



Scalable, affordable, sustainable  
maritime mobility **right now**

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# Fossil fuels are on their way out

*"sustainable motorization  
... is a major issue"\**

*"...environmental issues are at the heart  
of our concerns..."\**

*"...it conditions our profession  
and shipbuilding..."\**

## Costly



"Expensive fuel = boat ashore"

**+5%/yr since 2008\***  
**30-40% of OPEX\*\***

## Polluting



**> 340 M tCO<sub>2</sub> eq./yr\*\*\***  
**+35 M ships\*\*\*\***

## Regulated



**Emissions limits**  
**Fuel and carbon taxes**  
**Prohibition of fossil ICE by 2035**

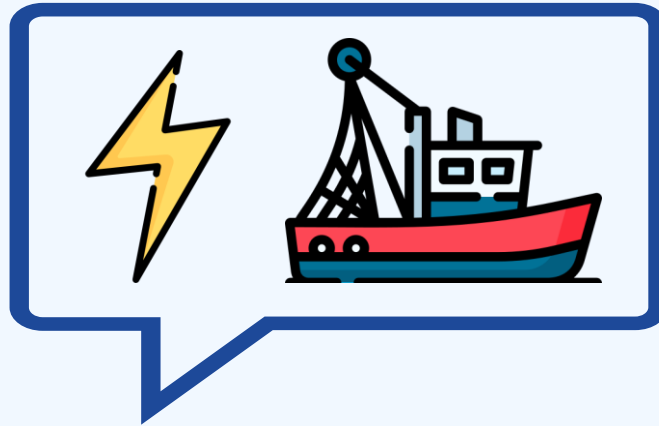


Sources: Slides courtesy of SlidesGo. \*INSEE, \*\*Sailor interviews, \*\*\*Estimated, \*\*\*\*Syndicat Intercommunal du Bassin d'Arcachon, Ministère de la Mer, FranceAgriMer, European Commission Fisheries Fleet Register, European Boating Industry Facts & Figures 2020, Global Fishing Accident Data Management System 2021

# But electric mobility is limited

**5x**

More expensive for an electric solution\*



**10x**

More energy to move a boat vs a truck\*\*



**>200%**

Supply shortage of critical minerals\*\*\*



# The industrials agree



**"Electric  $\leq$  30%  
of market share"**



**"Combustion  
is viable"**



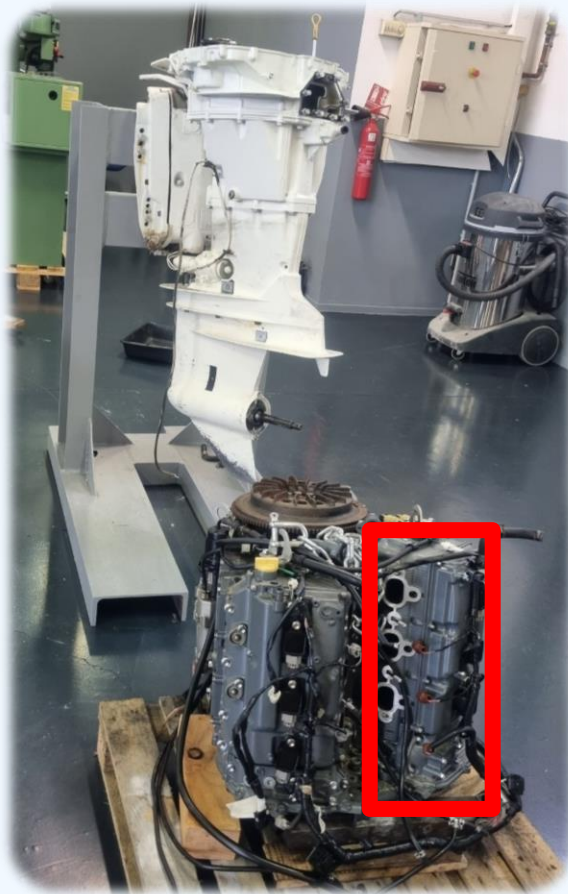
**Universal conversions to methane or  
hydrogen combustion for existing motors**





# A quick, reliable and affordable solution

Before



After



Patented  
2-stroke H2 motor

**Hyvolution**

30, 31 JANVIER & 1<sup>er</sup> FÉVRIER 2024  
PARIS EXPO • PORTE DE VERSAILLES • FRANCE

PARIS

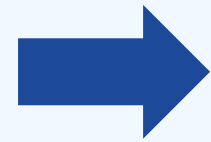
 **ECONAUTIK**

# Offers available today

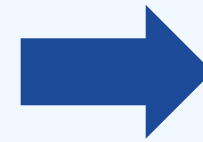
## Decarbonizing boats with methane or hydrogen combustion conversions



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**Boat service  
centers**



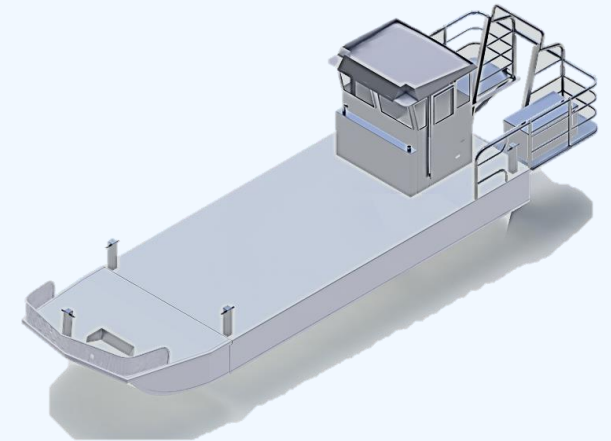
**Boats**

Builders, owners,  
operators












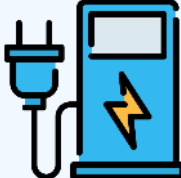





### Products and services:

- Sales, swaps or conversions of motors
- Universal motor conversion kits
- Maintenance and training
- IP production and distribution rights
- New 2-stroke motors



# Economic and operational advantages (2/2)

## Motor Alternatives, relative comparison

		   	   	   
Price	x 1.3		x 5.6	x 11.9
TCO	x 0.7		x 1.1	x 1.4
Maintainability	+	-	-	- - -
Range	-	+	-	- - -
Weight	-	+	- -	- - -

Sources: Icônes produites par flaticon.com, Sud Ouest, Yamaha, Suzuki, Mercury, Evinrude, Honda, et Evoy.



# An impactful and virtuous innovation

Relative carbon footprint (tCO<sub>2</sub> eq)\*  
per H<sub>2</sub> conversion of 200 hp outboard



Global deployment  
**>>340 Mton CO<sub>2</sub> eq./yr.\*\***  
Or > 3.0 Bton CO<sub>2</sub> eq. total



\*Estimated relative GHG emissions of converting a used 200 hp outboard motor to H<sub>2</sub> combustion vs producing a new 200 hp electric or fossil fuel outboard motor. \*\*Assuming 400 hr/yr of operations, 7 years of operation, and about 1200 L/yr of gasoline. Sources: Impact Forecast CIF, Econologie.com, Emissions CO<sub>2</sub> Litre Carburant Essence, Diesel, ou GPL

# A market with strong demand...

## Market\*

26.8 B€/yr  
~9 M units/yr



4.6 B€/yr  
~1.5 M units/yr



766 M€/yr  
~260 k units/yr



## Verticals

### Fishing



### River



### Services



### Defense



### Boating



\* Estimated annual potential revenue for >150 hp motors assuming single engine installations

Sources: Syndicat Intercommunal du Bassin d'Arcachon, Ministère de la Mer, Marine Nationale, FranceAgriMer, European Commission Fisheries Fleet Register, European Boating Industry Facts & Figures 2020, Global Fishing Accident Data Management System 2021

# Demonstrated by a growing pipe...

Revenue  
Provisional

VERTICALS	PROSPECTS	DISCUSSION	NEGOTIATION	SIGNED
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Confidential

Confidential



Offshore



Confidential

Confidential



Ports



Confidential

Confidential



Other

Confidential

Confidential

Confidential



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# A Go-to-Market leveraging aggregators



## Fishing and Aquaculture

- **7 committees** of shellfish farming
- **13 committees** of fishing
- **2 cooperatives** nationally



= 300 boats



= +1 000 boats

## Offshore and Ports

- **66 ports** for commerce
- including **11 ports** of the state
- **9 operators** of offshore services



= 4 boats



BOURBON

= 44 boats

Sources: CRCAA, Coopération Maritime, Ministère de la Mer



# The founders



**Hervé DUMARTIN, CEO**

Dr. Ing. Chemistry

**+25 yrs** in infrastructure EPC

Expert in **methane and hydrogen**



TotalEnergies



**Université  
de Rennes**



**Alexandre MARC, CTO**

MBA, MSc., BSc.

**+15 yrs** in deeptech R&D

Expert in **propulsion systems**



**SAFRAN**  
AIRCRAFT ENGINES



**Penn**  
UNIVERSITY of PENNSYLVANIA



**Georgia Institute  
of Technology**



**ECONAUTIK**



# Advisors

## Science



**Pr Laurent CATOIRE**

Combustion and  
thermochemistry



**Pr Johnny DESCHAMPS**

Production and  
storage



**Pr Patrice PARICAUD**

Process modeling and  
simulation

## Strategy



**Philippe BOUCLY**  
President



**Simon PAYET**  
Open Innovation  
Director



**Bernard LLEDOS**  
General Manager,  
ACCELAIR



**E. DUSSUSOIS**  
Deputy Head of  
Mobility Group



**Antoine RABAIN**  
President



**Alexandre HACPILLE**  
International Brands  
Director





# Partners



# A product of



**BLUE  
INVEST**



**WILCO**

BORDEAUX  
**TECHNO  
PORTS**



**EVOLEN'UP**





# ECONAUTIK

Making **maritime mobility sustainable**  
not by 2050, not by 2030, but *right now!*

Awards!



Trophées  
INNOVATION  
OCÉAN



ClimateLaunchpad



3<sup>rd</sup> MOMENTOM  
INTERNATIONAL CONGRESS



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