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Waterborne Transport

HORIZON EUROPE

E-ferry

The E-ferry Project

Decarbonising Waterborne Transport

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Municipality of Aeroe (DK), Project Manager

The problem, the idea, and the solution

Problem

- The transport sector needs innovative solutions to make the transition from fossil fuels.
- The main CO_2 hurdle for Ærø (and many other islands), is the ferry operations.

Idea

- Ship architects and e-enthusiasts on Ærø sketched out an idea for a fully electric ferry.
- It would need to break the e-distance world record x7 to replace a diesel ferry.

Solution

- Ærø Municipality identified partners who could deliver needed innovation and tech, and applied H2020 for support.
- H2020 agreed to the project and set goals for the project.

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The E-ferry Project

- Expert consortia :

DBI - The Danish Institute of Fire and Security Technology (Denmark): Fire safety
Hellenic Institute of Transport (CERTH) (Greece): Dissemination and market analysis
Leclanché GMBH/SA (Germany/Switzerland: Batteries
Jens Kristensen ApS Consulting Naval Architects (Denmark): Design
Søby Shipyard (Denmark): Builder
Danish Maritime Authority (Denmark): Safety and certifications
TUCO Marine Group (Denmark): Possible composit elements
Danfoss Editron (Denmark): Electric propulsion and charging system.
Aeroe Municipality (Aeroe Ferries) (Denmark) coordinator, harbour facilities, demonstration

- Budget €28,9M with EU support of €15M.

The budget included research, the ferry, the land facilities, the charger, and the rebuilding of three harbour docks.
A new E-ferry would cost around €13M, if you ordered it from Søby Shipyard today.

- 58 months, from August 2015, until June 2020.

First trip with passengers in August 2019.

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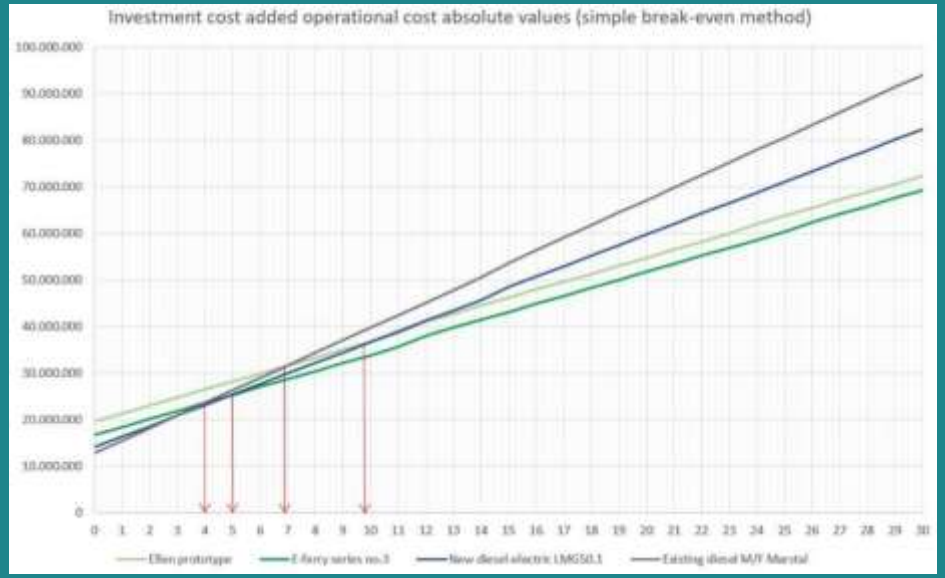
Achievements.

- Partners built an innovative and cost effective state-of-the-art fully electric medium sized ferry, which has broken world records.
- The E-ferry replaced a diesel ferry and increased service and passenger satisfaction.
- The E-ferry saves approx. 4000t. CO_2 pr. year
- The E-ferry has demonstrated that true emission free operations are achieveable by sailing fully electric with renewable energy.

The business case shows that sailing electric is the cheapest solution, in comparison to a similar diesel ferries:



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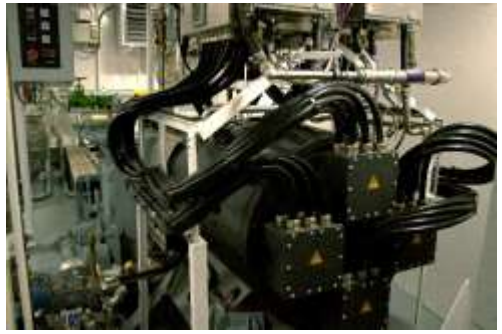
Next Steps

- The E-ferry's succes has spurred new projects on Aeroe
- Electric vessels are becoming standard, E-ferry partners are busy
- There are still some challenges to realizing the full potential of e-vessels:
  - Standardization of e-technology (for instance chargers)
  - Boosting the supply of 'green' electricity, in Europe and elsewhere
  - Electric infrastructure in harbours
  - Some regulations and taxes reflect the past rather than the future



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eFerry
connecting blue and green

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Q&A ?

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

Contacts:

- Project website (EU) Project website (Aeroe)
- LinkedIn Youtube
- Project Contact details (Halfdan Abrahamsen)
- Horizon Europe Horizon Europe | European Commission (europa.eu)
- Waterborne TP: Welcome to Waterborne - Setting the agenda for Maritime Research in Europe - waterborne.eu