



Waterborne Transport



HORIZON EUROPE

SeaTech

Next generation short-sea ship dual-fuel engine and propulsion retrofit technologies

Decarbonising Waterborne Transport

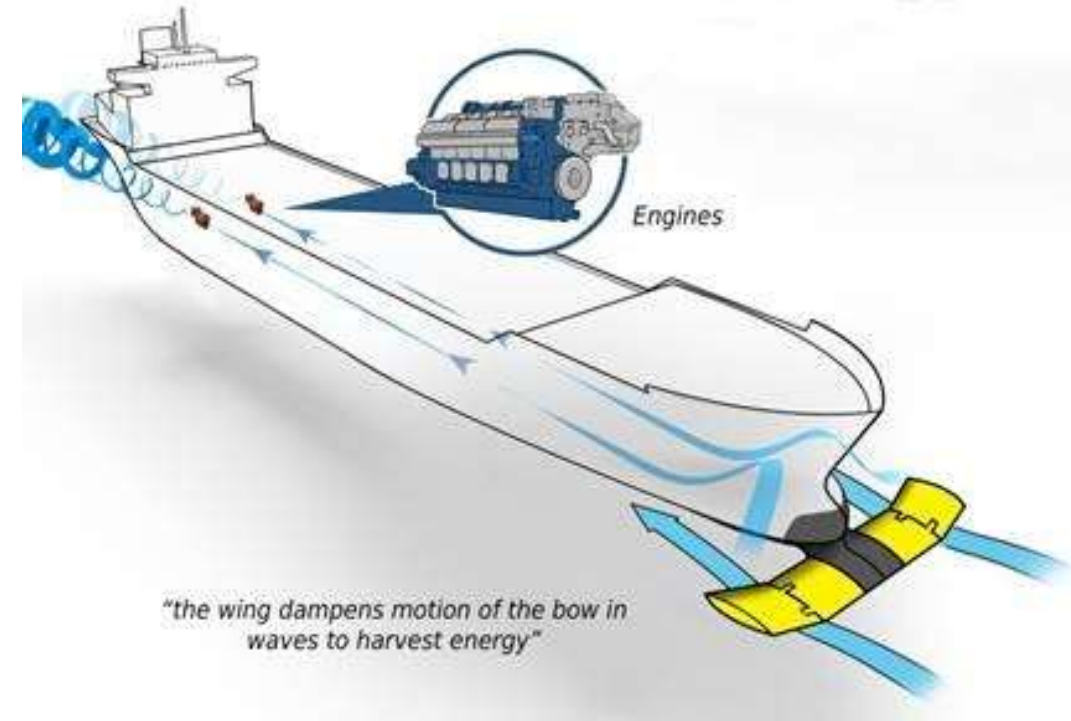
Anders Öster

Wärtsilä Finland

Senior Project Manager

The challenge

- Capturing wave energy and improving combustion engine technology to greatly increase fuel efficiency and radically decrease emissions.
- Design and demonstration of two symbiotic ship engine and propulsion innovations
 - A highly energy efficient combustion process with radical reductions in exhaust emission levels.
 - A bio-mimetic dynamic wing mounted at the ship bow, producing extra thrust and damping ship motions.



30% less fuel
99% less SO_x
99% less NO_x
46% less CO₂

The SeaTech project

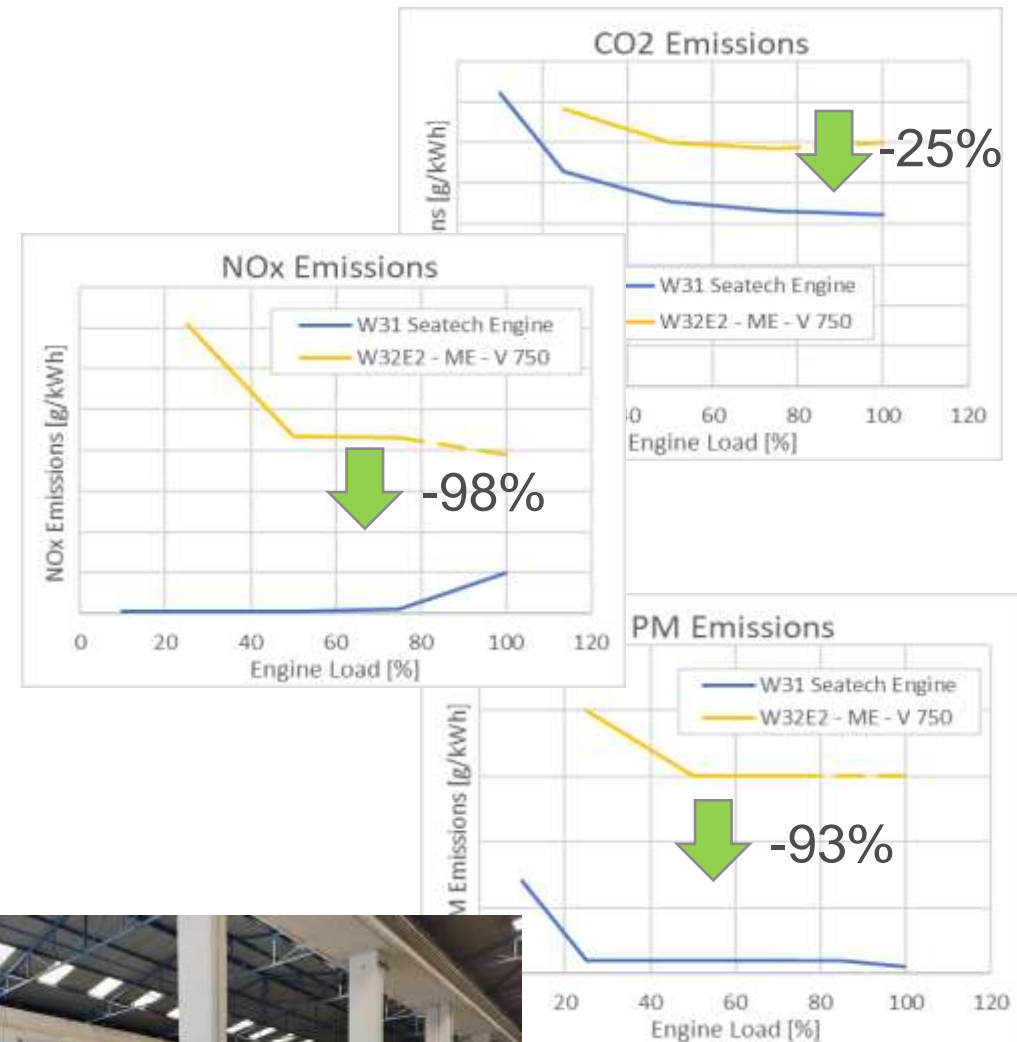
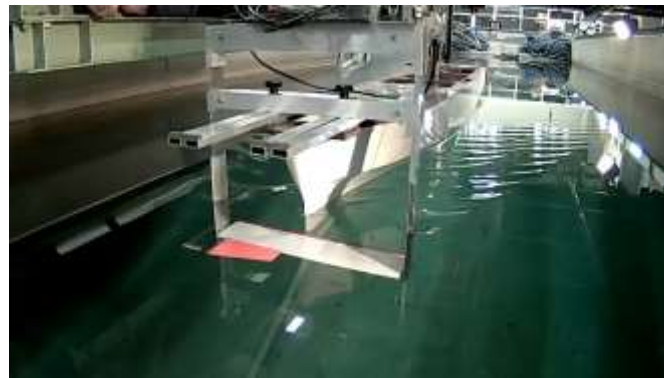
- Expert consortia :
 - Wärtsilä Finland
 - Wartsila Netherlands
 - Huygens Engineers, Netherlands
 - Liewenthal Electronics, Estonia
 - National Technical University of Athens, Greece
 - The Arctic University of Norway
 - University of Southampton, UK
 - Utkilen, Norway



- Budget €6,5M with EU support of €5M
- 36 Duration months, from June/2020”, until May/2023

Achievements.

- Combustion innovation tested in engine laboratory, radical emission reduction proven
- Several ship models built and testing has been made in wave tanks
- Advanced Data Analytics Framework (ADAF)



Next Steps

- What happens next
 - Testing of combustion concept continues in customer passenger ferry
 - Testing of large ship model with bio-dynamic wing at real sea conditions
- Capitalisation and market take-up
 - Engine product market release under planning
 - Bio-dynamic wing full size implementation cooperation with market





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Q&A ?

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

Contacts:

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- <https://www.linkedin.com/company/seatech2020>
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- Horizon Europe Horizon Europe | European Commission (europa.eu)
- Waterborne TP: [Welcome to Waterborne - Setting the agenda for Maritime Research in Europe - waterborne.eu](#)