

# Waterborne Transport



## HORIZON EUROPE



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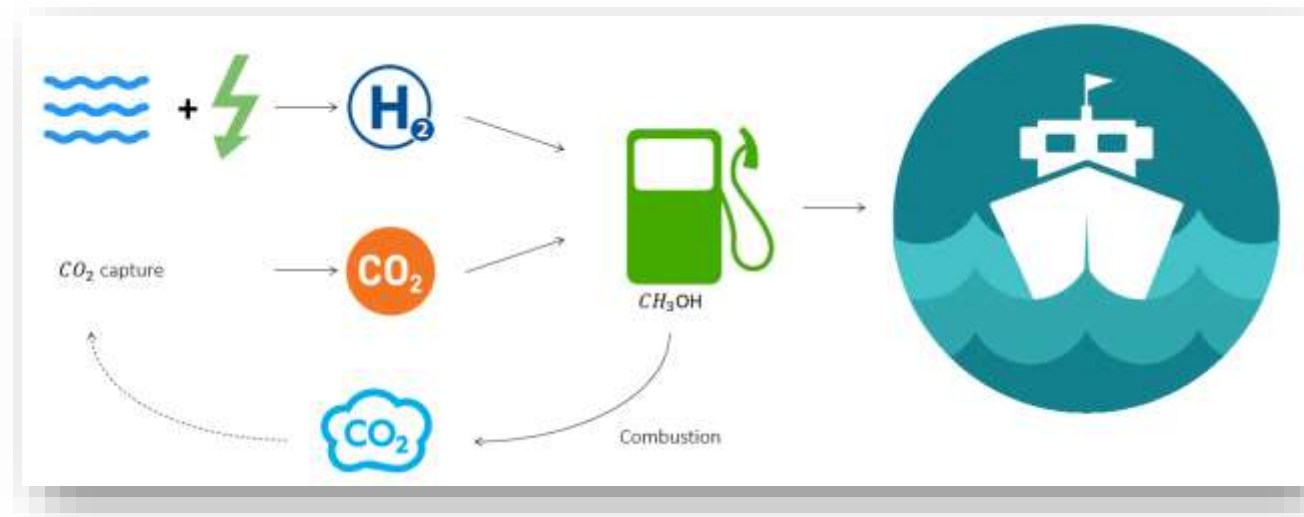
FASTWATER

FAST Track to Clean and Carbon-  
Neutral WATERborne Transport

Session Title: Clean and sustainable shipping

The project has received funding from the European's Horizon 2020 research and innovation programme (Contract No.:860251 )

# The challenge



Gradual introduction of **methanol fuel**:  
Developing & Demonstrating  
an **Evolutionary Pathway** for Methanol Technology and Take-up.

- **Four-stroke methanol engines**, and **retrofits** of marine engines to methanol operation, not commercially available
  - i.e. power range **100 kW – 10 MW**
- No demonstration of the **full chain** of **renewable** methanol production to ships sailing on it
  - Production – distribution – bunkering – sailing
- **Rules and regulations** not mature yet
  - Need practice, on different vessel types, need to be challenged if required

# FASTWATER

## Partners: covering the value chain

- Universities and research institutes
- Engine manufacturers & Equipment suppliers
- Fuel supplier and distributor
- Naval architects and Consultancies
- Shipyards and Fleet owners
- Classification society
- Port authority / administrations

+ **Advisory Board**

(>20 companies/organisations)

- Budget €6.4M with EU support of €5M
- 48 months, from June 2020 until May 2024.



# How are we addressing the challenges?

- Harbour tug, medium speed engines, 2 x 2 MW, Antwerp, BE
- Pilot boat, 400 kW high speed engine, Oxelösund, SE



Demonstrators, used for several months in real operation



- River cruise vessel design, DE
- Coast guard vessel, 200 kW high speed engine, Athens, GR

# Achievements so far

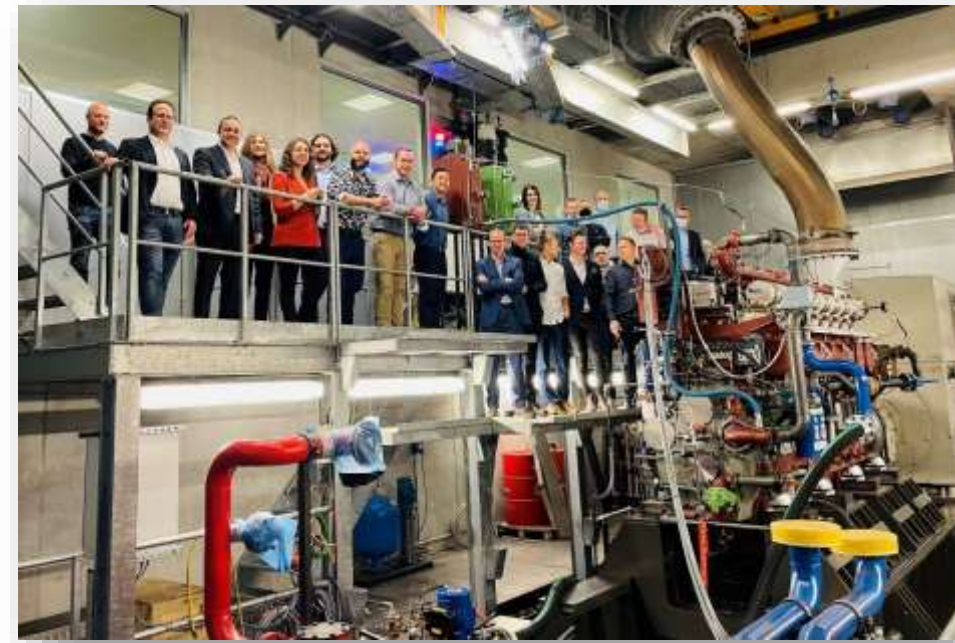


- Developed 415 kW “MD97” engine
  - Fuel: 97% methanol + 3% ignition improver
  - IMO Tier 3 compliant without aftertreatment
  - Commercial product now
- Converted pilot boat to methanol operation
  - In regular operation since April 2022!
  - No PM, no SO<sub>x</sub>, -75% NO<sub>x</sub>
  - Runs on biomethanol
  - Dedicated bunker station



# Next Steps

- Dual Fuel (DF) medium speed engine being commercialized, retrofit kit too.
- Tug boat currently being converted, launches early 2023, also to be used in regular operation. 2 medium speed 2 MW DF engines
- Remaining challenges:
  - Lengthy, case-by-case approval processes
  - Overall price increases have also driven up demo costs – while we want to clock as many hours as possible





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## Q&A ?

**Speaker will be available on the stand for the remainder of the day.**



<https://www.fastwater.eu/>



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<https://tinyurl.com/bdf4ufrn>

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