

# MISSION *H2A*

## PRESS PACK

Test sessions on 12-13 November 2020  
Lurcy-Lévis circuit



**RICHARD MILLE**



## The first 24 months of the MissionH24 programme

MissionH24 was launched at the end of 2018 by the Automobile Club de l'Ouest, organiser of the 24 Hours of Le Mans, and GreenGT a company that's the leader in the development of high-power electric-hydrogen solutions, in particular in the world of mobility. By counting on two sectors, innovation and operations, whose personnel come from the organograms of the two partners, MissionH24 is preparing the ground for the arrival of a category reserved for electric-hydrogen-powered vehicles in the 2024 24 Hours of Le Mans.

. **22<sup>nd</sup> September 2018** – Launch of the MissionH24 programme and a world first: the LMPH2G, an electric-hydrogen-powered racing prototype, which covered several demonstration laps on the Spa-Francorchamps circuit during the European Le Mans Series meeting. The prototype refuelled in the pit lane. Henrik Hololei, DG Mobilité and Transport de la Commission Européenne were present for this first!

. **3<sup>rd</sup> February 2019** – Launch of the H24 Racing team under the management of Jean-Michel Bouresche.

. **15<sup>th</sup> June 2019, 14:42** – The LMPH2G covered a lap of the 24 Hours of Le Mans circuit a few minutes before the competitors in the 87th running of the iconic Sarthe event started the race.

. **20<sup>th</sup> September 2019** – A double world first! For the first time, an electric-hydrogen-powered racing car participated in an international competition by taking part in the two free practice sessions with the other competitors for the Michelin Le Mans Cup on the Spa-Francorchamps circuit. During these sessions, the LMPH2G refuelled in hydrogen at the mobile station, which was installed in the paddock and had been specially developed for the MissionH24 programme by its partner, Total.

. **25-26 October 2019** – Another world premier: the LMPH2G was again entered for a race weekend. It participated in free practice for the Michelin Le Mans Cup on the Portimao circuit. This time Total's mobile hydrogen refuelling station wasn't in the paddock. It was installed at the pit lane entry a few metres before the refuelling rigs used by the other competitors!

. **13-14 June 2020** – The LMPH2G filled the role of safety car at the Virtual 24 Hours of Le Mans.

. **19<sup>th</sup> September 2020, 14 :12** – The LMPH2G again covered a lap of the Le Mans circuit a few minutes before the competitors started the 88th 24 Hours of Le Mans.





## MissionH24's partners

**Mission H24 exists thanks to its two founding partners and driving forces, the Automobile Club de l'Ouest and GreenGT. But nothing would have been possible without the indispensable technical and financial partners who have joined the programme over the past two years, and put their excellence at the service of this innovative and responsible programme.**

### TOTAL

Total has become involved with MissionH24 and more widely with the Automobile Club de l'Ouest to participate in the development of hydrogen in endurance. The multi-energy group is the reference partner in the project and its supplier until 2024, which sees the arrival of a hydrogen category in the 24 Hours of Le Mans at that date. Total sees endurance as a laboratory for research in the field of ecological transition and mobility.

### MICHELIN-SYMBIO

Through Symbio, a joint venture between Michelin and Faurecia, Michelin is directly involved in the technical solutions linked to the motorisation of electric-hydrogen-powered racing cars while being the exclusive supplier of tyres to the H24 Racing team. Symbio brings its expertise in hydrogen systems for mobility to MissionH24. The company, a GreenGT partner for ten years, knows what's at stake from a technological point of view in the world of motor racing.

### PLASTIC OMNIUM

Plastic Omnium is among the biggest automotive equipment suppliers in the world. Thanks to the MissionH24 programme the French giant will be able to develop the first fuel tank for racing cars at 700 bars, which will equip the competitors entered for the electric-hydrogen category that will be part of the 2024 24 Hours of Le Mans.

### RICHARD MILLE

Richard Mille, a tech-savvy visionary, who presides over the destiny of the brand to which he gave his name, has followed with interest the development of the project since its launch in 2018 and has decided to use it as a vector for his communication. The Swiss luxury watch brand is going to accompany the programme initiated by the Automobile Club de l'Ouest and GreenGT until the end of the 2020 season.



0-100 km/h

3,4 s

400m DA

11,0 s

+300 km/h

480 kW

@ 13000 tr/min

Aucune pollution : ne rejette que de la vapeur d'eau  
No pollution: emits only water vapour

Pas d'embrayage, de différentiel ou de changement de vitesse  
No clutch, no differential, no gear shifting

Ravitaillement complet en 3 min  
Complete refuelling in 3 min

Autonomie identique à un moteur à combustion interne  
Same autonomy as an internal combustion car

Système de récupération d'énergie au freinage  
Braking energy recovering



Pilot Sport GT  
31/71-18  
(jante 13x18)

Pilot Sport GT  
30/68-18  
(jante 12x18)

740 mm

2 970 mm

1 000 mm

L x l x h : 4 710 mm x 1 970 mm x 1 070 mm

## MODULE ÉNERGÉTIQUE ÉLECTRIQUE-HYDROGÈNE GREENGT : 1 GÉNÉRATEUR ÉLECTRIQUE HYDROGÈNE + 4 MOTEURS ÉLECTRIQUES DE COURSE GREENGT ELECTRIC-HYDROGEN ENERGY MODULE: 1 H2 FUEL CELL + 4 ELECTRIC RACING MOTORS

### MOTEUR ENGINE

- 4 moteurs électriques de course 4 electric racing motors
- Puissance max en pic : 480 kW à 13 000 tr/min (653 ch)  
Max peak output of 480 kW at 13 000 revs (653 ch)

### CHÂSSIS CHASSIS

- Chassis LMP en carbone avec arc de sécurité en acier  
Carbon LMP chassis with steel frame
- Freins en carbone Carbon brakes
- Suspensions à triangles et poussoirs  
Double wishbone pushrod suspension

### TRANSMISSION TRANSMISSION

- Transmission directe aux roues arrière (ratio : 1.6,3)  
Direct drive to rear wheels (ratio: 1.6,3)
- Système électronique de gestion variable du couple GreenGT  
GreenGT electronic torque management system

### PRODUCTION D'ÉNERGIE ENERGY PRODUCTION

- Module électrique-hydrogène GreenGT (membrane électrolyte polymère à 4 stacks) de 250kW constants  
GreenGT electric-hydrogen powertrain (fuel cell with 4 stacks polymer electrolyte's membrane) of constant 250 kW

### SYSTÈME DE RÉCUPÉRATION D'ÉNERGIE AU FREINAGE ENERGY RECOVERY SYSTEM UNDER BRAKING

- Batterie de 750 V en nominal 750 V battery, nominal voltage
- Capacité de 2,4 kWh Capacity: 2.4 kWh
- 250 kW délivrés pendant 20 s 250 kW transmitted for 20 s

### STOCKAGE DE L'HYDROGÈNE HYDROGEN STORAGE

- Capacité de réservoir : 8,6 kg  
Fuel tank capacity: 8.6 kg of hydrogen
- Pression de stockage : 700 bars Storage pressure: 700 bars

### POIDS WEIGHT

- 1 420 kg en ordre de marche 1 420 kg in working order
- Répartition des masses : av. 39,8 % / ar. 60,2 %  
Weight distribution: front 39.8 % / rear 60.2 %
- Variation du poids au ravitaillement : + 8,6 kg  
Weight variation at refuel: +8.6 kg

### PERFORMANCES PERFORMANCES

- Vitesse maximale : 300 km/h Maximum speed: +300 kph
- 0 à 100 km/h : 3,4 s 0-100 kph: 3.4 seconds
- 0 à 400 m : 11 s 0 to 400 m: 11 seconds



## The future is called H24

Mission H24 is undertaking a new stage in its development. On Friday 18th September during the traditional press conference of the Automobile Club de l'Ouest held the day before the start of the 24 Hours of Le Mans, it unveiled the car that will succeed the LMPH2G in 2021, the H24, a new prototype that shares very few characteristics with the LMPH2G.



Externally, its bodywork, still developed by the Address Company, marks a complete rupture with that of the previous model. Its shape reflects the gains obtained: improved aerodynamic performance and better cooling for the propulsion system.

Mechanically, the H24 has moved up to a new level. GreenGT has conceived and designed a new power unit whose core, the electric-hydrogen generator equipped with new Symbio bipolar plates, delivers improved performance making the car more competitive. The new battery equipped with Saft cells used in Formula 1 stores and delivers more energy. The number of electric motors has been reduced from four to two; they spin twice as quickly and supply greater power with a substantial weight loss.

Completing the ensemble is a new gearbox – more exactly a reducer that's more compact and lighter than the previous one - and an electronic braking system. And finally, all this has led to a considerable increase in performance thanks in particular to a weight loss of 150 kilos, which brings the H24 closer to the mass of a GT3.

After the first phase of bench testing, in November, the H24 is going to undertake a major programme of private testing on several circuits to prepare for the 2021 season. ■