



Topeka

A zero-emission shipping company

5th Global EV Roundtable
Steinar Madsen CEO, Topeka



Wilhelmsen Group
company

Wilhelmsen Group

A global presence – local knowledge



2 200

locations



70

countries



21 000

employees



50%

of the world's merchant
fleet as customers



Backdrop – Shipping Energy figures

Example, container feeder

MGO Fuel vessel

Fuel consumption pr hour~ 24 MWh (MGO fuel)

Fuel oil (HFO) 2.700 m3

Energy content ~11 MWh pr m3

Energy storage capacity ~29,700 MWh

Endurance ~ 1,200 hours

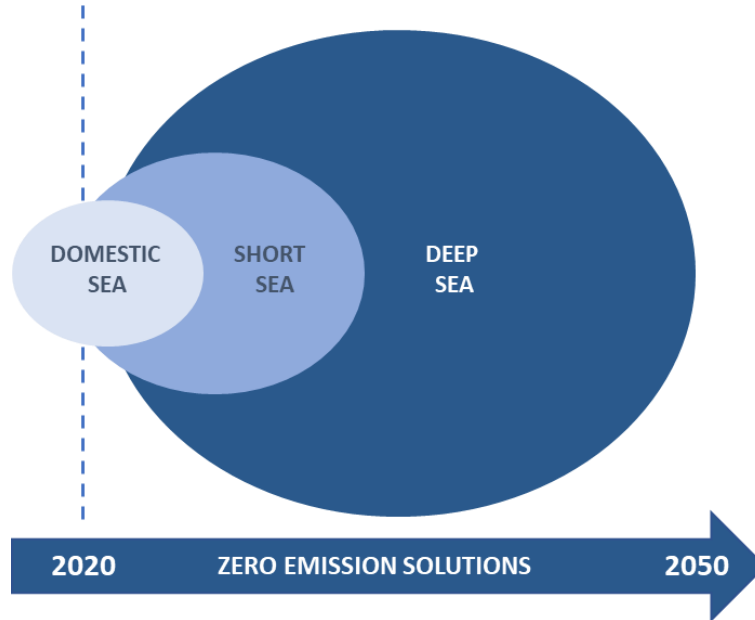
Range ~ 30,000 kilometer



<https://products.damen.com/en/ranges/container-feeder/container-feeder-2500>

Background

Call for action → huge market



Energy transitions

Starts with smaller vessels – shorter distance

LNG



2000



2004



2014



2020

Battery Electric



2015



Hydrogen/Ammonia/LOHC



2021



2024?



Seeing in believing

Norwegian battery ferry revolution

2015
First battery electric ferry
MF Ampere

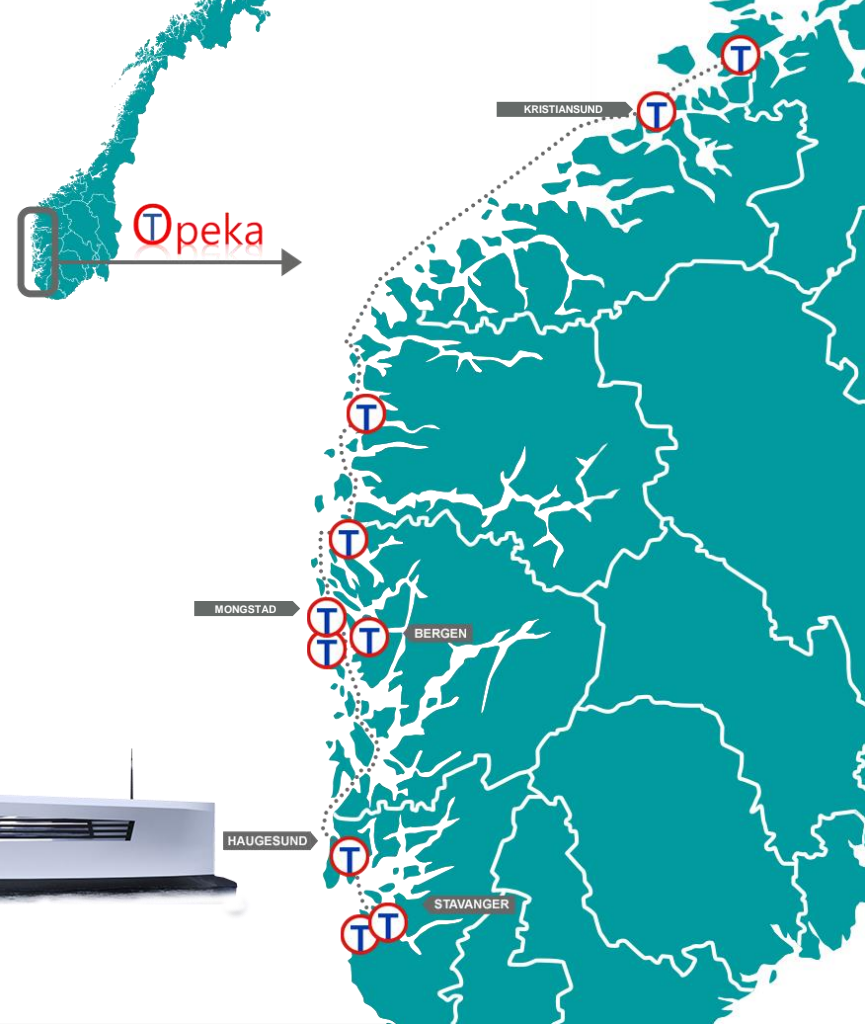


1 MWh battery capacity

2022
~ 80 battery electric ferries in
Norwegian water



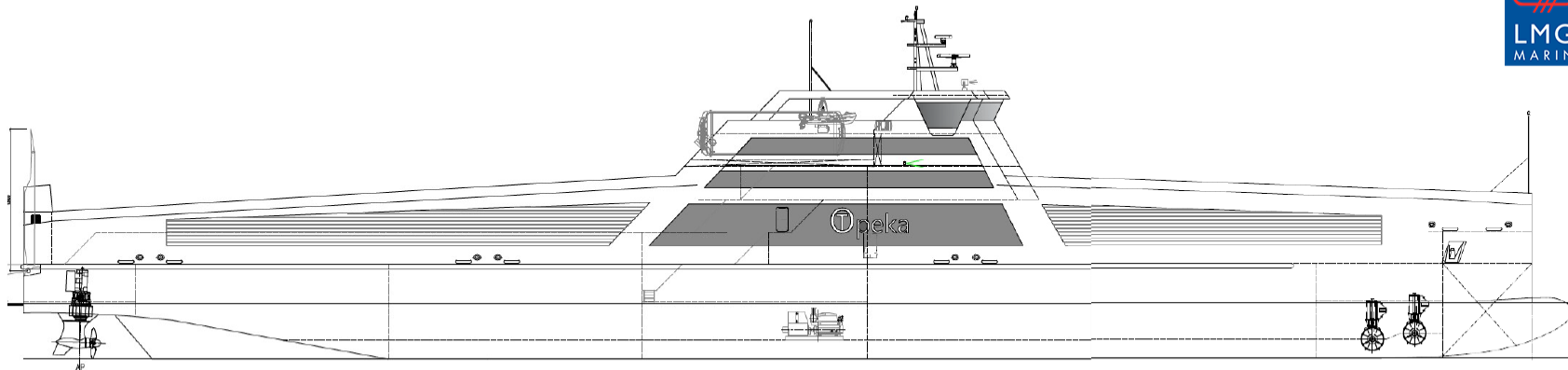
Topeka base-to-base vessel: The zero emission seaborn alternative



Topeka base-to-base

2,500 m² open deck RoRo vessel running on LH₂

DESIGN:



■ MAIN DIMENSIONS: **125 M LONG, 24 M WIDE**

■ CARGO CAPACITY: **56 SEMI TRAILERS**

■ SPEED IN SERVICE: **12 KNOTS**

■ LH₂ TANK CAPACITY: **65-100 CBM**

■ POWER DEMAND: **APP. 2 MW**

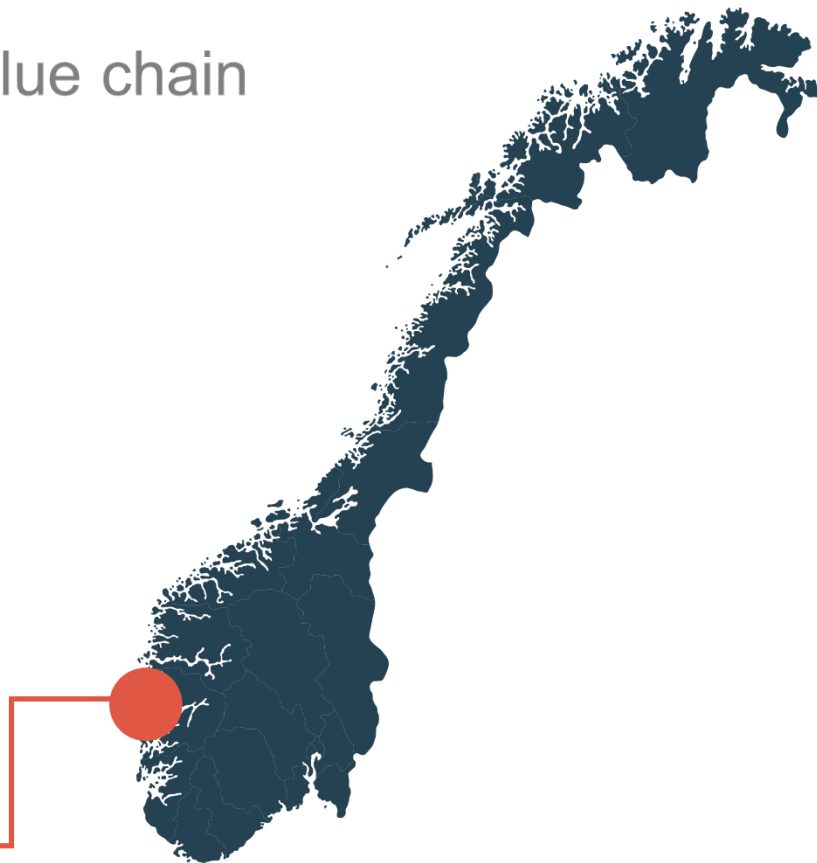
■ INSTALLED FUEL CELL CAPACITY: **APP. 3MW**

■ DAILY LH₂ CONSUMPTION: **1,2-1,4 T/D**

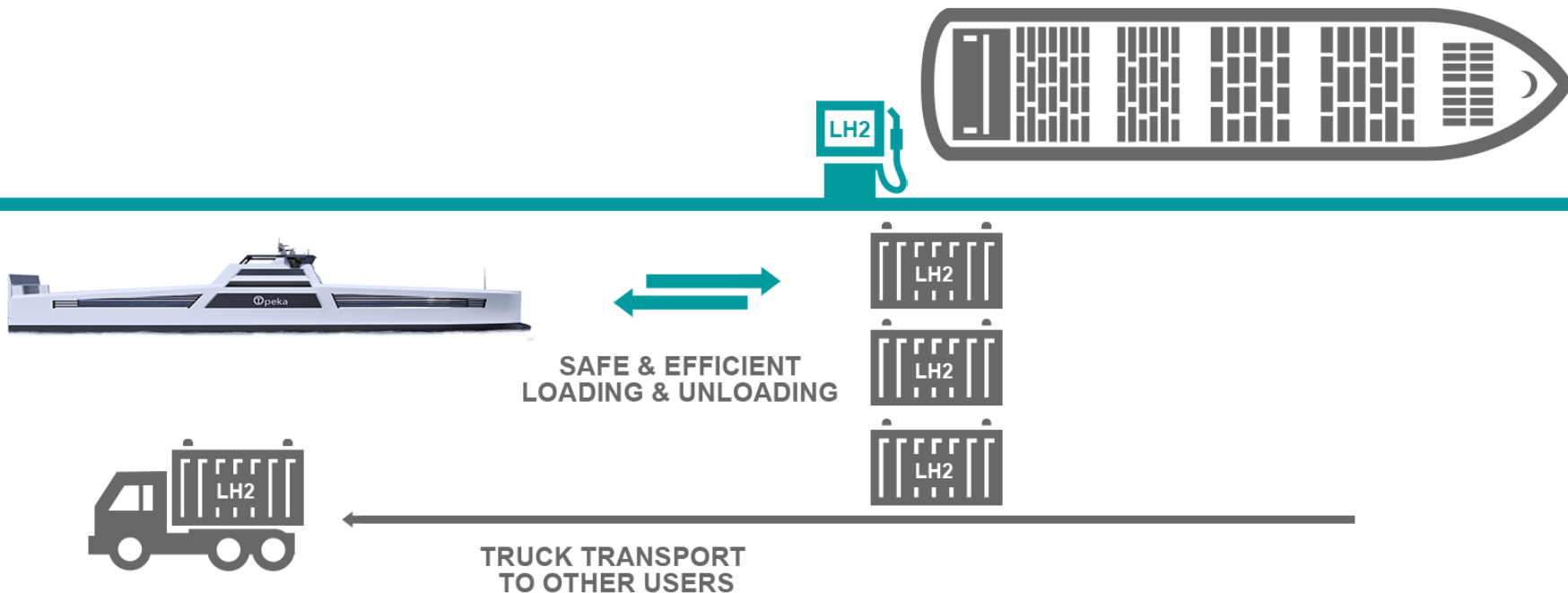
■ RANGE/ENDURANCE: **APP. 400 NM**

Aurora

A maritime liquid hydrogen value chain demonstrator



Distribute hydrogen to bunkering hubs between Stavanger and Kristiansund



HyShip DOCUMENTING LH2 AS MARINE FUEL



**FROM ROAD
TO SEA**



H2-DISTRIBUTION



EMISSION CUTS



Tpeka

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Thank you !



*Wilhelmsen Group
company*