

EMELI



Crew training cargo vessel, 682T, 55m by 7.2m



Innovation

- Diesel-electric powertrain (retrofit)
- Hydrogen propulsion
 - Fuel cell 30 KW installed
 - Hydrogen storage installed : 12 KG at 200 bar allowing 10 hours of full power zero-emission



Emission reduction *(sailing on hydrogen)*

- CO₂ : 100%
- PM : 100%
- NO_x : 100%



Assets

- Used by maritime academy for training
- New staff in inland shipping gets acquainted with innovative powertrains
- Noise reduction



Milestones

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- 2018 — Design and proof of concept
 - Implementation
 - 2019 — Rules and Regulations
 - Training of crew

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Technology brief

- Retrofit made possible by funding from the European Commission
- Possible to sail zero-emission by use of fuel cell stack combined with battery packs for energy storage.
- Can sail up to 10h without any emission based on:
 - A battery pack of 60 kWh
 - A hydrogen based PEM Fuel cell of 30 kWe continuous
 - The E-motor is restricted in this mode to a capacity of 60 kW



Required for deployment

- Rules and regulations
- Supply chain and infrastructure
- Business case
- Affordable green hydrogen
- R&D to reduce costs of fuel cells and to increase durability
- R&D to optimise hydrogen storage on board and the effective hydrogen carriers
- Financing and funding solutions



More information

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