



H24
PROJECT

MISSION

A NEW CHALLENGE FOR H24EVO



HYVOLUTION PARIS, JANUARY 28TH 2025



RICHARD MILLE





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MISSIONH24, THE STORY SO FAR

Since its creation in 1906, the Automobile Club de l'Ouest, organizer of the 24 Hours of Le Mans, has been a key player in mobility for all. Safety, performance, comfort, energy consumption....are the essential and crucial themes to which the ACO and its legendary race have contributed, accelerating dedicated research.

While the decarbonization of mobility is now proving fundamental, the ACO has been committed for several years to find new energy solutions for racing. In 2018, with GreenGT (now H24Project) was officially presented MissionH24, a collaborative program for the deployment of hydrogen in racing.

The goal is clear: the creation by 2028 of a hydrogen category at the 24 Hours of Le Mans and in the FIA World Endurance Championship. Crucial international partners joined the program from the outset, with others joining as the project progressed.





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MISSIONH24, H24EVO'S EPISODE

After the LMPH2G, and the H24, the MissionH24 development team is devoting itself to a brand-new hydrogen electric prototype, with very different ambitions. The third phase of the mission, launched in October 2023, is the H24EVO.

After the essential stages of research, development, verification and reliability of this Power Unit (fuel cell system, tanks, electric motors, energy storage system, etc.) with laboratory cars, it's now time for performance with a real race car, the H24EVO, ready to compete with the other energies on the track!



LMPH2G



H24



H24EVO



BACK TO MISSIONH24 MILESTONES

As a reminder, hydrogen has never been introduced in endurance racing at this level of competition. Everything has yet to be created.

2018

At the Spa round of the ELMS, four-time 24 Hours of Le Mans winner Yannick Dalmas completed a lap of the famous undulating circuit in the LMPH2G. The car also refuelled with hydrogen, in public. MissionH24 was up and running.

2019

TotalEnergies created the world's first H2 mobile refuelling station, designed to travel from circuit to circuit with the team.

2020

Demonstration lap at the 24 Hours of Le Mans and presentation of the H24 prototype.

2021

With the LMPH2G, then the H24, the team designed and tested the assembly of a new power unit running with a hydrogen cell system.

2022

Four finishes in four Michelin Le Mans Cup races for the H24, competing in the Innovative Car class. A sporting and technological achievement!

2023

Revealing the first drafts of the H24EVO and its ambitions.

2024

At the 24 Hours of Le Mans, presentation of the H24EVO. The showcar, unveiled in June, will be on display from June to December at several events.

2025

In January, the H24EVO takes part in Hyvolution Paris. Revelation of the 2025-2026 roadmap.



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JANUARY 2025, A NEW STAGE FOR THE H24EVO

The H24EVO is multiplying the challenges: designed with elements using the latest technologies developed by the technical partners and distinguished actors from all over the world, such as the fuel cell, electric motor, energy storage system, tires and

the efficiency of its chassis designed and adapted for H2 technology, this hydrogen prototype aims for pure performance against rivals with conventional combustion engines. At the same time, the team is opting for a new type of hydrogen storage!





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MISSIONH24, H2 IN ALL ITS STATES

Since 2018, MissionH24 has been working to deploy hydrogen for zero-emission racing. A pioneering program, its ambition is to create a hydrogen category at the 24 Hours of Le Mans by 2028.

A number of phases are required before this objective can be achieved. The program has already produced two prototypes, the LMPH2G and the H24, using gaseous hydrogen. The H24EVO will run on liquid hydrogen, the option chosen by the FIA and ACO for the future category in 2028.





WHY LIQUID HYDROGEN?

H₂ (dihydrogen) has a specific energy (energy per unit mass) three times that of gasoline. However, its energy per unit volume (or equivalently, its density) is low, making hydrogen the lightest element in the Universe.

In gaseous form, it is compressed at 350 or 700 bar and has a density of 40kg/m³ at 700 bar. In liquid form, its density is 71kg/m³ at a pressure of 1 bar, roughly equivalent to atmospheric pressure.

To be in liquid form, it has to be stored at a temperature of -253°C, in thermally insulated tanks. Studies carried out a few decades ago on LNG are useful for developing these tanks. Stored in liquid form in specific tanks, the hydrogen is used in the fuel cell in gaseous form. An evaporation system, followed by a heat exchanger, is required to adapt its temperature to the fuel cell use. For decades, the space industry has been using liquid hydrogen for rockets, such as Ariane Group.



DENSITY DIHYDROGEN



GASEOUS
40KG/M³ AT 700BAR



LIQUID
71KG/M³ AT 1BAR



GASEOUS
20°C.



STORAGE DIHYDROGEN

LIQUID
-253°C.



TIRES

Michelin will support MissionH24 in its development by supplying tires specifically adapted to H2 technology.



COCKPIT

Narrower structure with a more central position for the driver to reduce weight, preserve aerodynamics and cooling on the sides, and to better integrate Power Unit components.

MOTOR & POWERTRAIN

A single high-performance electric motor drives the rear wheels. Maximum power 650 kW or 872 hp. Single-ratio gearbox, LSD differential compact and high-efficient.



FUEL CELL

Symbio multi-stacks new generation.

300 kW

Maximum net power

+50%

Power density gain compared to the H24

LH2 TANK(S)

LH2 (Liquid Hydrogen) tank(s), with the aim of increasing the amount of H2 on board (11-14 kg) and extending the autonomy to at least 40 minutes.



ENERGY STORAGE

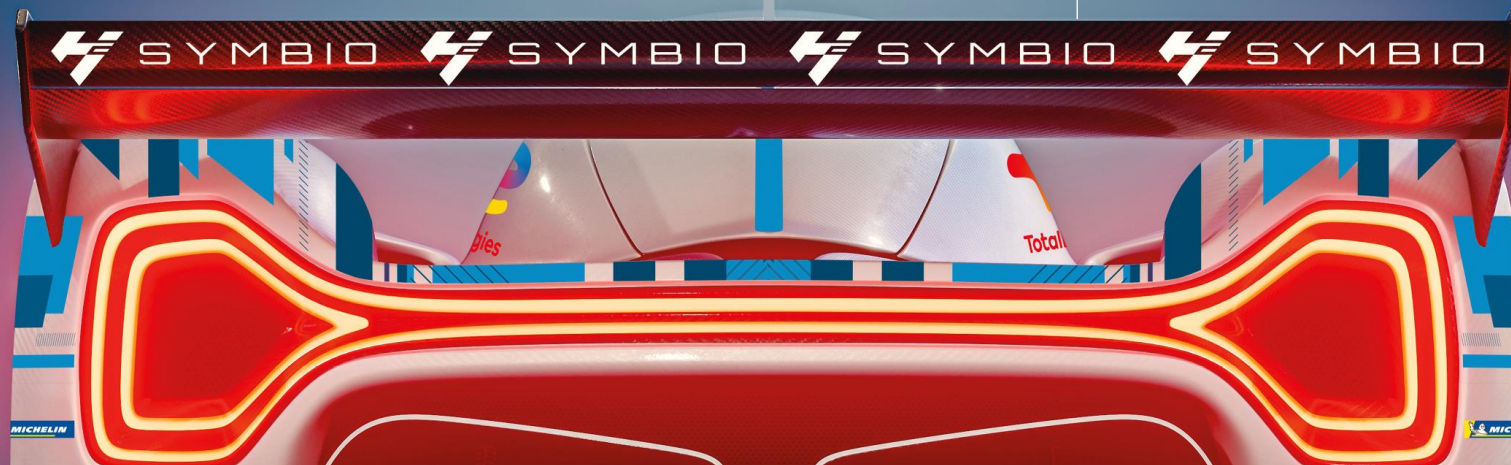
High-performance Lithium technology, to ensure the necessary system dynamics, and recover the majority of available braking energy.

400 kW | 3.4 kWh



THE KEY UPCOMING DATES

- 05. 2025 ■ H24EVO DESIGN FREEZE
- 06. 2025 ■ HYDROGEN VILLAGE AT THE 24 HOURS OF LE MANS
- 10. 2025 ■ TEST BENCH ASSEMBLY
- 02. 2026 ■ H24EVO ASSEMBLY
- 04. 2026 ■ TRACK TEST





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H2A

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THE GOAL

FEATURING AMONG THE BEST GT3

& introduce the use of liquid hydrogen



1300 KG
WEIGHT

340 KM/H
MAXIMUM SPEED

0%
CO2 EMISSION



COMMENTS AND REACTIONS ^{1/2}

“After introducing gaseous hydrogen to the racetrack, MissionH24, with the H24EVO, is now embarking on a crucial new phase with a dual challenge: to engage liquid hydrogen in competition and to rival the competition from conventional combustion engines. This mission is essential to achieve zero CO2 emission in motor racing.”

PIERRE FILLON

PRESIDENT ACO
CO-PRESIDENT MISSIONH24

“MissionH24 presented the H24EVO showcar at the 24 Hours of Le Mans in June 2024, with the aim of building the first FIA-approved electric-hydrogen prototype with a level of performance equivalent to the best GT3s. Alongside our long-established partners TotalEnergies, Symbio, Michelin, Dietsmann and Richard Mille, new partners have decided to embark on this technological challenge. I am delighted to announce new partners joining the MissionH24 program in 2025: Fortescue Zero, McLaren Applied, Multimatic, Bosch, Isoclima, Sobek and Momo. Other internationally renowned equipment manufacturers will also be joining MissionH24 in the coming weeks, and we will be sure to let you know about them.”

JEAN-MICHEL BOURESCHE

CEO H24PROJECT
CO-PRESIDENT MISSIONH24



COMMENTS AND REACTIONS *2/2*

“Thanks to MissionH24, I'm delighted as technical director: together with the team, we're facing a pioneering and sustainable challenge to create zero-emission automobile racing and the mobility of the future, with the deployment of the hydrogen solution. After demonstrating the potential of gaseous hydrogen, we're embarking on a new challenge: introducing liquid hydrogen into racing. With an experienced partner in the field of on-board liquid hydrogen storage, and with all our partners, we are starting an exciting and promising collaboration.”

BASSEL ASLAN

TECHNICAL DIRECTOR

“Since 2018 and the official presentation of MissionH24, we've come a long way! Of course, there are still many steps to be carried out. To succeed in such a challenge for motorsport and mobility more generally, research must be systematic to achieve this crucial objective: decarbonizing competition and mobility.”

BERNARD NICLOT

PRESIDENT WIN INNOVATION
INNOVATION DIRECTOR MISSIONH24



PARTNER COMMITMENTS ^{1/4}

“Present alongside the ACO as a multi-energy partner and MissionH24 since 2018, we are delighted to be able to support MissionH24 in the development of its new H24EVO technology demonstrator, as a hydrogen supplier. We are working with the ACO and MissionH24 technical teams to set up the hydrogen fuelling structure for H24EVO and in anticipation of the arrival of the hydrogen category at the 24 Hours of Le Mans.”



“MissionH24's latest creation, the H24EVO, represents for Symbio a formidable laboratory for accelerating the development and market launch of our next high-power hydrogen fuel cells, designed for heavy and intensive mobility. We are working daily with the H24Project teams to bring the H24EVO to the track in the near future and demonstrate once again that zero-emission hydrogen mobility is a reality, and that Symbio is ready to accelerate its deployment, both on the racetrack and on the road.”





PARTNER COMMITMENTS ^{2/4}

“Driven by its pioneering spirit and commitment to sustainable mobility, Michelin has been supporting MissionH24 since its inception. This commitment has strengthened over successive generations of vehicles through the development of tires incorporating an ever-increasing proportion of renewable and recycled materials, reaching 71% today. These technological advancements have also accelerated the development of the next range of tires for GTP and Hypercar categories. These new Michelin tires, more “virtuous” while maintaining top-level performance, will be introduced in the IMSA Endurance Championship and FIA WEC starting in 2026. They will be unveiled later this year during the 24 Hours of Le Mans.”



“Once again this year, Dietsmann is proud to collaborate with MissionH24; this partnership reflects our shared vision of a future where innovation and clean energies, such as hydrogen, pave the way for sustainable, high-performance solutions. Together, we reaffirm our commitment to accelerating the energy transition and promoting the use of responsible technologies in both industry and motorsports.”





PARTNER COMMITMENTS ^{3/4}

“We are delighted to have been chosen as the battery supplier for MissionH24. This builds on the work that Fortescue Zero has been doing for over 10 years in professional motorsport as the trusted battery supplier to a number of racing categories. The battery system in this application will work in harmony with the fuel cell to act as an energy buffer that can deliver the demanding duty-cycles for this pioneering new zero-emission Hydrogen powertrain.

Fortescue Zero exists to engineer winning performance at pace, supporting Fortescue’s goal of achieving Real Zero by 2030, by transitioning away from fossil fuels. We rapidly progress technologies via electrified motorsport power systems, and we support MissionH24 and their goal to bring hydrogen power into the sport and industry as a whole.”





PARTNER COMMITMENTS ^{3/4}

"McLaren Applied has a strong 35-year legacy of providing electronic control solutions and sensors into the world's most prestigious race series, including Formula 1, NASCAR, IndyCar, Formula E and of course WEC/Le Mans. As the motorsport industry pioneers the move towards sustainable fuels, including Hydrogen, we are excited to be a part of this transition. Our involvement in the MissionH24 project gives us the perfect platform to demonstrate the capabilities of our solutions for this new era of Hydrogen power. The H24EVO will be equipped with our VCU-500 for vehicle control, ATLAS GT software for data analysis, and our Tyre Pressure Monitoring System. We look forward to seeing the H24EVO demonstrate the future of the Hydrogen class at Le Mans."



"Multimatic is a global supplier of components, systems, and engineering services to the automotive and motorsport industries. Multimatic is pleased to partner with MissionH24 to pave the way for future technologies in motorsport."



"We are delighted to join forces with MissionH24 in this partnership and look forward to participating in the development of the H24EVO and its liquid hydrogen storage system, which will shape the future of carbon-free endurance racing."





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