with an attractive, production-based coupe. For the 2020 season, Audi Sport presented a revised version of the sports car with up to 364 kW (495 hp) that can be tailored even better to individual wishes. The GT3 version of the Audi R8 LMS ranks among the top cars in this category worldwide. The race car with up to 430 kW (585 hp) has a well-balanced overall technical package and is even more drivable in the second evolution stage than before. The Audi R8 LMS GT2, also presented in 2019, is the most powerful model with 470 kW (640 hp). It proves its fascination at club races and track days.

The brand's model range is attractive and established in the market around the globe. Beyond the competitive products, Audi Sport customer racing's service has long been crucial for many teams. Five contractual partners – two in Asia, one in Australia, one in the USA and one in Canada – cover the regional supply of teams around the world, while Audi Sport customer racing, based in Neuburg an der Donau, looks after the European markets. There is also on-site customer sport support at all major competitions.

#### Contact details

## Communications Motorsport Audi Sport customer racing

Eva-Maria Becker Communications Audi Sport customer racing

Tel +49 (0)841 89-33922
Mobile +49 (0)173 9393522
E-mail eva-maria.becker@audi.de

### Texts, photographs

www.audi-mediacenter.com/en

#### **News via Twitter**

twitter.com/audisport facebook.com/audisport instagram.com/audisport