

2020-2024: REVOLUTIONARY REGULATIONS



A new top class will be launched for 2020-2024: sleeker prototypes with more marque cachet. While these racing cars will cut quite an imposing figure, they will also retain the usage of a hybrid system while leaving free the choice of combustion engine at a predetermined and fixed cost. The name of the new class will be chosen by popular vote.

The 2020-2024 plan will usher in a new era of endurance racing with an ultramodern style of prototype called.... whatever the fans of the discipline decide! Super Sportscar, GTPprototype, Le Mans Supercars or Le Mans Hypercars? The choice is the fans'!

The regulations, devised by the ACO and the FIA, focus on the appearance, style and lines of the cars in the new premier league. Team and car diversity in endurance racing is one of the discipline's foremost trademarks, never truer with the emergence of these stylized yet muscular cars, veritable racing beasts in the spirit and image of endurance. They will take on circuits like Le Mans, Spa, Silverstone, Fuji and Sebring in the day and night, rain or shine, in hot weather as in cold. That calls for a tough prototype, one as imposing as it is ingenious and technological. One that turns heads, like hypercars, supercars, prestigious GTs and concept cars do on the street or at any given motor show. So, why not draw inspiration from those machines to build endurance racing cars? Consider it a done deal.

Aerodynamics cannot take precedence over aesthetics.

Being the top class, these new prototypes must be technologically powerful and compelling in design and will therefore remain hybrid, with a KERS system in front and 4WD to ensure energy efficiency. This technology will become more and more popular as the KERS system

developed by some constructors will have to be used on production cars at a pre-defined price.

These new prototypes will have an alluring design and incredible pace. The regulations seek excellence: 3:20.00 per lap at Le Mans with limited fuel.

The other priority is cost. They will be remarkable, competitive, innovative and affordable - requiring a quarter of current budgets. Costly developments will be kept in check by a new homologation procedure and technical rules that will naturally reduce budgets.

However, there will be no restrictions on engine selection. Consumption rules will ensure fair competition between different systems.

The new regulations will take effect for 2020-2024.

Jean Todt, FIA President said: *"The new regulations for the FIA World Endurance Championship, which come into effect for the 2020/21 season, are the result of hard work between members of the FIA, ACO, manufacturers and teams. This will provide endurance racing with a long term, stable platform, while continuing to offer a cost-effective stage to showcase future technologies."*

Pierre Fillon, president of the Automobile Club de l'Ouest: *"Crafting these regulations was particularly satisfying as very quickly it sparked interest and gained the support of competitors or potential competitors. A new era will dawn in 2020 for endurance racing. On paper it has enormous potential. Le Mans 2018, 2019 and 2020 will each be outstanding editions, but now I can't wait for the start at the 2021 24 Hours of Le Mans."*

Richard Mille, President of the FIA Endurance Commission: *"What has been announced today is the first step in a new direction for the premier class of the FIA World Endurance Championship and the 24 Hours of Le Mans. The new regulations are a framework that will be attractive to more manufacturers and teams, while at the same time retaining the excitement of endurance racing for existing fans to enjoy and to attract a new generation of spectator to the sport. The proposals announced today include cost limiting measures, making hybrid power more affordable and building a future for endurance with renewable energy. From 2020 the front of the grid will look very different and it is an exciting prospect that we are all looking forward to seeing."*



Gérard Neveu, CEO FIA World Endurance Championship: *"The direction for the new regulations announced today jointly by the ACO and the FIA is a supremely positive one. A great deal of work has been done by the ACO, the FIA Endurance Commission, our manufacturer partners and teams and we are very encouraged about the future of endurance racing, and the WEC in particular."*

"The 2020-24 regulations are, for competitors, both technically interesting and sustainable, with the controlled budgets being a key factor. We are confident that we will welcome an increased number of world-class manufacturers and international teams to the WEC and that all the elements are in place for them to be able to compete at the highest level, with the pinnacle of course being the 24 Hours of Le Mans."



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WEC / LE MANS
TOP CATEGORY

24h
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WEC
FIA WORLD **ENDURANCE**
CHAMPIONSHIP



2020 - Technical regulations

2020-2021 - New top endurance class category

Key points :

BACK TO REASONNABLE COSTS

Budget around 25 -30M€ for two cars per season is targeted
(25% what was spent in LMP1 in recent years)

STRONG BRAND IDENTIFICATION

Prototype concept looking like "Hypercar"

COMPETITORS

OEM's, GT/Sportscars Manufacturers, Constructors,
Private teams

PERFORMANCE TARGETS

Well-defined performance targets close to 3'20" at Le Mans
(qualifying time)

COST CONTROL

The performance targets should be capped such as extra
budget does not bring significant extra performance

EFFICIENCY

Fuel efficiency remains part of the game

TECHNOLOGY

Internal combustion engine diversity and Hybrid technology
produced by manufacturers

IDENTITY

The car Manufacturers/Constructors will keep an essential role
with their technology, with the possibility to design hybrid
systems

TIMING

September 2020 – first event with the new regulations

SAFETY

Increase the level of safety of survival
cell

STABILITY OF RULES

Stability of technical regulations for 5 years



2020 - Technical regulations

Budget:

The range is set as:

- 20 to 25% of what was spent in LMP1 in the recent years.
- Private / Non-OEM competitors must be competitive with a affordable budget,

The reference used to evaluate the budget targets :

- 2 cars entry
- 8 races season including 1 Le Mans 24 Hours et 1 Sebring long race
- R&D split over 5 seasons
- Racing and testing operational and running costs included
- Infrastructure (building, etc) marketing and driver wages not included

All technical parameters (in the main principles here, as well as in the future technical working groups) are established in order to comply with this important target.



Chassis/Bodywork/Aero: Hypercar Style

The new look like the greatest sport road cars in the world, the Hypercars.

Dimensions and aerodynamic rules are set in order to provide enough freedom for the brand design and are relevant with the dimensions/proportions of a Top-Class GT Car:

- Fixed Aero Downforce and Drag to allow great freedom of design
- Homologation process:
 - Measurements in Windtunnel
 - Detailed scan of the bodywork
- Mobile aero device accepted (road relevant / performance for reduced cost)
- Only one bodywork homologated per season



2020 - Technical regulations

Chassis/Bodywork/Aero:

- Prototypes prefiguring the next generation of Hypercars
- Geometrical parameters defined to identify the Hypercar design and fulfill the GT standards:
 - 2 seats
 - Bigger cockpit volume
 - Roofline
 - Wider windscreen
- Weight:
 - Overall weight will be 980 kg
 - Weight distribution will be capped
- Upgrade of safety standards



Powertrain/Internal Combustion Engine:

- Free engine architecture (small or bigger capacity, Turbo Charged or Normally Aspirated, whatever is the number of cylinders)
- Fixed maximum performance target for power: 520kW
- Maximum fuel flow defined
- Controlled efficiency (BSFC)
- Other key parameters will be defined in order to prevent expensive development:
 - Limitation of expensive materials;
 - Minimum size, minimum weight and gravity centre height of the engine will be defined.



2020 - Technical regulations

Powertrain/Electrification:

The Hybrid regulation is based on 3 important principles:

- Cost must be accessible to all competitors, including private teams;
- Competitive performance must be accessible to all competitors, including private teams;
- Any manufacturer wishing to build his own hybrid system has the possibility to do it.

The main guidelines for Energy Recovery System (ERS) are:

- Each system will be entirely homologated by FIA/ACO.
- Each system must be available for any competitor entering in WEC on the following basis:
 - An ERS manufacturer must be able to supply a minimum of cars (number to be defined) entered in the championship
 - The supply is based on a leasing per season including supply of the system, technical support and race track support
 - The annual leasing per car, all services included, will be cost-capped by the regulation. The price will be set in order to comply with the original targets: performance and technology accessible to all competitors, including private ones.
 - Extensive technical definition to prevent expensive development



Powertrain/ Electrification:

- The system will be composed of 3 main components:
 - ERS hardware (motor, inverter...)
 - Battery / energy storage
 - Electronics (software and hardware)
- The system will be designed for the front axle for:
 - Easier integration in different cars
 - Better performance vs budget
- Common ECU with homologated software
- Fixed performance: Battery and hybridization – 200 KW
- Possibility to mix (battery and E-Motor)



2020 - Technical regulations

Powertrain/Gearbox

Gearbox will be:

- limited to 8 speeds with 1 set of ratios;
- expensive materials will be banned;
- minimum weight and gravity centre height will be capped;
- electronic and/or hydraulic differential banned.



2020 - Technical regulations

Roadmap:

- A roadmap will be further discussed in technical Working Groups with the Manufacturers/Constructors in order to evaluate the progressive introduction of some technical innovations, BSFC evolution and freedom and at the best period with regards to budgets. In any case, this would open only very restricted parameters, must not affect the global stability of the rules, and keep the budget targets respected.
- Longer term (after 2024) development will include in priority hydrogen technology as alternative



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