Introducing Extreme H

RACING'S NEW FRONTIER

Our pioneering racing series

SUCCESSFUL AND ESTABLISHED FORMAT

multi-car entertainment with close racing and wheel-to-wheel action.

UNIQUE RACING PRODUCT

taking the best of the major established motorsports, including rally raid, rallycross and Formula E.

MEN AND WOMEN

racing side by side - contributing equally to the outcome of each race.

DOUBLE-HEADER WEEKENDS

Twelve captivating races across each weekend and approximately 10 minutes long. Finals on Saturday and Sunday with trophies awarded on each day. Every lap counts.

LEGACY PROGRAMMES

Global community projects aimed at leaving long-lasting, positive legacy. Led by the Scientific Committee, supporting the series' UN Sport for Nature commitments.

“We are incredibly proud to introduce the world to our first hydrogen-powered racing car - the Pioneer 25 - and the Extreme H series. This launch is not just about a new vehicle; it’s about pioneering the future of sustainable motorsport. Hydrogen fuel cells offer a remarkable opportunity to reduce our carbon footprint and promote clean energy solutions, and we are proud to lead this charge with Extreme H.

“The evolution to Extreme H is a momentous moment for our championship. It’s important for every motorsport series to have a unique selling point and hydrogen is very significant. We are undoubtedly hydrogen pioneers, the first in this space, and we are excited to showcase the potential of an element that, in large parts, remains a hugely untapped resource. The large-scale adoption of hydrogen could have enormous benefits not just across motorsport and the automotive industry, but unearth a wealth of positive benefits for the future of the planet.

“Our evolution to Extreme H makes us the first-ever testbed of hydrogen technology in motorsport – not only in our racing cars, but also transportation, infrastructure, refuelling processes and safety regulations. It’s a ground-breaking initiative. Our racing series has always been unique, but its future as Extreme H undoubtedly marks Racing’s New Frontier.”

ALEJANDRO AGAG
Founder & CEO, Extreme E & Extreme H

The Pioneer 25

The Extreme H car, aptly titled the ‘Pioneer 25’ as the series begins its innovative new era, is a completely new car, which has been in development ever since the announcement of the world’s first hydrogen racing championship was made in 2022.

The Pioneer 25 racing car is designed to demonstrate the viability and performance capabilities of hydrogen fuel cells, setting a new standard for eco-friendly motorsport.

The Pioneer 25 is designed and manufactured by Spark Racing Technology and equipped with a hydrogen fuel cell from Symbio, Extreme H's Official Fuel Cell Provider, and has undergone an intensive testing programme in readiness for its debut campaign.

"There has been no compromise with the Pioneer 25. Spark Racing Technology and Symbio have done a tremendous job in developing the Extreme H car, which is fit for our exciting new era as a hydrogen-powered championship.

"We've learnt a lot from the ODYSSEY 21, which we have carried forwards, but it's an all-new chassis and a purpose-built racing car for the hydrogen fuel cell. We wanted the racing to be more intense and we wanted the race cars to be faster.

"The Pioneer 25 is a significant upgrade on the ODYSSEY 21. The centre of gravity is lower, and the performance of the car has improved a lot. We have changed the suspension geometry for the Extreme H car, ensuring it will be more powerful and feel that, overall, we will compensate for the extra mass with the power and torque that's going to be available to the drivers and teams.

"We've demonstrated electric vehicles can cope with very harsh environments and racing in hard conditions in Extreme E, so moving to Extreme H is a natural progression. We want to demonstrate to the world that hydrogen fuel cell vehicles can be exciting, they can be rugged and they can be very robust. We want to carry through that development with the Pioneer 25."

MARK GRAIN
Technical Director

The Pioneer 25 specifications

CHASSIS
Tubular space frame with composite energy absorbing

SUSPENSION
Double wishbone front and rear

DAMPERS
Twin front and rear coil over dampers with four-way adjustability and driver controlled live valve technology

HFC OUTPUT
75kW, 850V, 36kWh

H2 CAPACITY
2.0Kg/50LL

E-MOTORS
Front and rear eMotors both producing 200kW power

HEIGHT
1900mm

WIDTH
2400mm

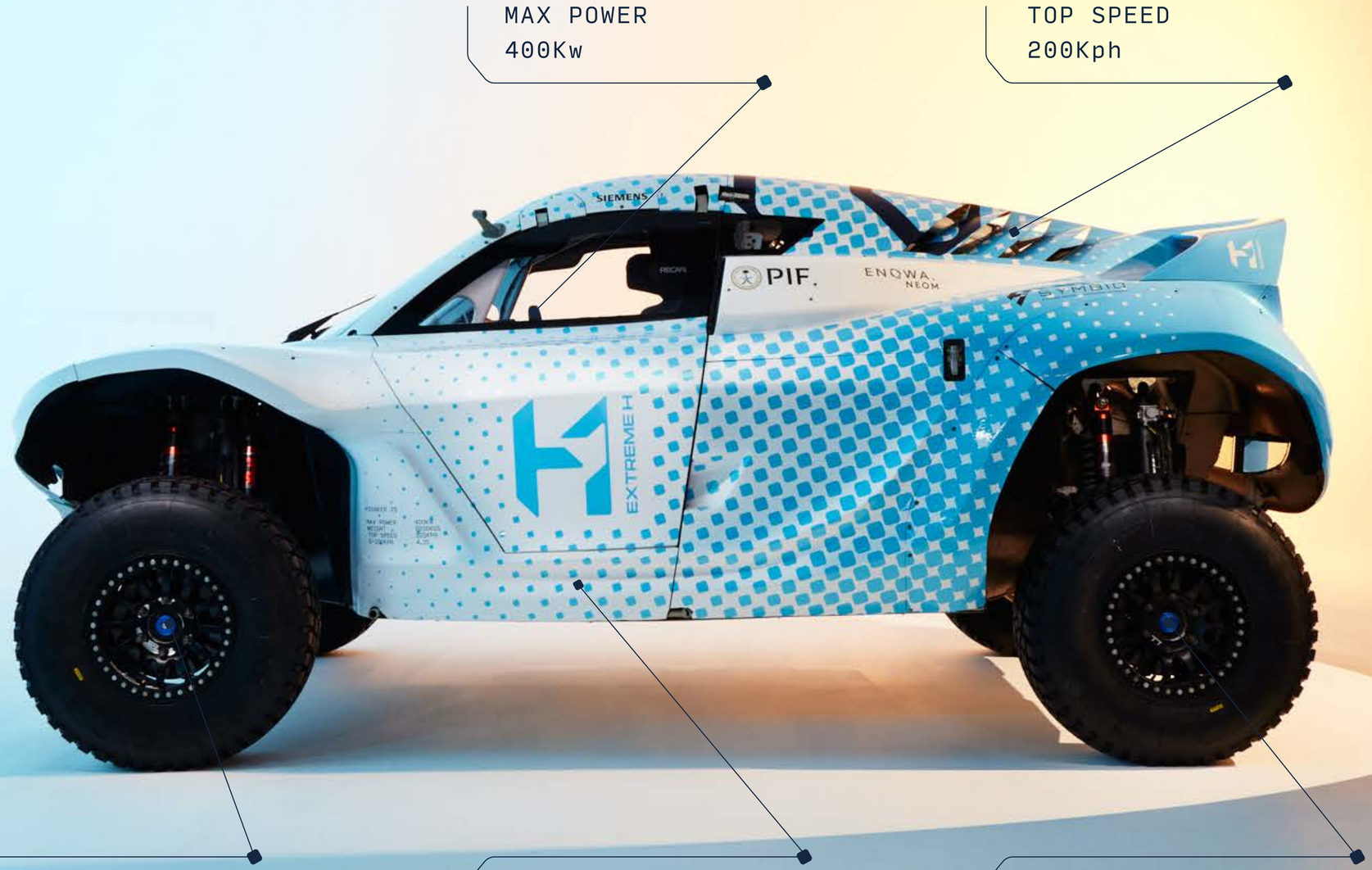
LENGTH
4600mm

FRONT TRACK WIDTH
2100mm

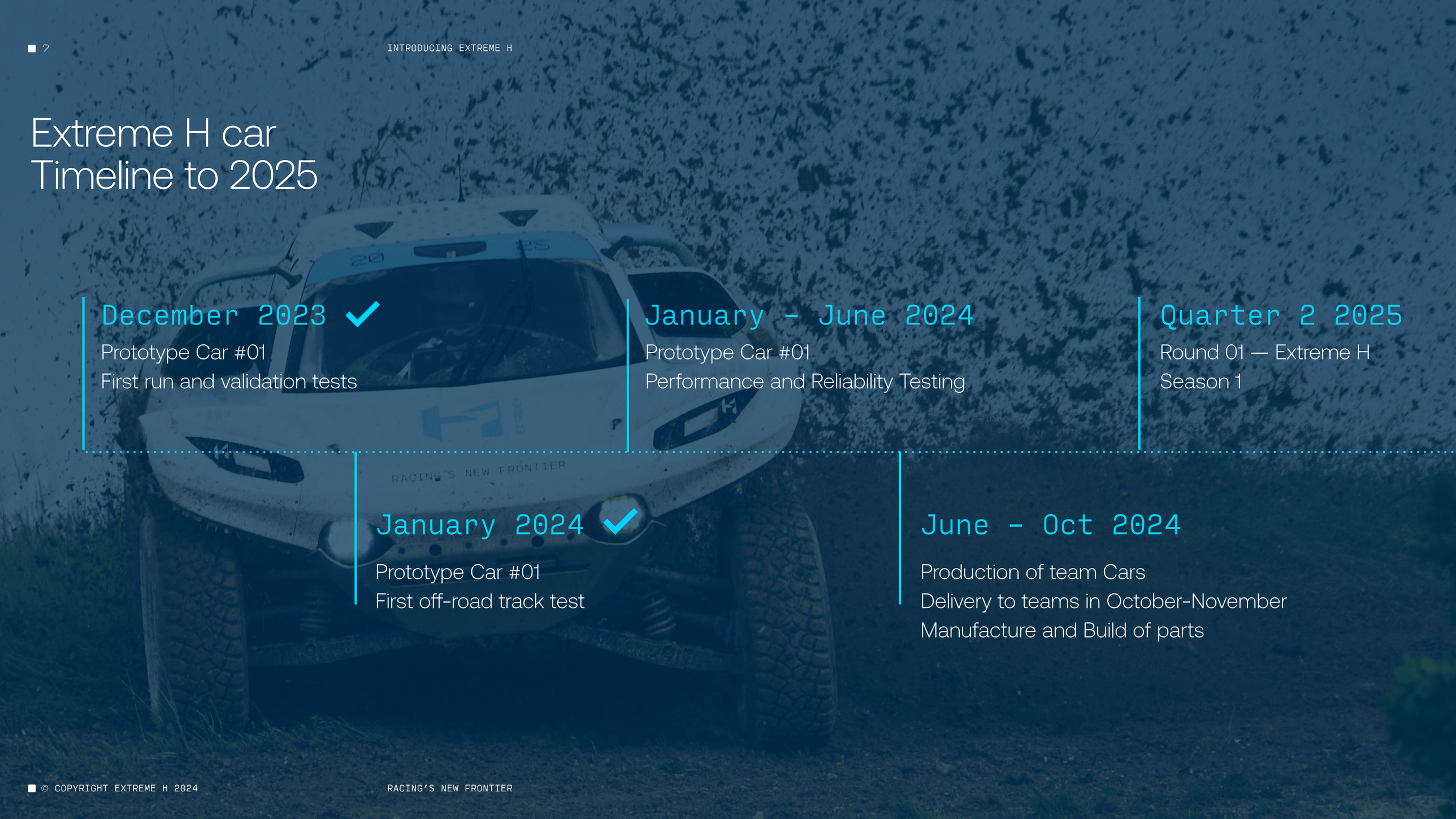
REAR TRACK WIDTH
2100mm

WHEEL BASE
3200mm

WEIGHT
2200Kgs



Extreme H car Timeline to 2025



December 2023 ✓

Prototype Car #01
First run and validation tests

January - June 2024

Prototype Car #01
Performance and Reliability Testing

Quarter 2 2025

Round 01 — Extreme H
Season 1

January 2024 ✓

Prototype Car #01
First off-road track test

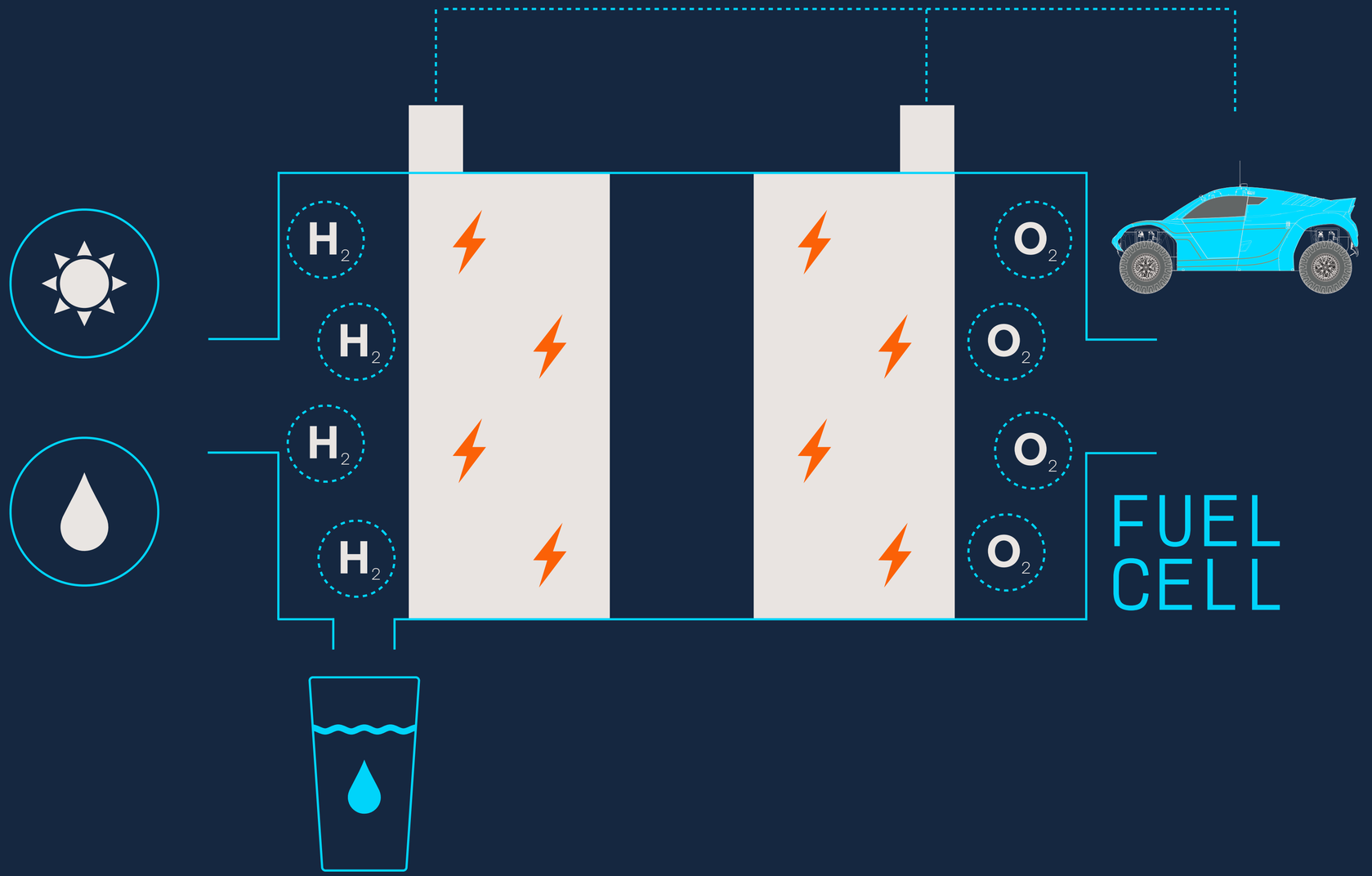
June - Oct 2024

Production of team Cars
Delivery to teams in October-November
Manufacture and Build of parts

What is green hydrogen?

Green hydrogen generates no polluting emissions into the earth's atmosphere and is, as a result, the cleanest and most sustainable form of hydrogen. It truly is the magic molecule.

The electrolysers that are used to split water into hydrogen and oxygen can, if powered by renewable energy, produce hydrogen without any greenhouse gas emissions, thus creating green hydrogen.



Behind the wheel

“It's been an absolute privilege to be chosen as a development driver for Extreme H. The championship is unique and a chance to help develop such new technology is exciting. Having raced the ODYSSEY 21 for the past two campaigns, I feel like I’ve brought a lot of experience and insights as a female driver to support the development programme.

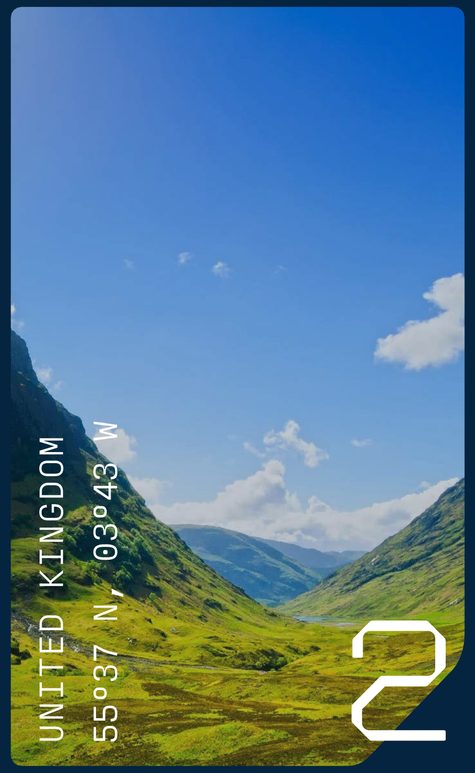
“The Pioneer 25 is exciting to drive. The main noticeable change is the throttle response, which has been improved and is really exciting for a driver behind the wheel. The handling and drivability of the car is also really impressive, which is great for an all-new car.

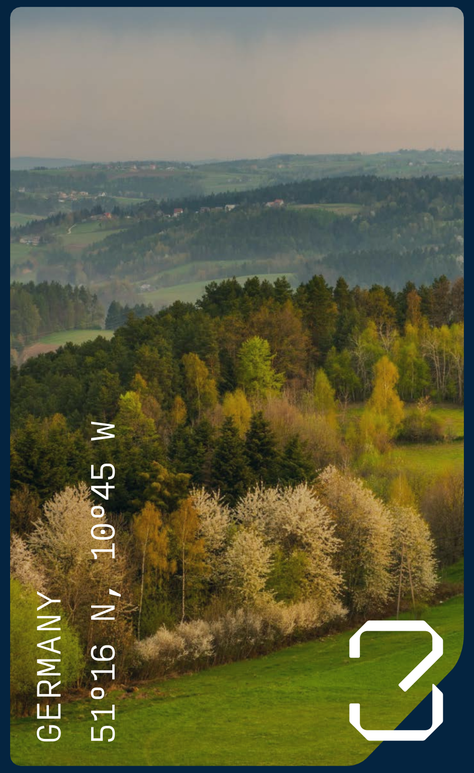
“During testing we have focused on reliability as well as performance. The mindset during development has been to improve on what we have been racing before as we evolve the championship. We have worked on as many areas as possible, including the seating position and the visibility as a result of that - this will only help make the racing even more exciting.

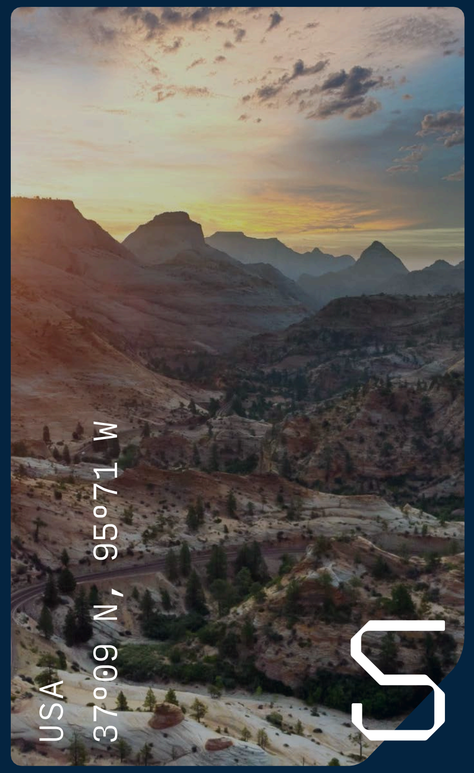
“To develop the world’s first Extreme H car has been an honour.”

HEDDA HOSåS
Extreme H development driver

Season 1 calendar







*2025 calendar to be confirmed later this year

Scientific Committee

Extreme H has its own Scientific Committee, consisting of leading academics from the Universities of Oxford and Cambridge, who advise on the series' education and research programmes, event logistics and impact as well as the recommendation of positive legacy initiatives to support local communities in each race location.

These projects prioritise empowering local communities, offering sustainable solutions with lasting impact, fostering resilience by aiding vulnerable populations in adapting to climate change, advocating for renewable energy to stimulate economies and lower carbon emissions.

PROF. CARLOS M. DUARTE

Global Challenges Coordinator
Distinguished Professor at King Abdullah University of Science and Technology (KAUST, Saudi Arabia) and Professor at the Arctic Research Centre, Aarhus University (Denmark)

PROF. RICHARD WASHINGTON

Desertification & Drought Expert
Professor of Climate Science at the University of Oxford

PROF. LUCY WOODALL

Ocean Expert
Marine Biologist and research fellow at the University of Oxford

DR. FRANCISCO OLIVEIRA FILHO

Amazon Expert
Amazon deforestation specialist at the University of Cambridge

PROF. PETER WADHAMS

Head of Scientific Committee & Arctic Expert
Head of Ocean Physics at the University of Cambridge

The Hydrogen Hub

Launched alongside the Fédération Internationale de l'Automobile (FIA), and FIA Formula One World Championship in 2023, the Hydrogen Hub brings together their collective expertise in a strategic alliance to evaluate developments and potential applications for hydrogen within motorsport and wider mobility.

The objective of the Hydrogen Hub between Formula 1, the FIA and Extreme H is to monitor the progression and development of hydrogen technology.

As founders of the Hydrogen Hub, we will be able to monitor the progression and development of hydrogen technology – both for the fuel cells and battery systems which will be used in Extreme H's first-generation racing chassis – as well as hydrogen technology within race site infrastructure, transportation, charging, storage and management, and its safety implications.

We will be the series leading the way and steering the direction of this exciting new technology. Extreme H will become the testbed for hydrogen in motorsport and beyond.

Collaboration is going to be so crucial when driving innovation in this industry, and bringing together some of the brightest minds and biggest names in a strategic alliance can only be a positive in developing hydrogen technology as a practical, low-carbon solution for e-mobility.

Contact

For the latest news and updates from the world's first hydrogen racing series, please contact: media@extreme-e.com