



*Yacht Club de Monaco*

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**SEPTEMBER 22, 2020**

Under the presidency of Prince Albert of Monaco



**EUROPE  
TECHNOLOGIES**  
CIAM®



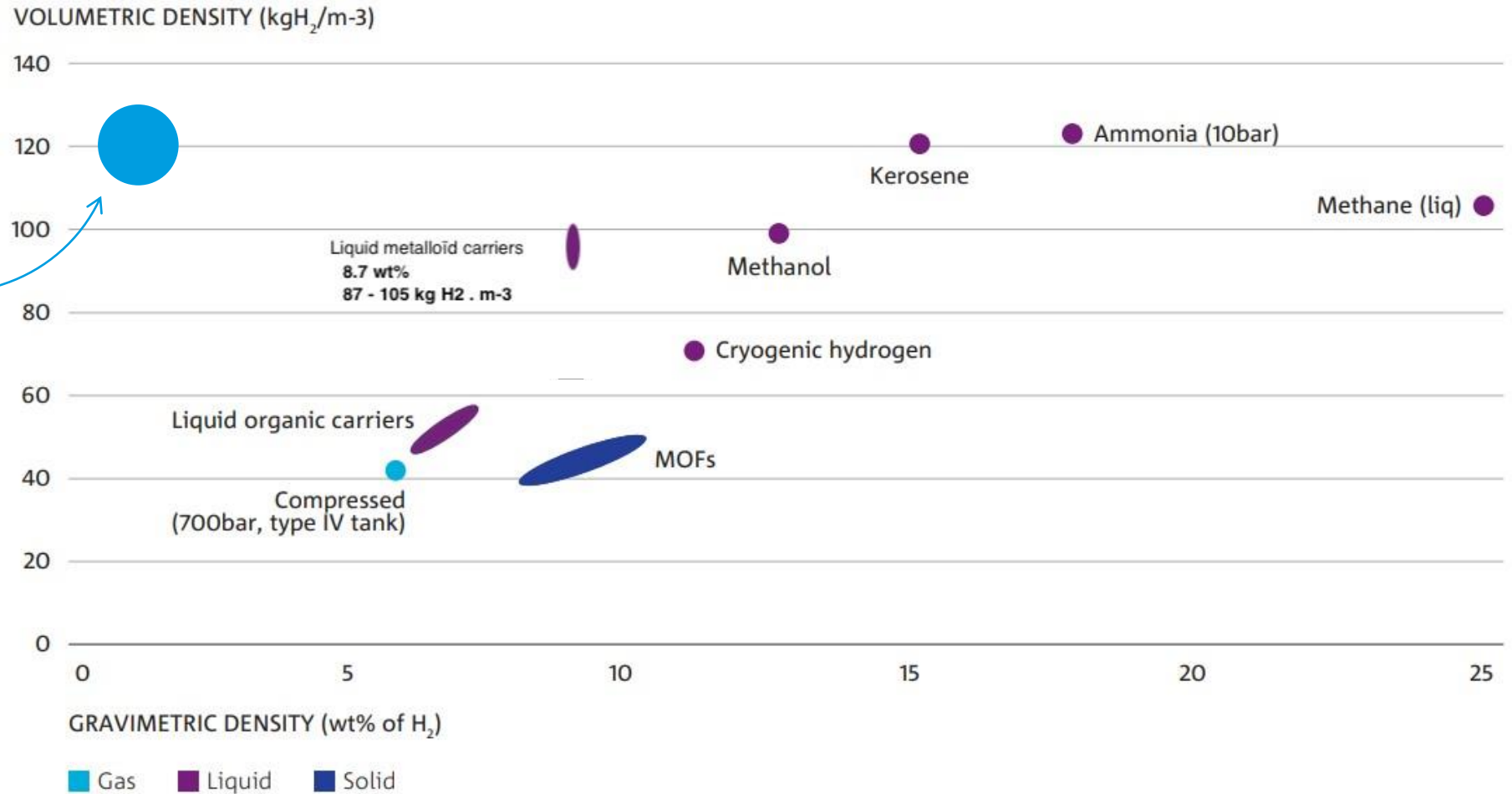
**CORSICAN**  
BLUE PROJECT

# WHY HYDROGEN SOLUTION ?

The goal is to achieve the highest volumetric density of **hydrogen** using as little additional material as possible.

Volumetric density :  
XXX

Gravimetric density :  
XXX



# H2 MATURITY



## The Minister of Ecology - 08.09.2020

**Barbara Pompili** indicated that Hydrogen is an « opportunity to decarbonize France by 2050, particularly in **industry and transport** ». It is also a question of « **energy sovereignty** ».

The minister spoke of a « strategic industry ». « It's time to ignite the 2nd stage of the rocket », in order to shift « to a higher gear », to « **change scale** » and push « **carbon-free hydrogen** » for transport, industry and **hub applications**.

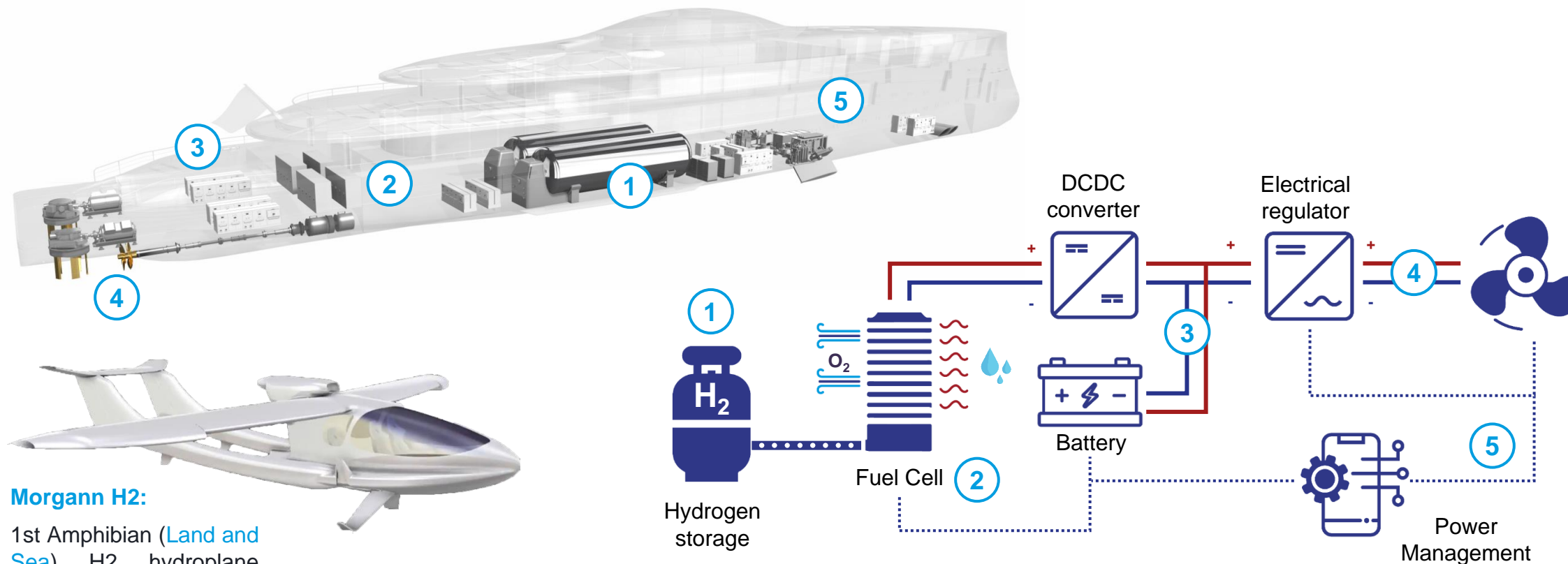
## G20 report, Osaka 2019

The awareness of the climate emergency, the fall in the cost of renewables which have been divided by ten in ten years, and the maturity of hydrogen technologies, **make hydrogen a potential actor to play a key role in a clean, safe and secure environment**.

## The Royal Society of Chemistry, 2019

**Marine applications hold promise** for hydrogen deployment, with fuel cells already being trialed for propulsion in many projects. Vessels potentially consuming 2000 kg of hydrogen per day, hydrogen storage solutions are necessary. Fuel cells for auxiliary power could be adopted earlier than for propulsion, and port vehicles. They could also be early adopters, improving local air quality with a single refueling depot.

# YACHT APPLICATION



## Morgann H2:

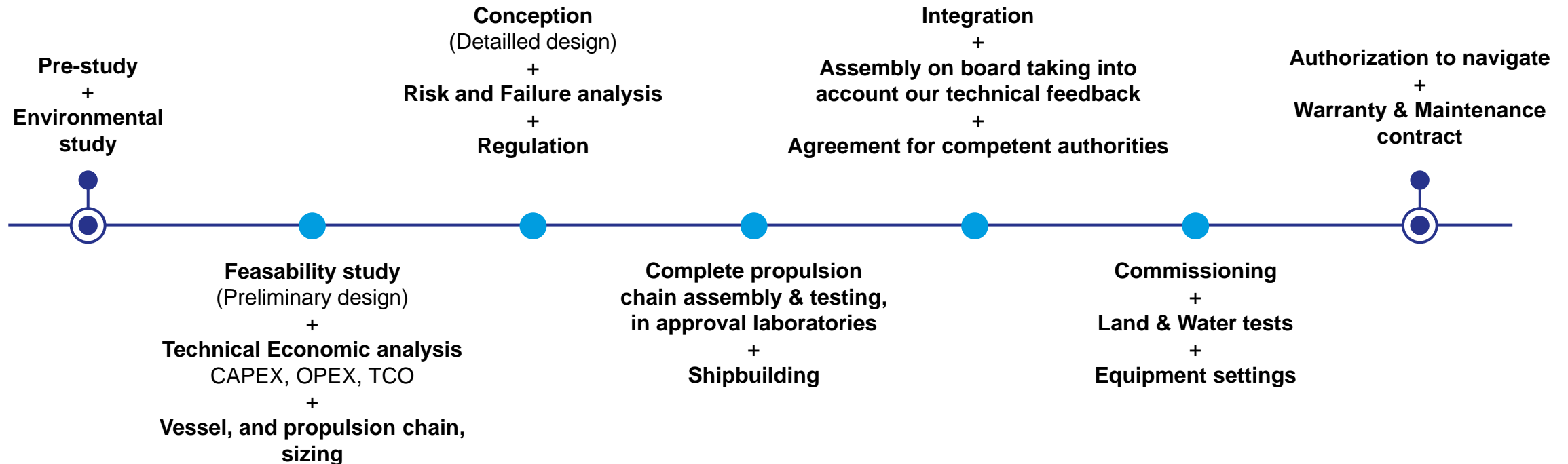
1st Amphibian (Land and Sea) H<sub>2</sub> hydroplane whose foldable wings allow the aircraft to be parked under the deck of the vessel

**100% alternative fuels combined with a hydrogen-electric propulsion and energy system allow us to present a technical overview of the FUTURE ZERO-EMISSION.**

# CIAM® 'S SCOPE



Full turnkey consideration from "the introduction of hydrogen on board, up to the rotation of the propeller"



**Go/NoGo** at each stage of the construction of your vessel, and its own propulsion system.

If necessary, a **unifying role, facilitator or agitator** to set the entire value chain in place.



# SUCCESS STORIES



➤ **2018:** River Creation – Electric boat – Alain Ducasse



✓ **2018:** Race for Water from Patrice Domenge (Alca Torda)



➤ **2002:** Le Branec 3 - 1<sup>st</sup> sailboat equipped with hydrogen fuel cell – Integration from Alca Torda

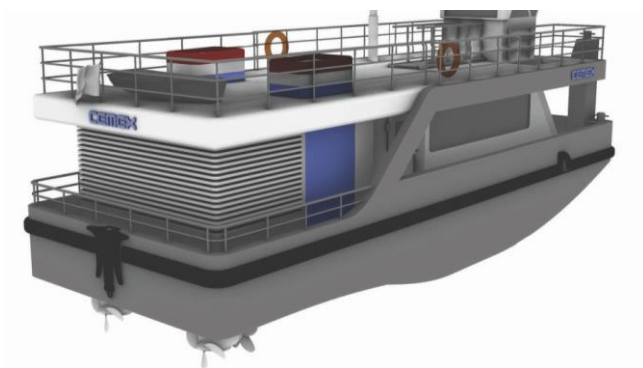


✓ **2017:** NavHybus Erdre (Nantes) from Olivier Ticos (Alca Torda)



➤ **2018:** River Creation – Electric boat – Alain Ducasse

# PROJECT IN PROGRESS



## > CEMEX

**2019 – 2022:**  
Maneuvering pusher  
boat - 500 kW Fuel Cell  
/ 3 300 kWh of H2 /day  
at Paris IntraMuros



## > CIAM7

**2019 – 2021:** Zero emission  
river tourism such as Canal du  
Midi, and an innovative  
solution for pleasure yachts –  
10 kW open cathod Fuel Cell  
and 90 kWh of H2 /day



## > HYLIAS

**2020 - 2023:** An ecosystem of the creation of the “green”  
electron for use: photovoltaics and tidal turbines, electrolysis,  
storage, logistics and distribution, use (150/200 passengers  
ship, 500 kW, 4 000 kWh of H2 /day, in the area Gulf of  
Morbihan Natural Park)



## > CANOPÉE

**2019 – 2022:** Decarbonize the  
great maritime sector using  
innovative solutions

- Cold ironing
- Hotel Load : 400 kW of Fuel Cell  
and 6 500 kWh of H2/day
- Electro-hydrogen hybrid propulsion



# Corsican Blue Project

**2020 – 2023 : OIL POLLUTION  
RESPONSE VESSEL** which permits to  
create a base for rapid intervention at sea,  
integrating many innovations in terms of  
waste management, generation of energy  
on board and equipped with 100 kW of  
Fuel Cell and 3 333 kWh of H2 /day.





# CORSICAN BLUE PROJECT



OIL POLLUTION RESPONSE VESSEL

BY



[WWW.CORSICANBLUEPROJECT.COM](http://WWW.CORSICANBLUEPROJECT.COM)





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# THANK YOU FOR YOUR ATTENTION

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