



DOSSIER DE PRESSE

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Michelin and the 2021 FIA World Endurance Championship (FIA WEC)

- **Michelin's ninth consecutive FIA WEC campaign**
- A new ranges of Michelin tyres – developed entirely virtually – for the headlining Le Mans Hypercar class
- Michelin seizing new opportunities to demonstrate its pioneering spirit while continuing to prioritise the durability and consistency of its tyres, irrespective of their level of wear, in wet and dry conditions alike

Michelin has been a loyal partner of the FIA World Endurance Championship since **the latter's creation back in 2012**. This year's campaign has seen the introduction of the new headlining **Le Mans Hypercar category** for which **Michelin Motorsport's** engineers have developed a specific range of tyres.

Michelin has snapped up this opportunity to continue showcasing its ability to provide its partners with tyres that combine unrivalled durability and a level of performance that remains consistently high from the start to finish of every stint. The FIA World Endurance Championship serves as the perfect platform to highlight the qualities of its Hypercar tyres which are the fruit of an innovative development process, having been designed solely using computers and simulators.

FIA WEC: An incubator for innovative technologies

The FIA World Endurance Championship allows Michelin to think outside of the box in design terms, while simultaneously honing future technologies, using two- and four-wheel motorsport as a high-tech laboratory to work on emerging new processes.

To this end, the FIA World Endurance Championship provides an ideal opportunity to test and evaluate ideas aimed at improving durability and preserving performance as tyres wear. As a function of the results obtained, these techniques can then be carried over to the development of tyres for everyday road-going vehicles.

Different performance-related parameters can be explored in extreme racing conditions to collect essential data that it is then possible to channel **into Michelin's** Research and Development efforts, thereby building solid technological bridges between motorsport and mass-production in line with the French manufacturer's **'track to street'** approach.



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Treating racing drivers and motorists in the same way

Michelin sees no reason why the high performance demanded by racing drivers should not go on to benefit ordinary by providing them with tyres that deliver consistent characteristics and safety standards throughout their lifespan, irrespective of their level of wear or weather conditions.

During endurance races, as well as in regular everyday motoring scenarios, the need for performance and safety is identical. Impeccable roadholding, short stopping distances, combating aquaplaning and stability in emergency situations all contribute to **Michelin's commitment** to ensuring consistency throughout the lifecycle of its tyres.

In the world of racing, these qualities translate into a tangible competitive advantage, enabling drivers to keep pushing and fighting for victory without having to worry about the condition of their tyres as they complete lap after lap. In this way, Michelin creates the possibility for its partners to refine their strategies, including the option of running multiple stints. These in turn save time in the pit-lane, while allowing drivers to stay out on the track for longer periods between pit-stops.

By the same token, motorists are able to benefit from 'fresh' tyres for longer and save money by not having to replace them as often. They can benefit safely from the tread's properties all the way down to the tread wear indicator without having to replace their tyres pre-emptively due to a fall-off in performance, an avoidable yet all-too-frequently seen scenario.

Longevity: Good for the environment

Tyres that deliver consistent performance as they wear are capable of covering more kilometres before being replaced. Furthermore, the **FIA World Endurance Championship's bid to reduce costs has resulted in a change to the regulations** regarding the number of tyres teams may use during events, a move made possible **by the technological advances brought to Michelin's racing tyres.**

The combination of these factors means Michelin can manufacture fewer tyres, which in turn use fewer raw materials and less energy for their production. Moreover, transporting fewer tyres to races reduces the carbon footprint associated with the logistical side of the operation. The need for end-of-life recycling is similarly reduced.



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Proven expertise

The performance delivered by any tyre in the course of its working life is dependent on its design and the expertise of its manufacturer. The raw materials it employs, how they are blended and the tyres' construction are all key to optimising both performance and wear. They consequently necessitate extensive work by Michelin's Research and Development experts, not to mention the company's high level of investment in skilled staff, raw materials, laboratory equipment and machines.

In the same way that providing tyres that deliver long-lasting performance means top racing drivers on Michelin tyres are able to perform at their peak for longer, ordinary motorists get to benefit from optimum safety over time, while simultaneously reducing their expenditure and diminishing the environmental impact of their journeys.

For all of these reasons, but also thanks to its passion for motorsport, commitment and resolve to keep raising the bar, Michelin is more involved than ever this year in the FIA World Endurance Championship.

People, Profit, Planet: Michelin's 'Everything Sustainable' strategy

The Michelin Group recently revealed its long-term strategy to the world, centred on its Everything Sustainable vision. This publicly-presented plan for action and growth covers all present and forthcoming aspects of its business with the aim of ensuring a brighter future for both Michelin and its staff. This new strategy is founded on three pillars: People, Profit and Planet.

People: Michelin has always put people at the very heart of its focus. Against the backdrop of a challenging global health situation, the company implemented protocols to protect its employees right from the start of the Covid-19 pandemic. **Support by Michelin's staff for the robust decisions taken by the Group's management** is extremely high, as illustrated by an employee engagement rate in excess of 83 percent. Yet Michelin is keen to go even further in this respect and has targeted an employee engagement rate of more than 85 percent, and for at least 35 percent of its management positions to be filled by women. Moreover, Michelin is and intends to remain a global benchmark in the field of safety at work, with a TCIR (Total Case Incident Rate) of less than half-a-percent.

Profit: Michelin's goal for the Group is sustained growth, with a targeted average annual increase in sales of five percent between 2023 and 2030. Michelin also wants to see between 20 and 30 percent of its sales come from areas of the business other than tyres. It is equally important to create value for the entire Group through dedicated offers for publicly- and privately-run vehicle fleets.



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Last but by no means least, Michelin will continue its external expansion into current growth sectors such as composite products and 3D metal printing.

Planet: Michelin intends to considerably reduce the CO₂ emissions that result from both its manufacturing activities and the transportation of its products, with the objective of becoming carbon neutral by 2050. The brand also aims to significantly increase the ratio of sustainable materials used to manufacture its tyres, with a goal of 40 percent by 2030 and 100 percent by 2050.

Michelin's Everything Sustainable plan is the prism through which the company views all of its activities, and which can now be found at the very core of its growth strategy. Motorsport, on both two wheels and four, fits perfectly with this overarching policy.

The 2021 FIA World Endurance Championship

The ongoing global health situation has called for a great deal of flexibility and the **ability to adapt demonstrated by the championship's organisers and teams** is indicative of the resolve of all of the stakeholders involved in this formidable adventure. While waiting for the pandemic to be brought fully under control, the FIA World Endurance Championship has successfully put together a calendar featuring six rounds, including the Le Mans 24 Hours which has been moved back from its traditional June slot to August (see calendar) in the hope of being able to accommodate spectators at the track. **In contrast, the season's curtain-raiser – the 6 Hours of Spa-Francorchamps at the iconic Ardennes circuit in Belgium on May 1 – will take place behind closed doors.**

Michelin is completely behind the decision of the championship's organisers to **focus initially on staging races in Europe before moving on to the campaign's long-haul fixtures.**

"Michelin introduced strict and carefully considered measures to protect the health of its staff at a very early stage, in March 2020," notes Pierre Alvès, the manager of Michelin's FIA WEC programme. "These are standardised practices that can be adapted for those whose job requires them to attend motorsport events. Ahead of each race, we closely examine the location and the relevant FIA protocols, and adapt in order fulfil our duties in the most efficient way possible. Our team advisers, who are very important to our partners both prior, to and during races, are embedded in the 'bubble' of their respective teams with whom they remain at events rather than with us.

"Although Michelin has its own bubble for its other staff, those who are in direct contact with the teams – and whose numbers we have restricted to just one per partner team – remain with their team throughout the race week."



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“Normally, there would have been frequent interaction between us all, between sessions, during races and at the end of the working day, and we would all leave the track together for the hotel, where we would continue to mingle and chat. As that is not currently possible, we have introduced debriefs via videoconference. This allows us to continue providing our partner teams with the same high level of service, while limiting any health risks as much as we can.”

The MICHELIN Pilot Sport range of tyres for the 2021 FIA World Endurance Championship

The chief new feature of the 2021 FIA World Endurance Championship is the arrival of the new Le Mans Hypercar (LMH) category which replaces LM P1 as the **discipline's** premier class. The technical regulations for these cars are entirely new and Michelin has been nominated by the FIA (Fédération Internationale de l'Automobile) and ACO (Automobile Club de l'Ouest) as **exclusive** tyre supplier for this landmark season. Three constructors will run prototypes in the class this year, before being joined by others in 2022, and more still in 2023, **when the FIA WEC's** best-known round – the Le Mans 24 Hours – will celebrate its centenary.

Michelin has developed a new range of tyres for the Hypercars as a function of their technology, weight and performance characteristics. They are easy to identify thanks to their sidewall design which features the blue and yellow colours of Michelin, along with a chequered flag on a white background.

“The development of these new tyres was something of a challenge for us,” says **Pierre Alves**, the manager of Michelin's FIA WEC programme. “We had to work quickly and closely with the constructors, but without access to an actual car. All we could use was simulation software. The Hypercars are technically very different to the LM P1s we have been accustomed to in recent years. To begin with, they are heavier and less powerful, although the power output of their internal combustion engines is higher and the amount of electric power delivered by the hybrid cars has come down. Despite being heavier, their top speeds are the same, however, while their aerodynamics are less complex, with only a single configuration authorised for the entire season, compared with two previously. The teams have consequently had to find a compromise that generates little downforce at fast circuits and less downforce at the slower venues. At the end of the day, these cars put more constraints on their tyres and the phenomenon of wear is more marked. All of these constraints needed to be taken onboard, but we have them all covered.”

Designed entirely virtually

The digital- and simulator-based development work carried out by Michelin Motorsport's **engineers** quickly produced excellent results and the first track tests with **Michelin's** partner teams served simply as the final sign-off phase, an indication that these new tyres – which were developed thanks to **the company's** powerful digital resources – **amply met the teams' expectations.**



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A number of full-scale tests were then organised by **Michelin's** partners, including 30-hours race simulations at Le Castellet in the south of France, to push the new tyres to the limit. **"We were fortunate** in that we had poor weather for this," **notes Pierre Alves**. "The damp and cold enabled us to validate the work accomplished in-house in extreme conditions and we are now ready for action to begin!"

The new Le Mans Hypercar tyre range is the first to have been designed exclusively using a simulator, both with and without input from drivers, but in the absence of either an actual or digital car. **Thanks to the might of Michelin's development and simulation systems**, however, as well as to the experience of its engineers, the design work progressed quickly and in the right direction from the outset. This feat was all the more remarkable given that the sizes of the Le Mans Hypercar tyres are new. Michelin therefore switched from an iterative process founded on experience, simulators, machines and track testing to an all-virtual approach.

Michelin stands out as a pioneer in this field and is working on the means to extend its practices – which are currently only used in motorsport – to the world of road-tyre production. And despite the different 2021-generation Hypercars featuring different technologies, the constructors have all benefited from the same knowhow and commitment to achieve an equal level of satisfaction at the end of the day.

Michelin's Le Mans Hypercar partners can choose between soft, medium and hard slicks, just as the LMP1 runners did last season. This clear nomenclature facilitates race strategy decisions while maintaining the notion of **'temperature window'**. It also facilitates the dialogue of **Michelin's engineers** with both their colleagues and their counterparts in the different teams.

New rain tyres

In addition to slicks, **Michelin's partners** benefit from a new range of wet-weather tyres featuring revised compounds and even greater versatility. The former Michelin **'Hybrid'** wet-weather tyre – a major innovation that made it possible to run on slicks in damp and drying conditions – has not been carried over, however.

Instead, following changes to the regulations, teams can choose between a new DRYING WET option that covers a broad temperature window in damp or drying conditions and a FULL WET for heavier rain or standing water. These tyres were developed jointly to cover all the weather scenarios likely to be encountered at European and non-European races. The regulations restrict the number of wet-weather compounds to two.

For the Le Mans GTE Pro and Le Mans GTE Am classes, the pandemic situation and a desire to curb costs have led to regulations that specify the use of the same tyres as last year, a move that was not **Michelin's choice**.



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The different options (soft, medium and hard slicks, plus DRYING WETs and FULL WETs) are the same for both classes.

Hypercar tyre sizes

Of the Le Mans Hypercar machinery, only the Toyota GR010 Hybrids is fitted with 31/71-18 tyres front and rear. **The category's other contenders have** opted for what is a new combination for endurance racing: 29/71-18 at the front and 34/71-18 at the rear. This distinction is due to the differing front/rear weight-splits of the different prototypes, while only the Toyota GR010 Hybrid runs an electrified system in addition to its internal combustion engine.

Tyre allowances per race

The Le Mans Hypercar and GTE Pro classes are authorised to run up to 12 tyres in Free Practice, with a further allocation of 18 tyres for six-hour races and 26 tyres for eight-hour races. The same figures for LM GTE Am are 16, 26 and 34 respectively.

“For the Le Mans Hypercar class’s inaugural season, we have sought to obtain the best possible combination of safety and performance **for each type of car,” says Pierre Alves.** “Our work will continue as we collect further data during the year, however. We will then be able to adjust the direction of our development work with a view to introducing key technological innovations as soon as possible. For us, the Le Mans Hypercar class is a big step and the beginning of a development programme that will span several years. Although we are the only tyre manufacturer involved in the category, we will adjust our range in 2022 to meet our partners’ needs even more closely and feed our Research and Development Department as part of the process of developing new technologies for production tyres.”

Michelin’s FIA WEC partners

Le Mans Hypercar

Michelin is the sole supplier of tyres for all of the five cars entered in this new category.

Toyota Gazoo Racing

The Japanese firm has traded the ‘TS’ part of its car appellations for ‘GR’ (Gazoo Racing). Its first Hypercar, the GR010 Hybrid, benefits from the latest developments allowed by the new regulations. Toyota is running two cars at every race.

N° 7 Toyota GR010 Hybrid: Mike Conway/Kamui Kobayashi/José María López

N° 8 Toyota GR010 Hybrid: Sébastien Buemi/Brendon Hartley/Kazuki Nakajima



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Glickenhaus

The 007 is powered by a brand-new, non-hybrid biturbo V8 which is the work of the James Glickenhaus-**owned firm's** in-house experts. The American is also taking a close interest in fuel cells.

Glickenhaus 007: Romain Dumas/Olivier Pla/Pipo Derani

Glickenhaus 007: Ryan Briscoe/Gustavo Menezes/Richard Westbrook

Alpine Elf Matmut

The Alpine A480 sees the French brand switch to a proven car with a good reliability record that has gone from strength to strength in the hands of Rebellion since its Non-Hybrid LMP1 debut in 2018.

N° 36 Alpine A480: Nicolas Lapierre/André Negrão/Mathieu Vaxivière

Balanced performance

To ensure a level playing field for these prototypes which compete in the same class despite featuring very different technical characteristics, **the 2021 FIA WEC's** regulations incorporate a Balance of Performance (BoP) means of adjustment.

Le Mans GTE Pro and LM Mans GTE Am

Michelin supplies the tyres for five Le Mans GTE Pro cars and 13 Le Mans GTE Am cars. Both classes are extremely closely fought.

LM GTE Pro

The top GT drivers and their sophisticated cars benefit from individually-developed tyres.

Ferrari AF Corse

With five titles to its name since the FIA WEC's **creation** in 2012, the Italian carmaker is running two Ferrari 488 GTE EVOs throughout the 2021 campaign. The crew line-ups are identical to those of last season and the drivers will no doubt be keen to earn a seat in the Hypercar class when Ferrari joins the fray in 2022.

N° 51 Ferrari 488 GTE EVO: James Calado/ Alessandro Pier Guidi

N° 52 Ferrari 488 GTE EVO: Miguel Molina/Daniel Serra/Davide Rigon

Porsche GT Team

In the course of its history, the German make has enjoyed plenty of success in endurance racing and even holds the record for the highest number of class wins at Le Mans (108). It is hoping to add to the list with a line-up of two 911 RSR-19s.

N° 91 Porsche 911 RSR-19: Gianmaria Bruni/Richard Lietz/Fred Makowiecki

N° 92 Porsche 911 RSR-19: Kevin Estre/Neel Jani/Michael Christensen



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Corvette Racing

For the moment, the American brand has committed to the 6 Hours of Spa-Francorchamps and Le Mans, with a single Corvette C8.R for the Belgian race and two for August's 24-hour classic.

N° 63 Corvette C8.R: Antonio Garcia/Oliver Gavin

LM GTE Am

The field in the LM GTE stepping-stone class comprises five Ferrari 488 GTE EVOs, five Porsche 911 RSR-19s and three Aston Martin Vantage AMRs.

N° 33 Aston Martin Vantage AMR (TF Sport): Ben Keating/Dylan Pereira/Felipe Braga

N° 98 Aston Martin Vantage AMR (Aston Martin Racing): Paul Dalla Lana/TBA/TBA

N° 777 Aston Martin Vantage AMR (D'Station Racing): Satoshi Hoshino/Tomonobu Fujii/Andrew Watson

N° 47 Ferrari 488 GTE EVO (Cetilar Racing): Roberto Lacorte/TBA/TBA

N° 54 Ferrari 488 GTE EVO (AF Corse): Thomas Flohr/Francesco Castellacci/Giancarlo Fisichella

N° 60 Ferrari 488 GTE EVO (Iron Lynx): Claudio Schiavoni/Andrea Piccini/Matteo Cressoni

N° 83 Ferrari 488 GTE EVO (AF Corse): François Perrodo/Nicklas Nielsen/Alessio Rovera

N° 85 Ferrari 488 GTE EVO (Iron Lynx): Rahel Frey/Manuela Gostner/Michelle Gatting

N° 46 Porsche 911 RSR-19 (Team Project 1): Dennis Olsen/TBA/TBA

N° 56 Porsche 911 RSR-19 (Team Project 1): Egidio Perfetti/Matteo Cairoli

N° 77 Porsche 911 RSR-19 (Dempsey Proton Racing): Christian Reid/Jaxon Evans/Matt Campbell

N° 86 Porsche 911 RSR-19 (GR Racing): Michael Wainwright/Benjamin Barker/Tom Ganble

N° 88 Porsche 911 RSR-19 (Dempsey Proton Racing): Julien Andlauer/TBA/TBA

The 2021 FIA World Endurance Championship calendar

The 2021 calendar has been scheduled to take Covid-19-related imperatives into account, with the early part of the season based in Europe before moving on to Asia and the Middle East later in the year.

May 1: Total 6 Hours of Spa-Francorchamps (Belgium)

June 13: 8 Hours of Portimão (Portugal)

July 18: 6 Hours of Monza (Italy)

August 21-22: Le Mans 24 Hours (France)



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September 26: 6 Hours of Fuji (Japan)

November 20: 8 Hours of Bahrain

Michelin and MissionH24: Investing in motor racing's fuel-cell future

Fuel cells have become a major focus of attention in the automobile industry and motorsport alike. As a source of energy that will enable electric cars to benefit from longer range and be replenished as fast as internal-combustion-engined vehicles, hydrogen is of particular interest to Michelin and saw the French Group form a joint venture with **one of the motor industry's technology leaders**, Faurecia, in November 2019.

Together, they founded Symbio, a new-generation equipment supplier which develops fuel-cell kits for numerous types of vehicle (commercial vehicles, buses, trucks) that can be coupled with a package of services.

Revealed in September 2018, the MissionH24 project is the result of an initiative by **the ACO (Automobile Club de l'Ouest, organiser of the Le Mans 24 Hours) and GreenGT**, a pioneering business in the field of high-power fuel-cells.

MissionH24's objective is to pave the way for the appearance of fuel-cell electric prototypes at Le Mans by 2024, while GreenGT has already produced the LMPH2G, **the world's first Le Mans Prototype**-type racing car (LMP) to be powered by a fuel cell.

The car is run by H24Racing which has been tasked with perfecting its performance thanks to a bespoke test programme, as well as with attending meetings of the Michelin Le Mans Cup, an international series organised by the ACO.

Michelin's active involvement

Following an agreement with the ACO, Michelin is today a preferential partner of MissionH24. As such, not only does the Group have an active involvement in providing power for racing cars through Symbio, but it also continues to be the exclusive supplier of tyres to H24Racing.

In addition to being a fuel-cell specialist, Symbio is perfectly aware of the importance of the **stakes associated with the technology's use in motor racing**. As maker of the fuel cell system used by the LMPH2G, Michelin brings both its grasp of hydrogen-fuelled, mobility-related power systems and its tyre expertise to the table.

In order for motorsport to play its role fully as a laboratory in favour of mobility, Michelin and Symbio share their knowhow in their respective fields with motor racing's authorities.



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Indeed, they are already working alongside the ACO to prepare technical regulations that will enable fuel-cell cars to compete in a special class at Le Mans by 2024.

Thanks to this invaluable experience, Groupe Michelin – through Symbio – is forging a competitive advantage in the field as it seeks to establish itself as a major player in the world of fuel-cell mobility in years to come.

Michelin, the leading mobility company, is dedicated to enhancing its clients' mobility, sustainably; designing and distributing the most suitable tires, services and solutions for its clients' needs; providing digital services, maps and guides to help enrich trips and travels and make them unique experiences; and developing high-technology materials that serve a variety of industries. Headquartered in Clermont-Ferrand, France, Michelin is present in 170 countries, has 123,600 employees and operates 71 tire production facilities which together produced around 170 million tires in 2020. (www.michelin.com).

MICHELIN GROUP MEDIA RELATIONS

+33 (0) 1 45 66 22 22

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www.michelin.com

 [@MichelinPress](https://twitter.com/MichelinPress)

27 cours de l'Île Seguin, 92100 Boulogne-Billancourt