

Energy efficiency on board the E-ferry

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1. The E-ferry project at a glance

- The objective is to...

... apply an energy efficient design concept and demonstrate a 100% electric, emission free, medium sized ferry for passengers and cars in full-scale operation covering longer distances than previously possible.

1. The E-ferry project at a glance

June 2015

May 2019



9 project partners



1. The E-ferry project at a glance

L.O.A.	59.90 meters
Beam	12.80 meters
Displacement	996 tons
Passenger cars	31
Passengers	196 (summer) 147 (winter)
Distance	22 nm
Operational speed	14 kn
Return trips per day	Up to 7



2. Current status

- The ferry



2. Current status

- The ferry



2. Current status

- On shore



2. Current status

- On shore



3. Energy efficiency of the E-ferry

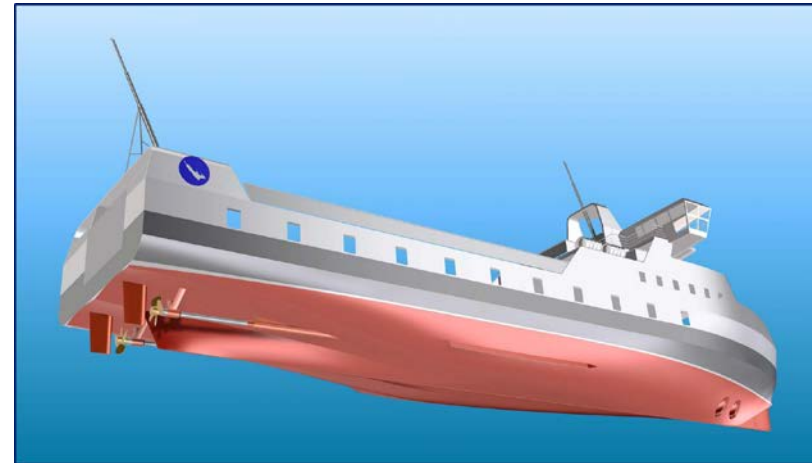
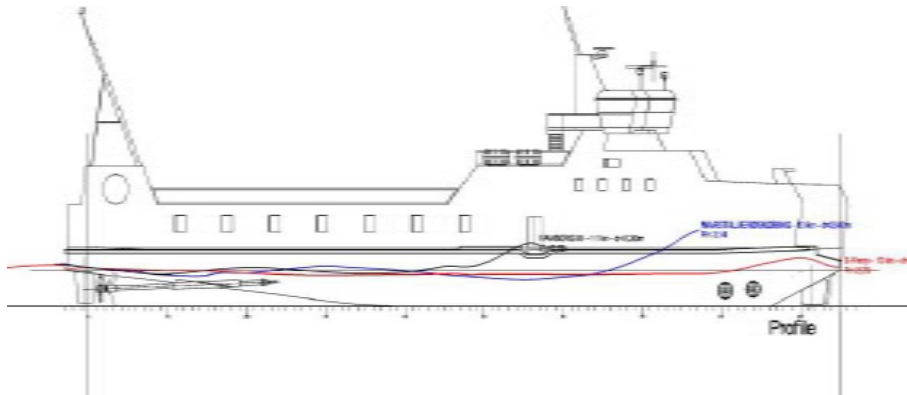
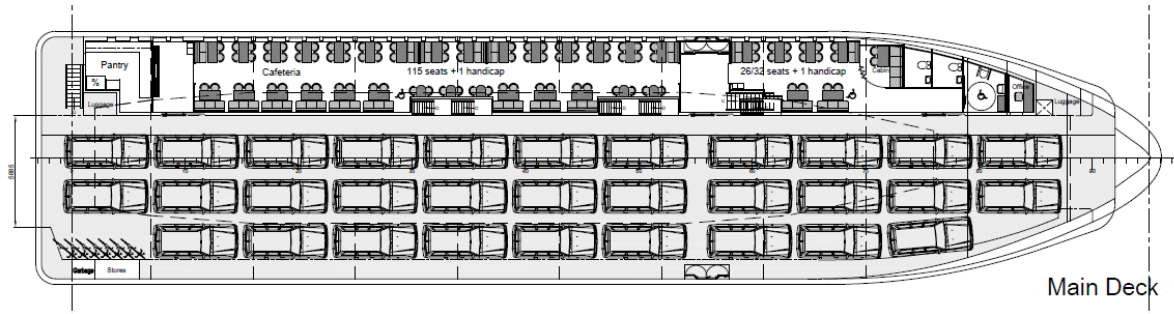
- Technological barrier

< distance < energy < batteries < weight < energy => distance

→ Need for energy efficient solutions

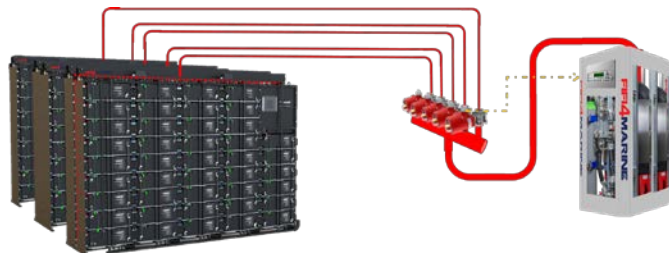
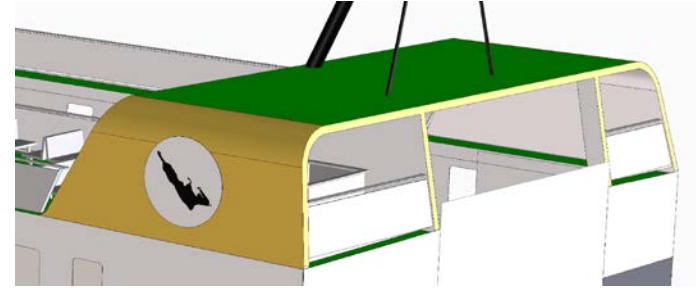
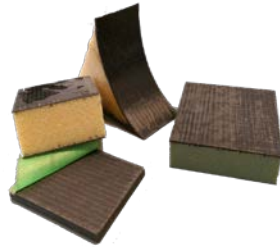
3. Energy efficiency of the E-ferry

- The hull design



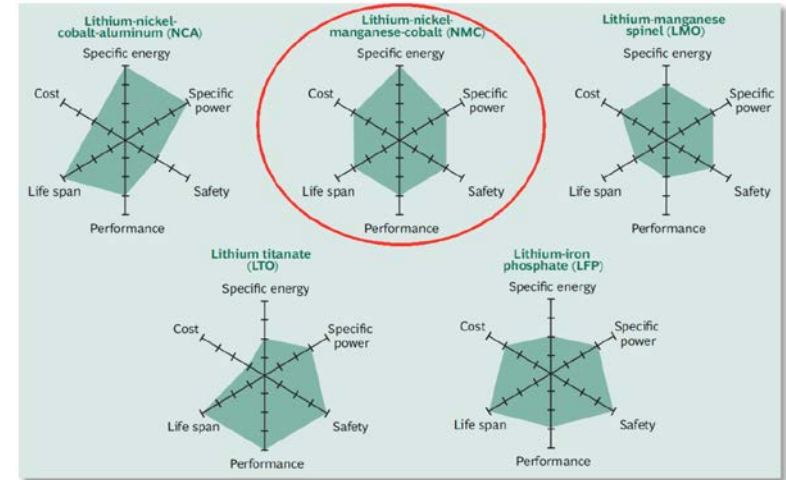
3. Energy efficiency of the E-ferry

- Weight reduction



3. Energy efficiency of the E-ferry

- Energy density in batteries



Battery type	Lithium-ion Graphite/NMC for marine usage
Capacity	4.3 MWh
Weight	App. 56 tons
Size	20 separate strings

3. Energy efficiency of the E-ferry

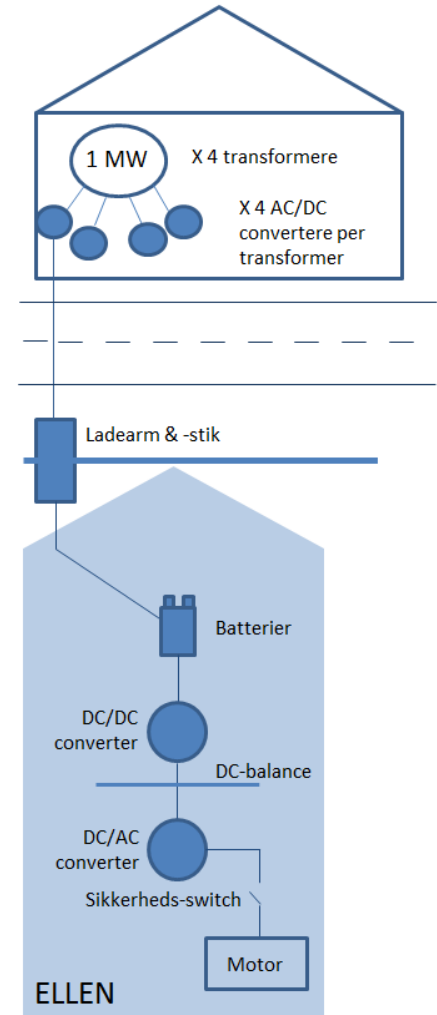
- Energy efficient drivetrain



Energy loss in the chain

Diesel = 70-80%

Electric = 20-30%



Thank you for listening

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Eferryproject

Den bæredygtige energiØ Ærø



[e-ferry-project](https://www.linkedin.com/company/e-ferry-project)

