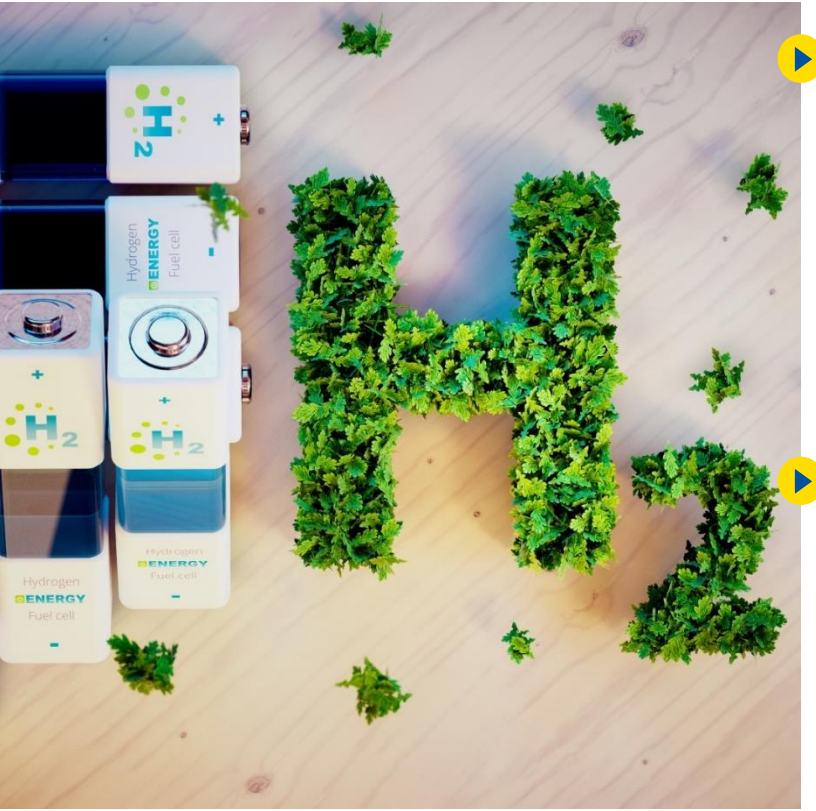
Hydrogen mobility is the unique solution to meet the three challenges simultaneously : pollution, greenhouse gases and energy transition



GREEN H2 PRODUCTION

(zero CO_2 emission)

Electricity & H_2O —*Water electrolysis*→ H2

Renewable energy

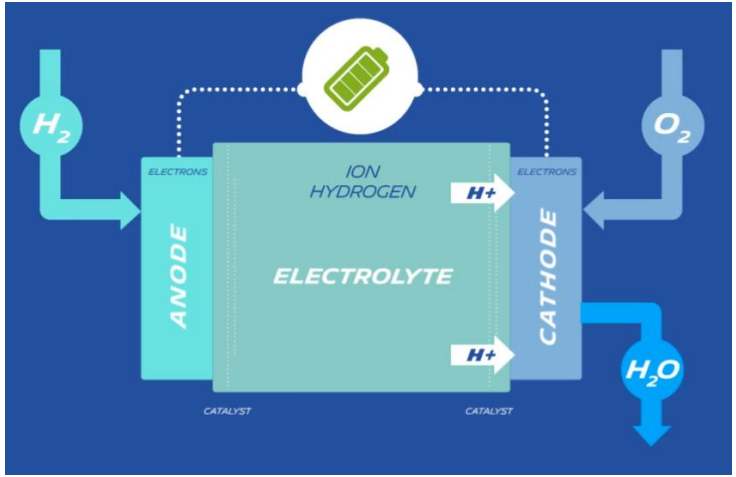
MAIN USES OF H2

- storing intermittent energies (wind, solar…) electricity production surplus, through electrolysis
- helping decarbonize transportation. Hydrogen vehicles only reject water

MICHELIN A BETTER WAY FORWARD

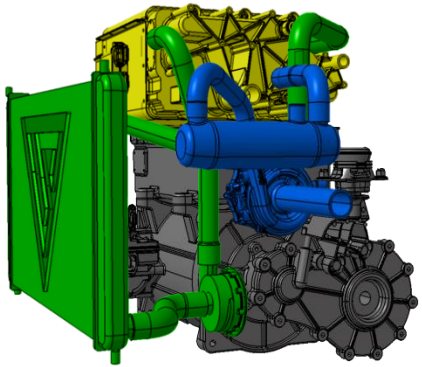
3 questions about fuel cells

HOW DOES A FUEL CELL WORK?



WHAT IS A FUEL CELL ELECTRIC VEHICULE?

WHAT IS A FUEL CELL SYSTEM?



Electric transmission

Stack

Air system

Cooling system

+ transformer and controller

The hydrogen mobility, which growth perspectives are significant, is a solution particularly adapted to the professionnal needs

- A fuel cell car will be able to cover longer distances and offer constant availabilty for a lighter, smaller system

3 min
Hydrogen fill-up

x2-x3
Range

FOR THE SAME SIZE TANK (170 DM3)

500 km

257 km

FOR THE SAME AMOUNT OF ENERGY + SAME STORAGE (125KG)

500 km

90 km

- 2030 market *

2 million vehicles

- 80% light vehicles (passenger cars and light trucks)
- 20% trucks and buses

** Michelin estimate*

Before approaching passenger car market, **Michelin** has decided to target first **professionnal markets** as hydrogen is the most appropriate enegy for **heavy and long distance transportation**

Michelin aims to become a world leader in hydrogen systems

WITH its expertise in the hydrogen fuel cell technology, notably in the coated membranes technology, Michelin is accelerating the deployment of zero-emission mobility:

- by partnering with Faurecia to create a leading hydrogen fuel cell system

Photo Renault

SYMBIO
A FAURECIA MICHELIN HYDROGEN COMPANY

- by participating in the Zero Emission Valley project (Hympulsion) in France, involving public-private partners
- by being the major player in hydrogen competition, a solution accelerator, with Mission H24 partnership
- by being a key stakeholder and a trusted third party in hydrogen mobility (Hydrogen Europe, Hydrogen Council, MOVIN'ON…)

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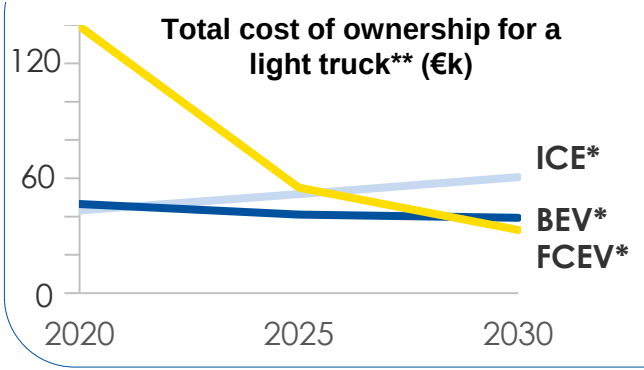
A BETTER WAY FORWARD

Symbio strong ambitions on a growing and high value creative market

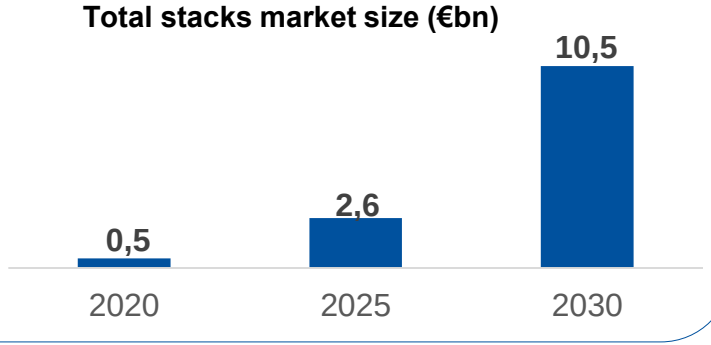
FCEV TCO ON PAR WITH BEV FROM 2027



* FCEV: Fuel Cell Electric Vehicle, BEV: Battery Electric Vehicle, ICE: Internal Combustion Engine

** Assumptions: Light trucks, EU region, Max range 500 km, 80,000 km/year, 3 years ownership

A FAST-GROWING MARKET



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250 employees in 2020

€140M will be committed by Michelin and Faurecia

3 Production facilities eventually: Europe, Asia and USA

÷ 10 the price of a fuel cell stack + components in the future, (due to growing demand)

2030 outlook

12% market share

~€1,5BN in sales

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