

PRODUCT INFORMATION SHEET  
Hydrogen Range Extender

# REXH<sub>2</sub>

From 70 kW to 1 MW



REXH<sub>2</sub>

FUEL CELL SYSTEM

Nominal power 60kW  
Peak power 90kW

THE ON-BOARD SOLUTION FOR  
ZERO-EMISSION NAVIGATION

With the REXH<sub>2</sub> and its record  
energy density, enjoy tomorrow's  
technology now.

 EODDev



# Ecological and Designed for the Planet

The solution providing you with emission-free onboard energy, both at sea and at anchor.

Optimized for your  
Energy Needs



Proven technology

«Plug & Play» solution

Compact design and light weight

Complete modularity

Zero emissions

Quick refueling

No noise pollution

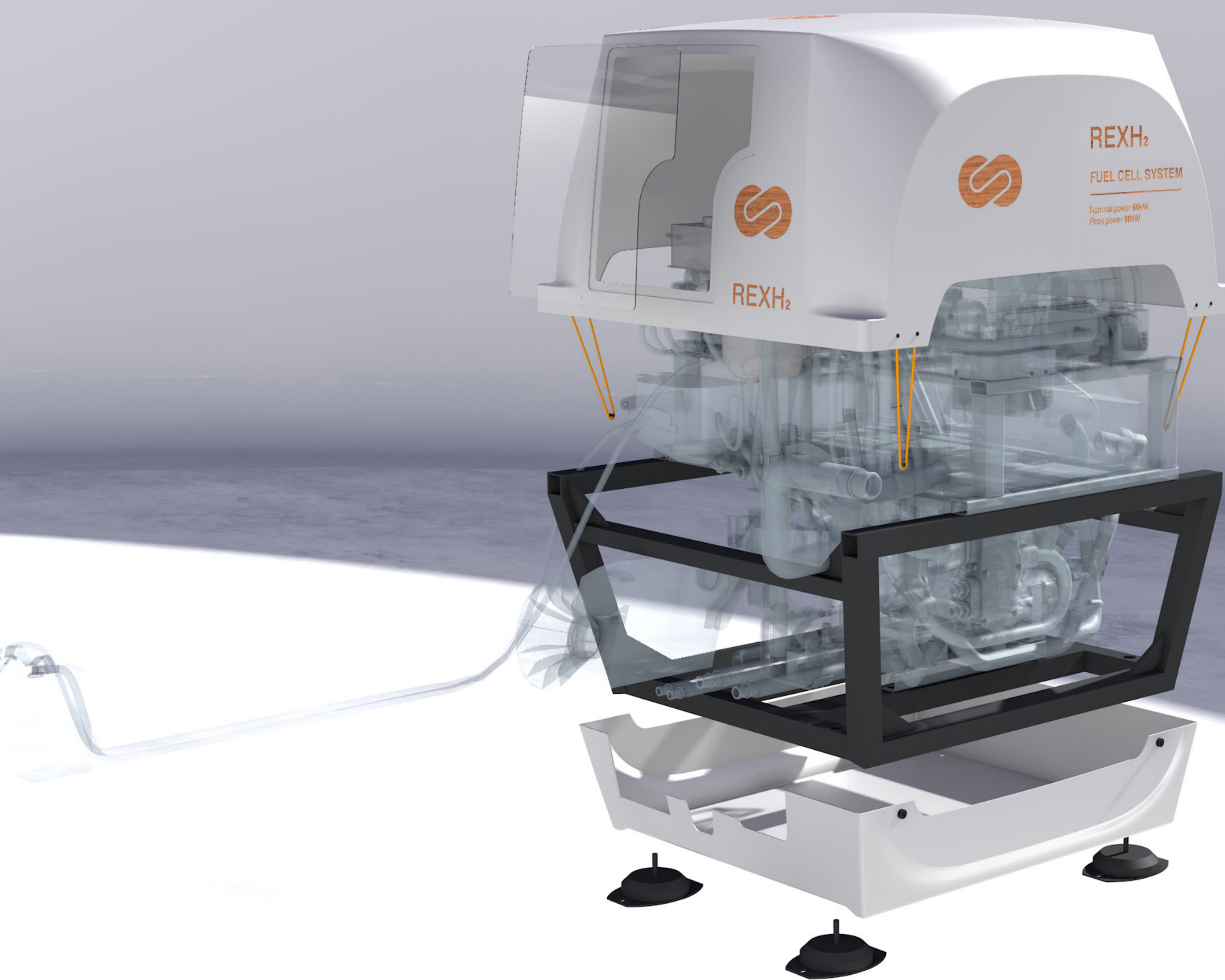
No minimum power required

Data monitoring

Instant start

Predictive and simplified maintenance

Optimized consumption and efficiency

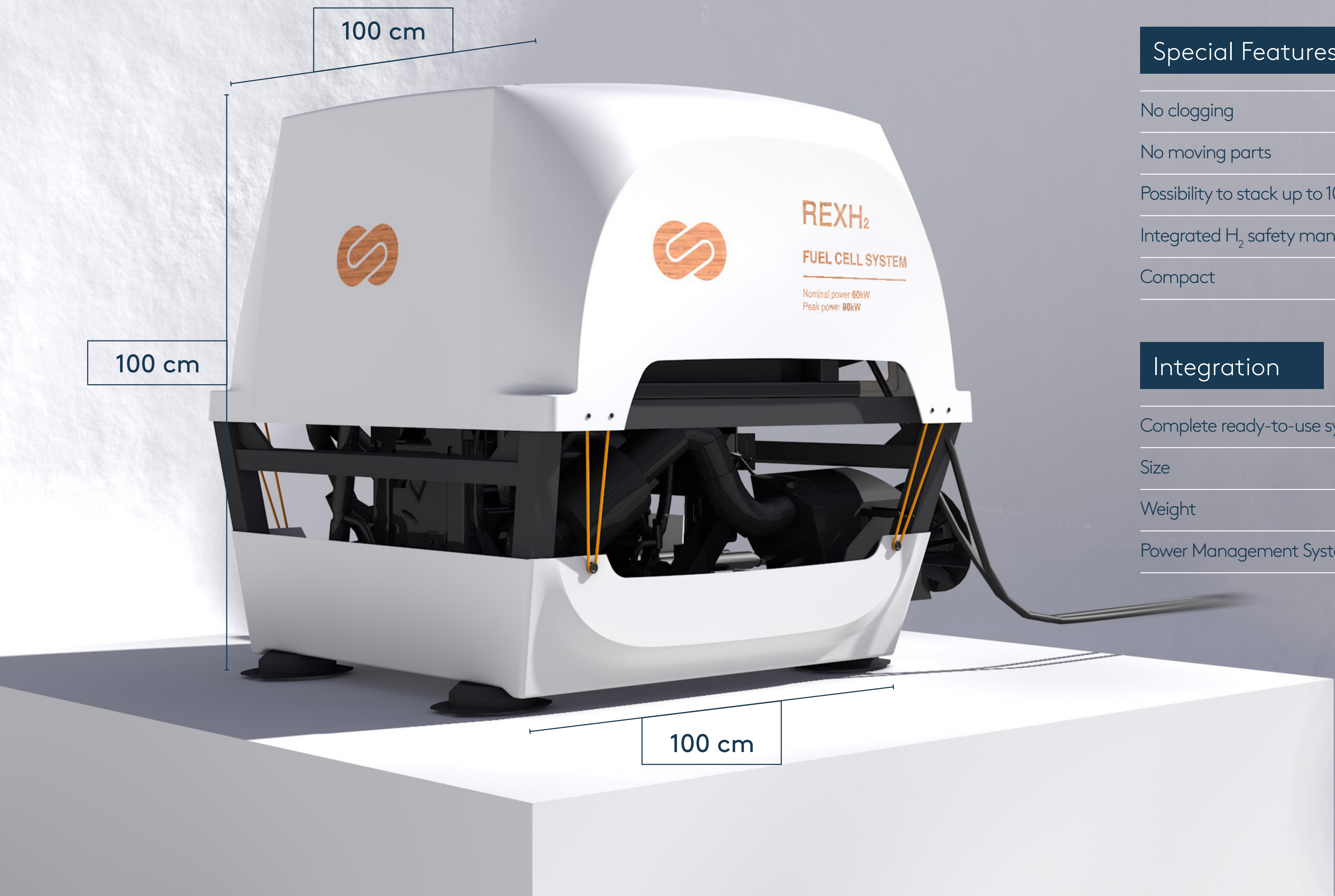






# REXH<sub>2</sub>

## Specifications



### Performances

|   |                  |
|---|------------------|
| Power   | From 80kW to 1MW |
| Life span                                       | 20 000 hours     |
| Output voltage                                  | ± 600 V DC       |
| Full power can be maintained over several hours |                  |

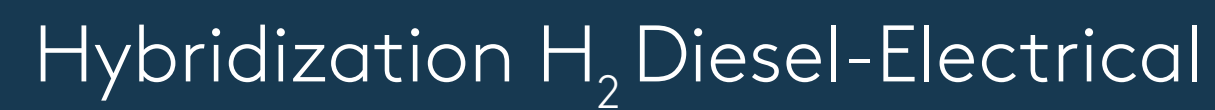
### Special Features

- No clogging
- No moving parts
- Possibility to stack up to 10 units
- Integrated H<sub>2</sub> safety management
- Compact

### Integration

|                                  |                          |
|----------------------------------|--------------------------|
| Complete ready-to-use system     |                          |
| Size                             | 100 cm x 100 cm x 100 cm |
| Weight                           | 400 Kg (incl. Frame)     |
| Power Management System included |                          |

## Hybridization H<sub>2</sub> - Electrical





# Applications of the REXH<sub>2</sub>

## Yachting

Propulsion et Systems

Hotel load

All navigation zones

### USER PROFILE

Medium to fast speeds

Short distances

Profile: Tenders, Day-Boats

### CONFIGURATION

H<sub>2</sub> alone or coupled with photovoltaic panels

## Pleasure Boating

Systems and hotel load

Port manoeuvres

Propulsion in protected areas

### USER PROFILE

Slow to medium speed

Medium range

Yachts, Superyachts...

### CONFIGURATION

Customized configuration

## Professionals

Propulsion et Systems

Hotel load

All navigation zones

### USER PROFILE

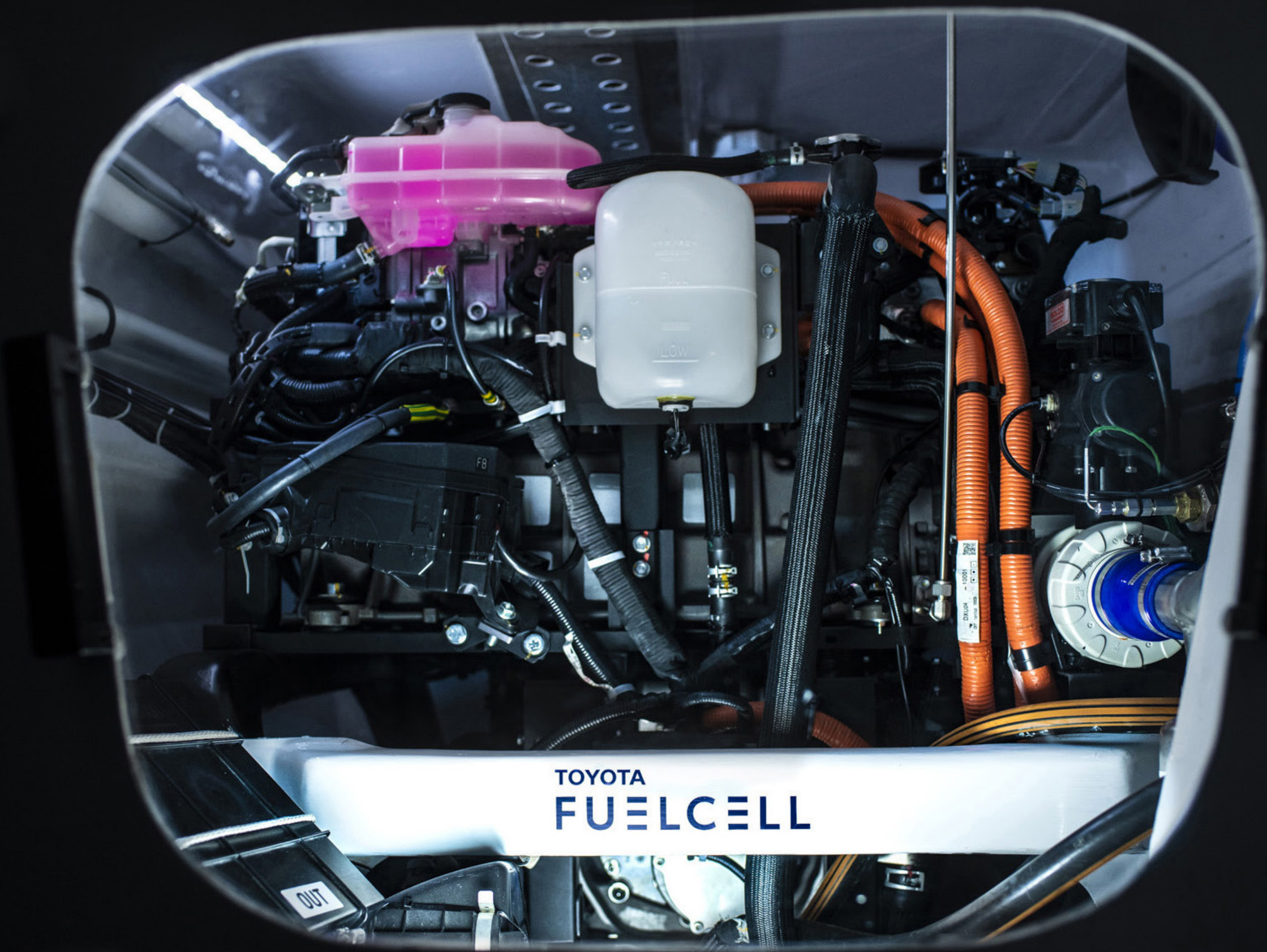
Slow speed

Regular/recurrent routes

Shuttles, Barge, Pilot boats...

### CONFIGURATION

H<sub>2</sub> alone or coupled with solar panels/wind





# Key Performance Indicators (KPIs)

| 100 kW<br>6 hours of navigation        | Diesel  | Electrical  | Hydrogen  |
|--|---|---|---|
| Environmental efficiency               |    |    |    |
| Emissions                              | CO <sub>2</sub> NO <sub>x</sub>   |   | H <sub>2</sub> O  |
| Access to protected zones              | No  | Yes   | Yes   |
| Noise                                  |    |    |    |
| Recharging / Refueling time            | 10 min  | 15h (Fast recharging)   | 10 min  |
| Consumption                            | 200 L diesel  | 700 kWh electricity   | 40 kg hydrogen  |
| Weight (engine + fuel / energy source) |  |  |  |
| Total volume                           |  |  |  |
| Implementation cost                    |  |  |  |
| Energy cost                            |  |  |  |
| Energy cost evolution                  |  |  |  |
| Energy density                         |  |  |  |

## H<sub>2</sub> + Battery vs. Battery Alone



Twice as much energy storage capacity for the same volume

Potential of 10,000 cycles compared to 3,000 for a Li-ion battery

Hydrogen refueling time as fast as filling up a tank with traditional fuel

Mass : 7 times lighter

Price : 3 times less expensive

Price per kWh roughly equal to diesel price

# Customized support for your projects

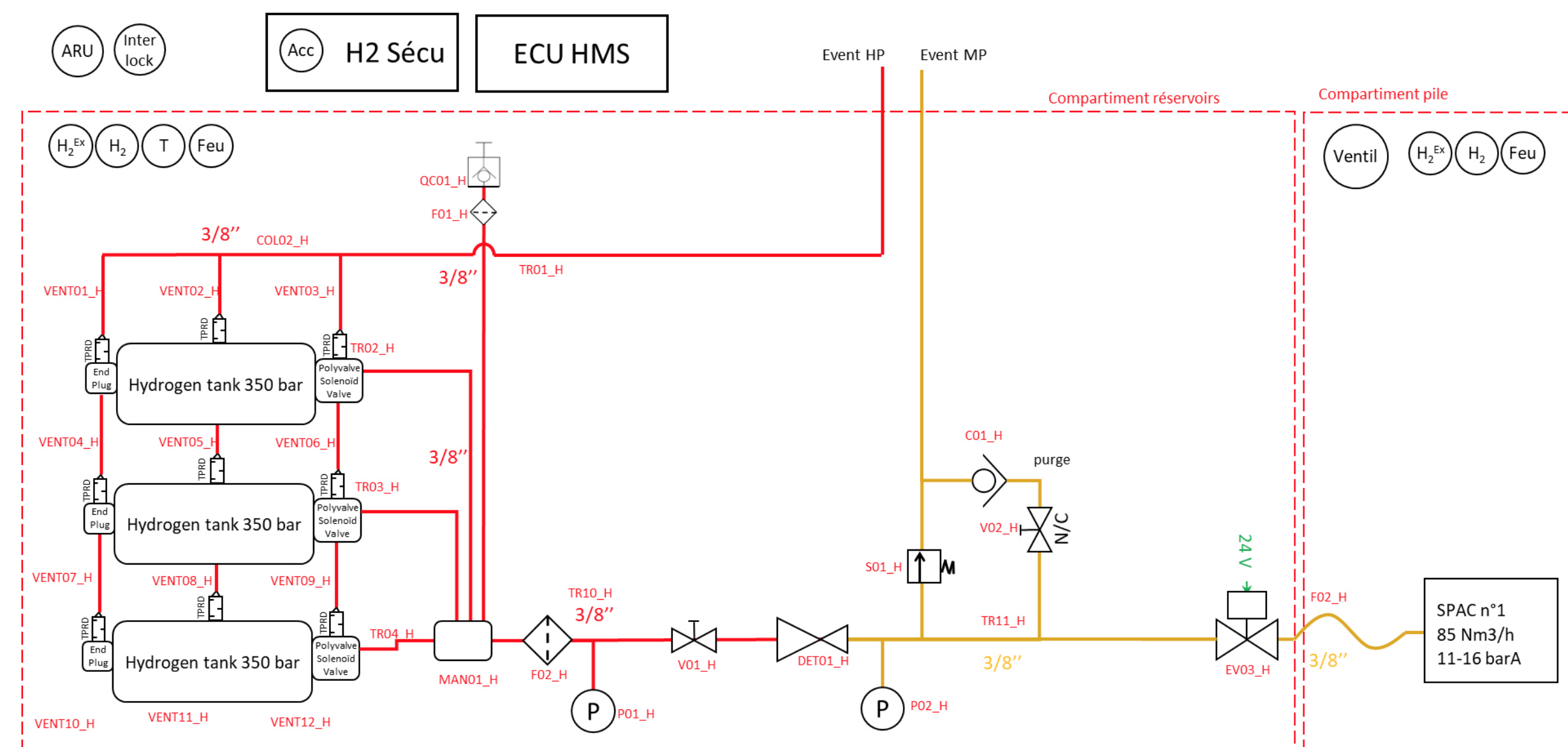
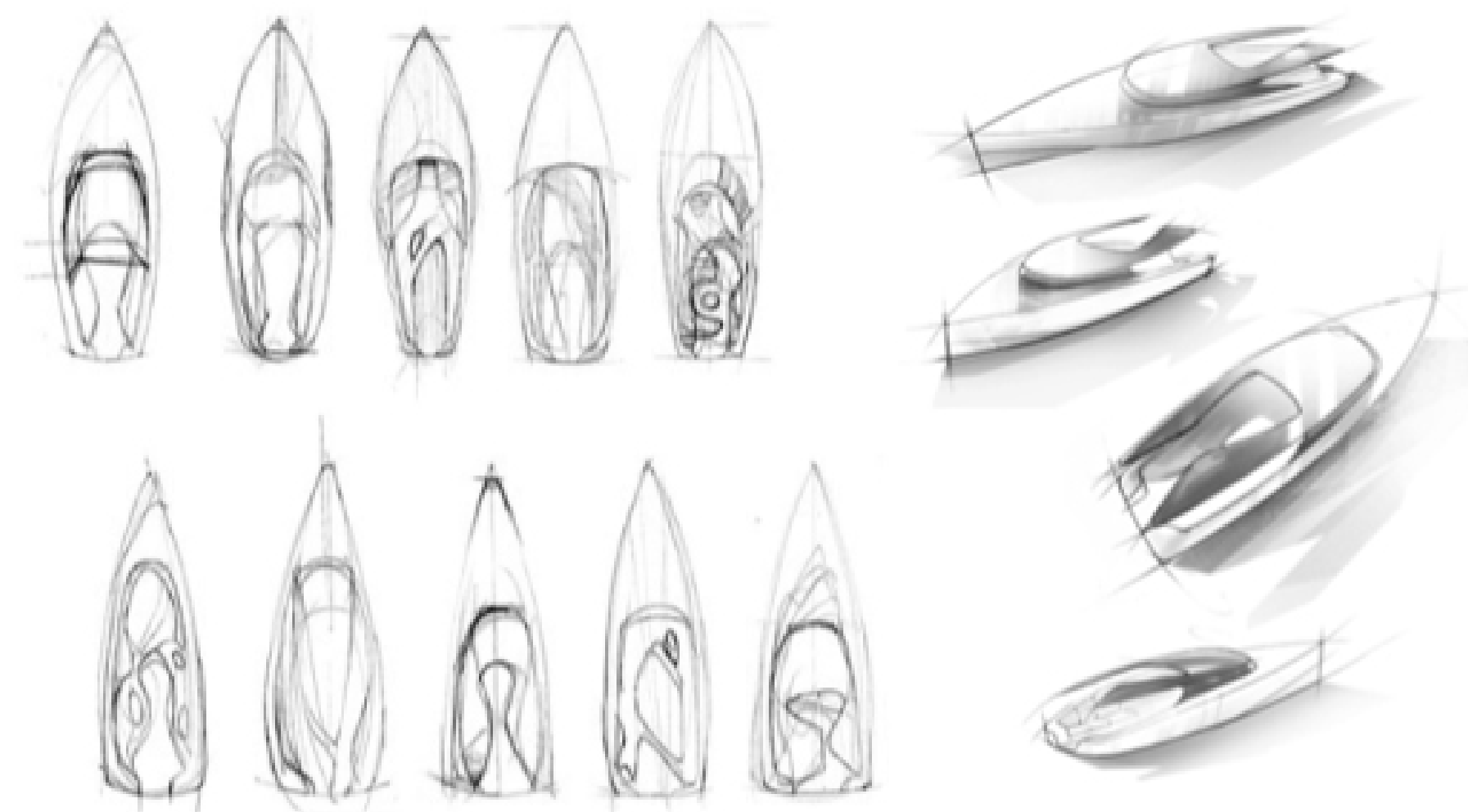
Thanks to Energy Designer, our energy consulting department, each specification is studied in details and tailor-made solutions are developed in close collaboration with you.

Feasibility studies

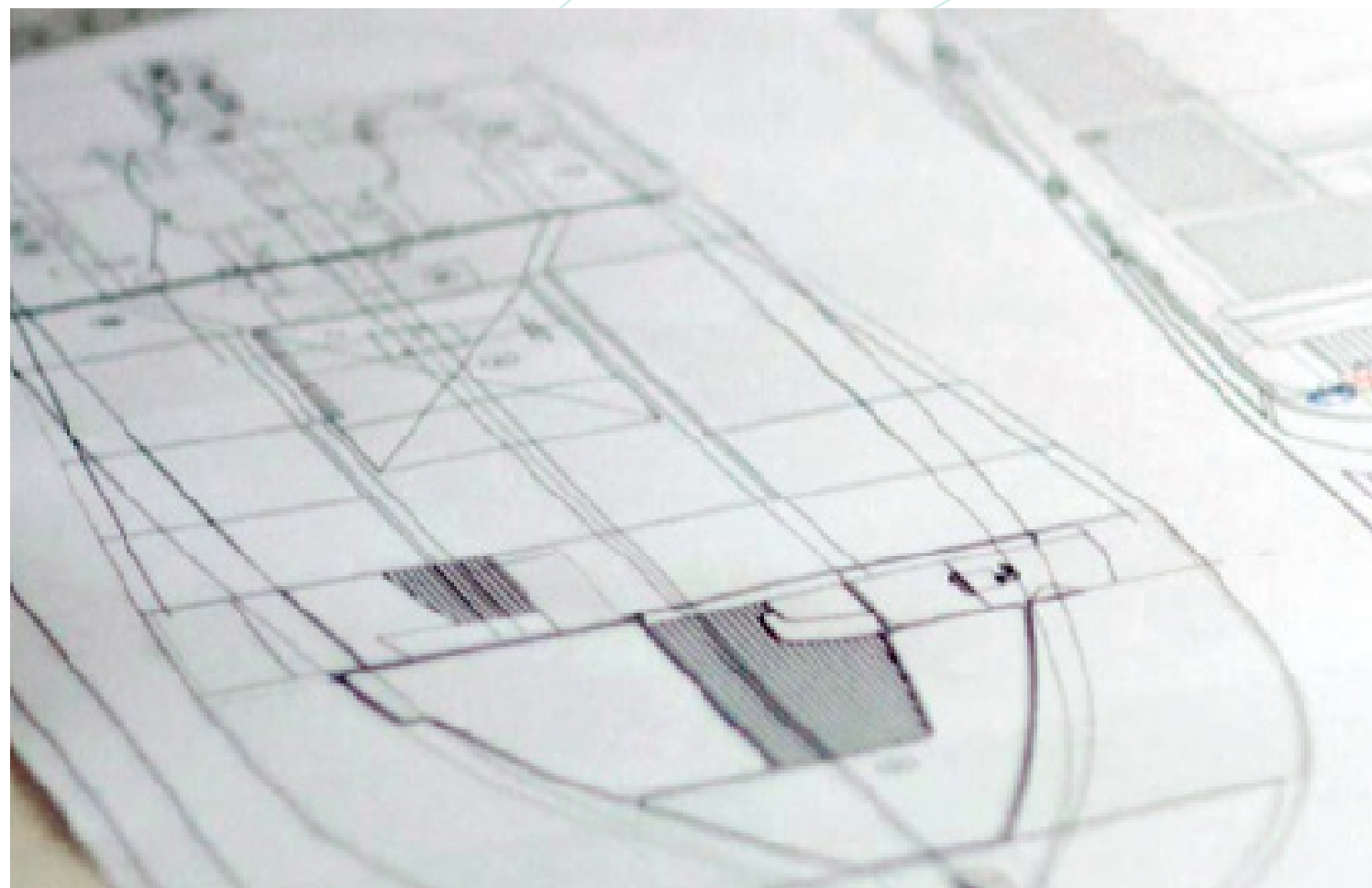
Recommendations according to use profile(s)

System sizing: Fuel cell (FC), tanks

Regulatory support and certification



# Q & A



1 By using it on a yacht, customers have the possibility to reach and stay in a zero-emission zone, without noise, without emissions, while enjoying the normal comfort of the boat in total respect for the environment. >>

TRUE

If you convert diesel engines to electric ones on large boats, they can be propelled by the use of solar panels, REXH<sub>2</sub>(s), and batteries. As a result, there will be no noise, no emissions, and total environmental respect.

2 A hydrogen boat can function without hydrogen where it is needed. >>

TRUE

In the absence of hydrogen, the boat can indeed only run on batteries, both for propulsion and for hotel load. However, its autonomy will be limited depending on the possibilities of refueling hydrogen and/or recharging its batteries.

3 We offer a yacht capable of living emission-free when not in use: when only the crew is on board, in a port, thanks to the use of solar panels. No unnecessary pollution. >>

UNTRUE

If you install solar panels on the entire boat, their daily production will, on average, only cover about 20% of the crew's needs.

4 Diesel-electric propulsions allow a fuel consumption saving of roughly 30%. >>

UNTRUE

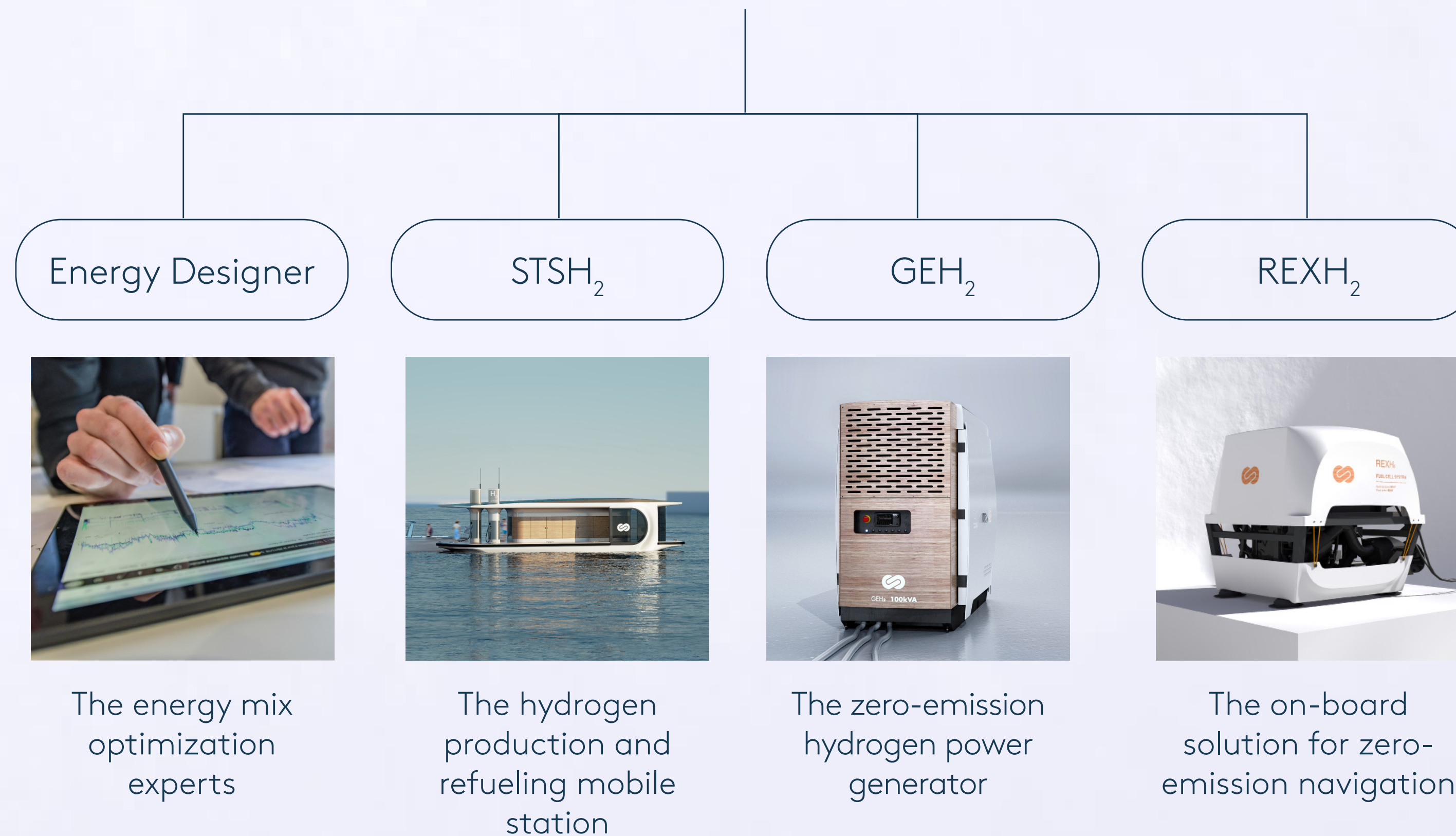
For equivalent performance, the gain in diesel fuel consumption in a diesel-electric system is actually quite limited - unless you optimize the use of an electric system by combining it with an H<sub>2</sub> system in order to drastically reduce its diesel fuel consumption.

5 A boat equipped with a H<sub>2</sub> system does not generate its own hydrogen. >>

UNTRUE

By taking an electrolyser on board and with an access to a source of electricity, for instance via a plug in a port, a boat can produce its own hydrogen. But it can also have its hydrogen delivered. H<sub>2</sub> stations are currently being deployed in several ports.





FOR MORE INFORMATION

[www.eo.dev](http://www.eo.dev)

[business@eo.dev](mailto:business@eo.dev)