

WÄRTSILÄ HY

DONSÖ SHIPPING MEET 2017

GIULIO TIRELLI, DIRECTOR MARINE ENGINEERING

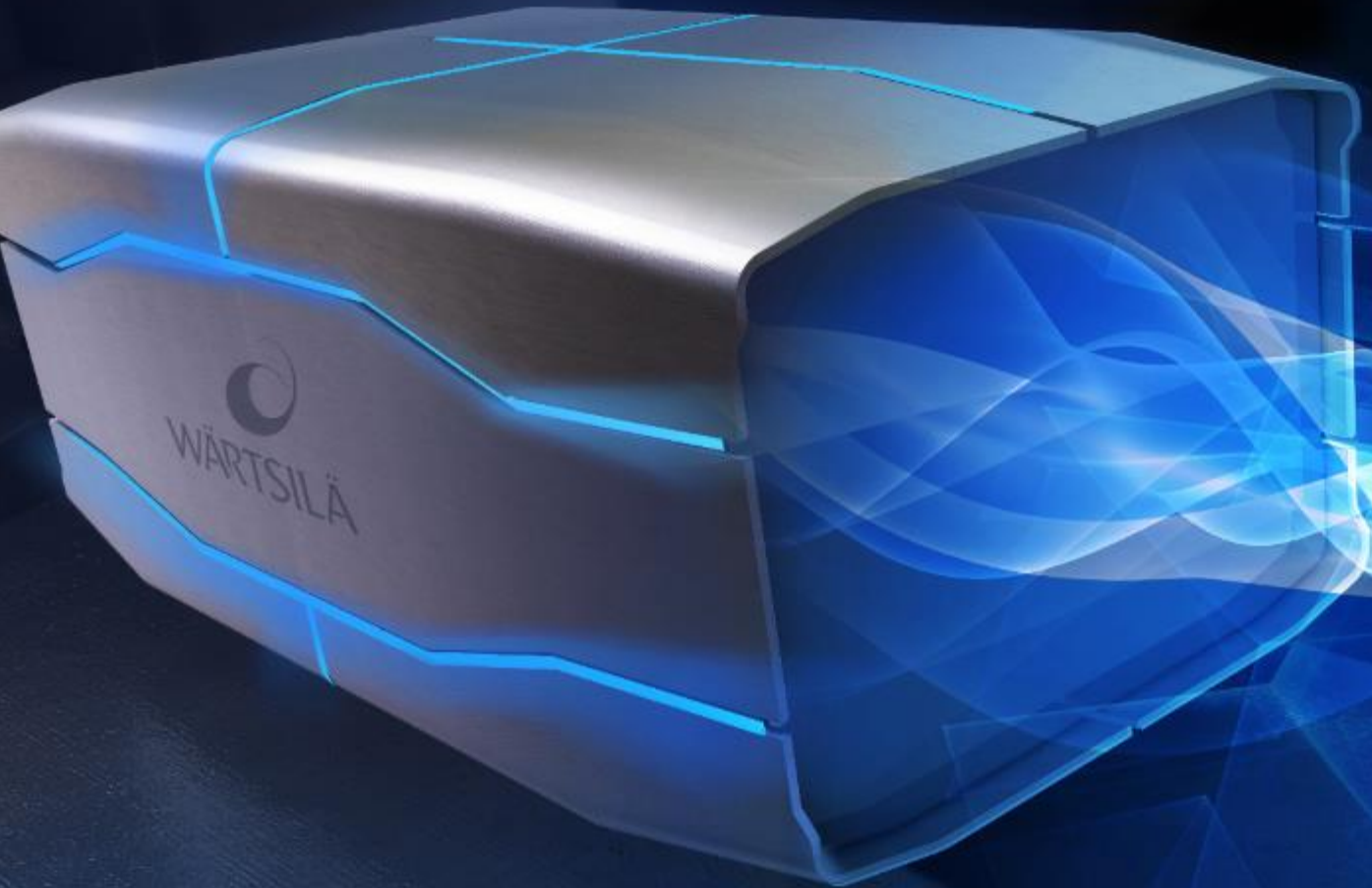
#WHYWARTSILA



FUSING TECHNOLOGIES

POWER GENERATION AND E&A





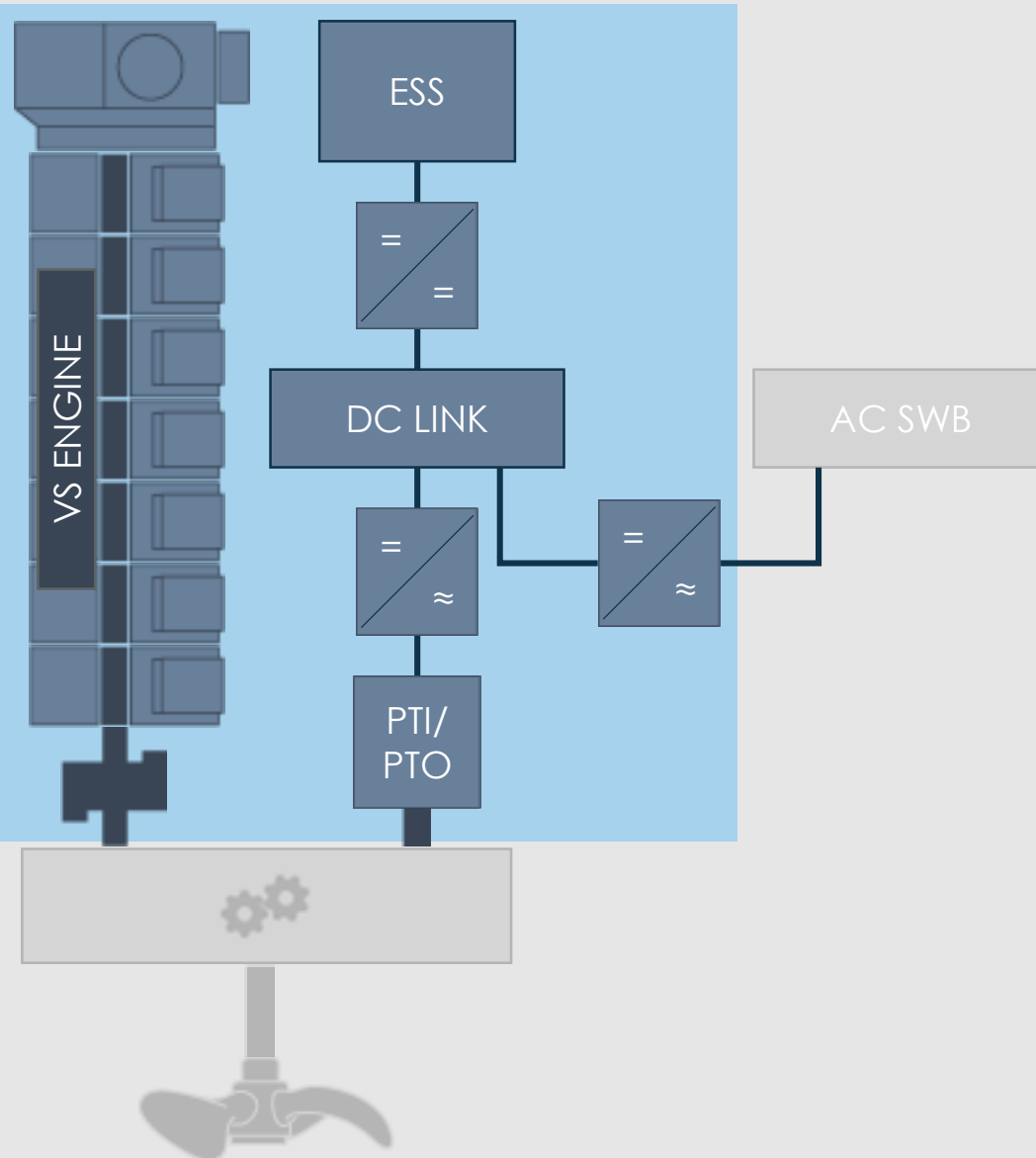
THE HYBRID POWER MODULE

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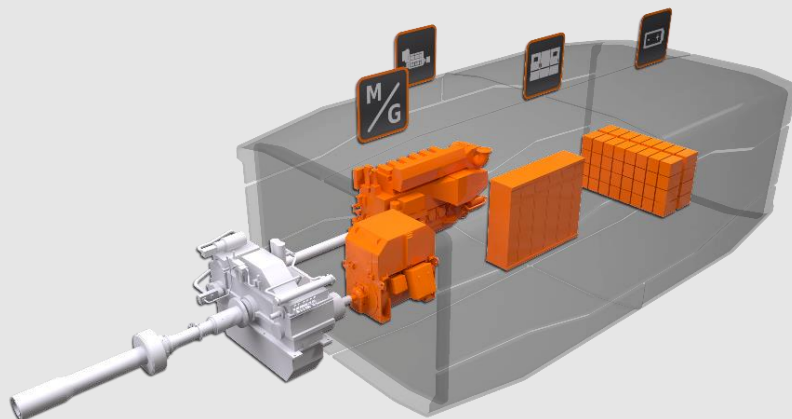
The first integrated hybrid module in the marine industry



Example: mechanical hybrid with PTO/PTI

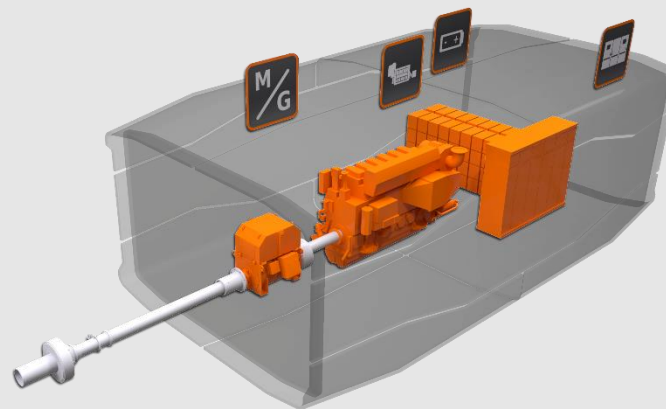


MECHANICAL-HYBRID PTO/PTI



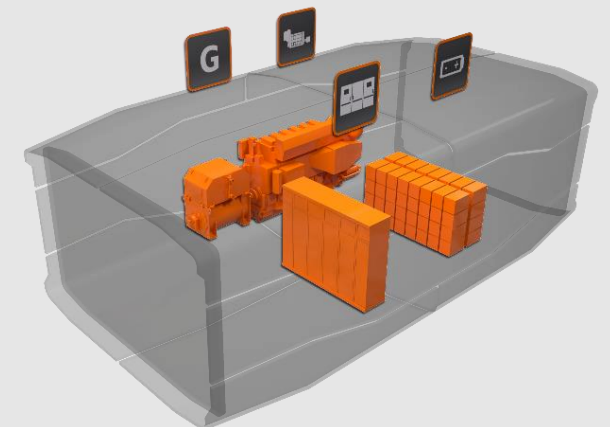
Main engine with clutch
PTO/PTI on the gearbox
Energy storage system
DC link and power drives
Energy Management System

MECHANICAL-HYBRID SHAFT M/G



Main engine with clutch
In-line shaft generator/motor
Energy storage system
DC link and power drives
Energy Management System

ELECTRICAL-HYBRID



Generating set
Energy storage system
DC link and power drives
Energy Management System



SEGMENT SPECIFIC, PROJECT OPTIMIZED
TAILORED TO THE CUSTOMER

Safety & Reliability

- Built-in redundancy
- Back-up logics
- 'System' performance
- Approval in Principle

Operational costs

- Reduced maintenance
- Reduced fuel consumption

Green image

- Green mode
- Start&Stop
- Smokeless operations

Weight & Volume

- Less cylinders
- GA flexibility

Service support

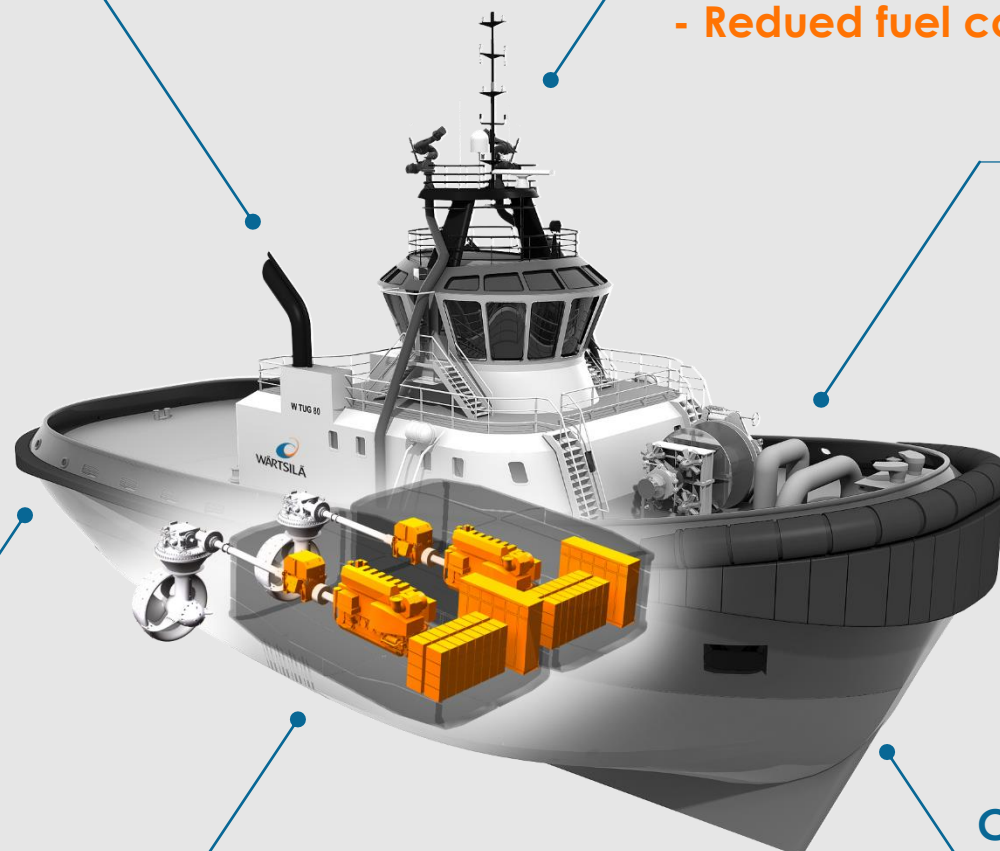
Wärtsilä as single supplier

Bollard pull

Power boost for higher bollard pull

Capital expenditure

Less cylinders



EXPEDITION CRUISES
36 – 100 – 200 PAX

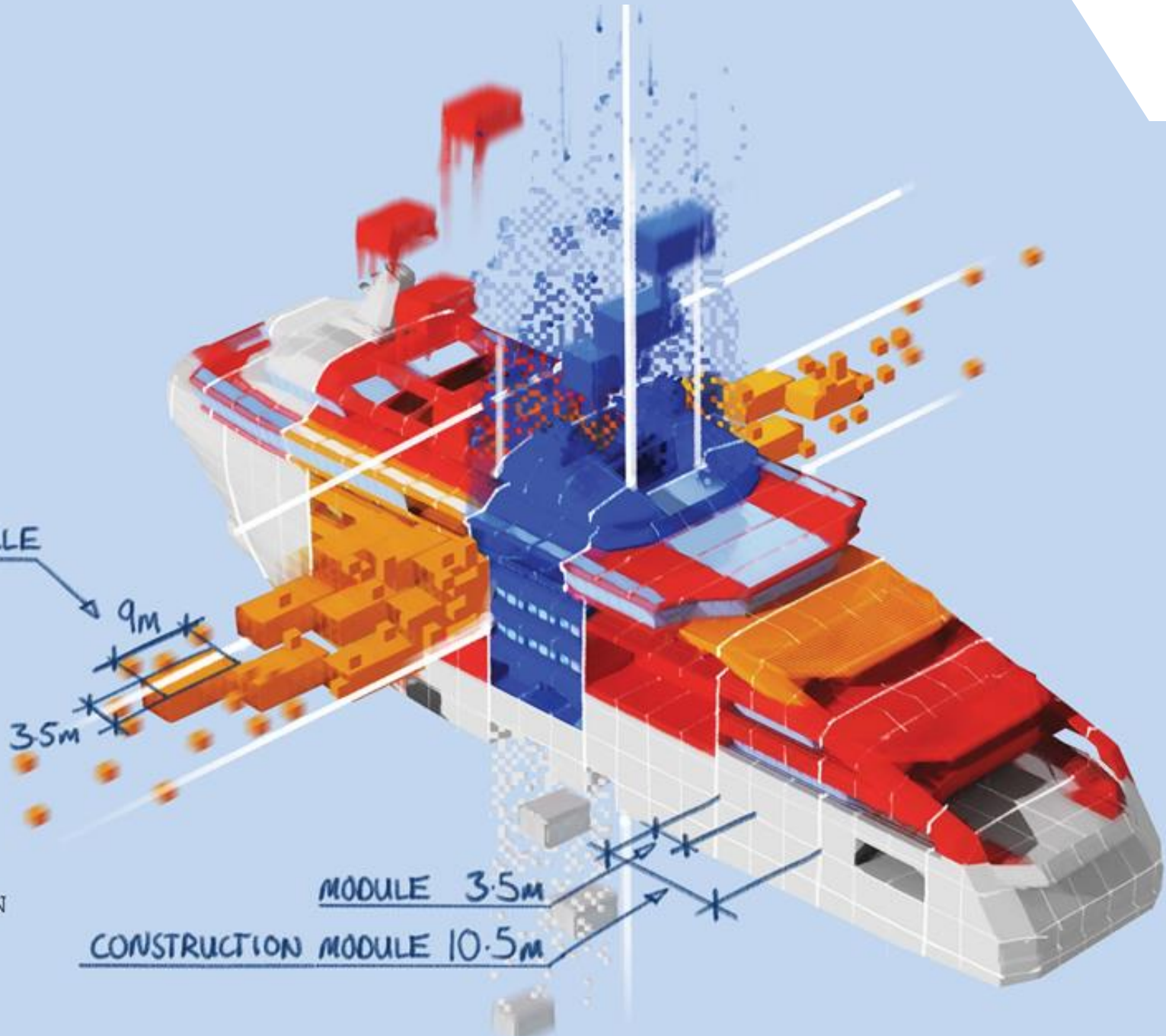
1 ACCOMMODATION MODULE

9m
3.5m

- SHIP PLATFORM
- VERTICAL CIRCULATION
- COMMON SPACES
- ACCOMMODATION

MODULE 3.5m

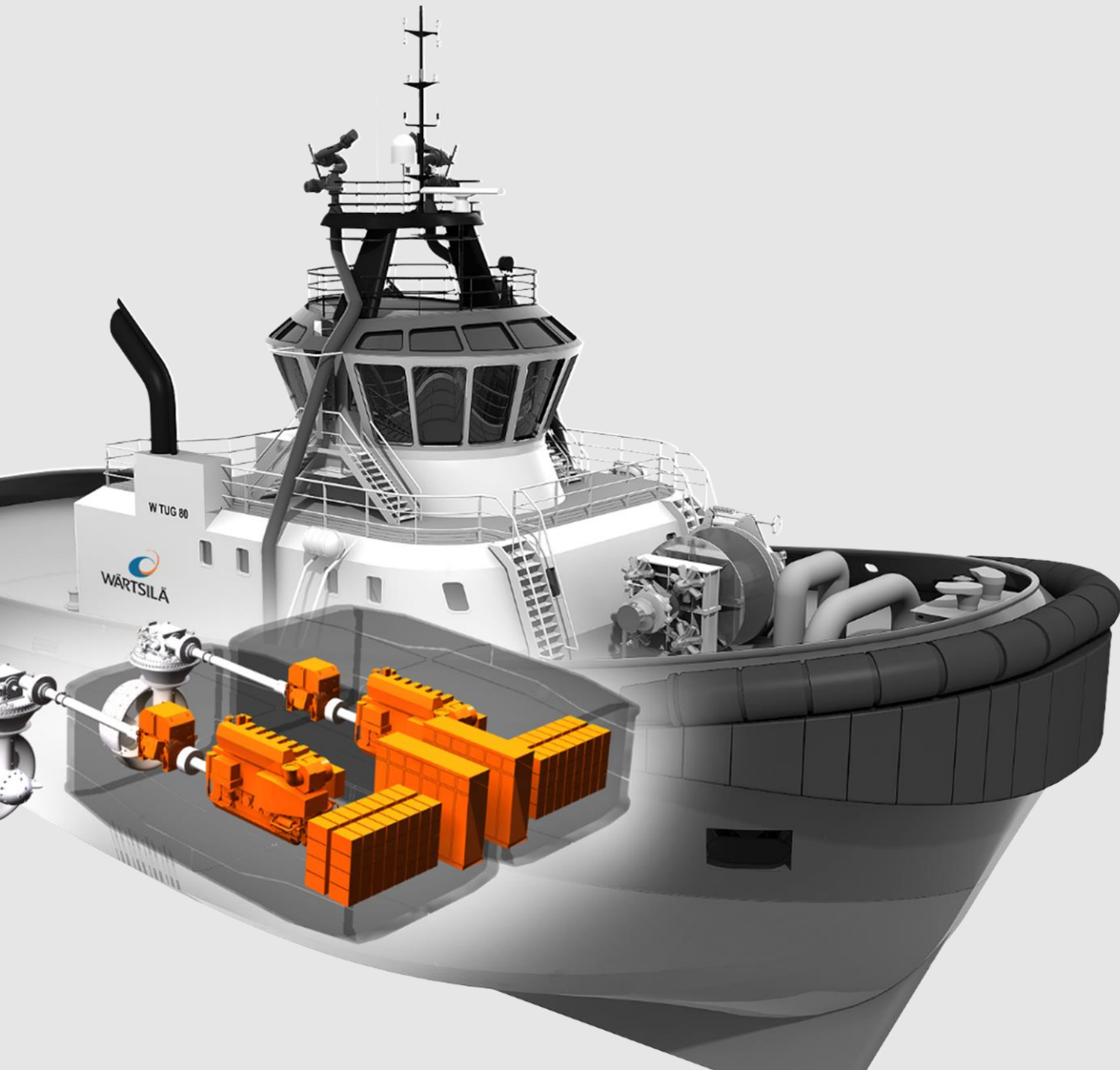
CONSTRUCTION MODULE 10.5m





WÄRTSILÄ

W A R T S I L Ä H Y



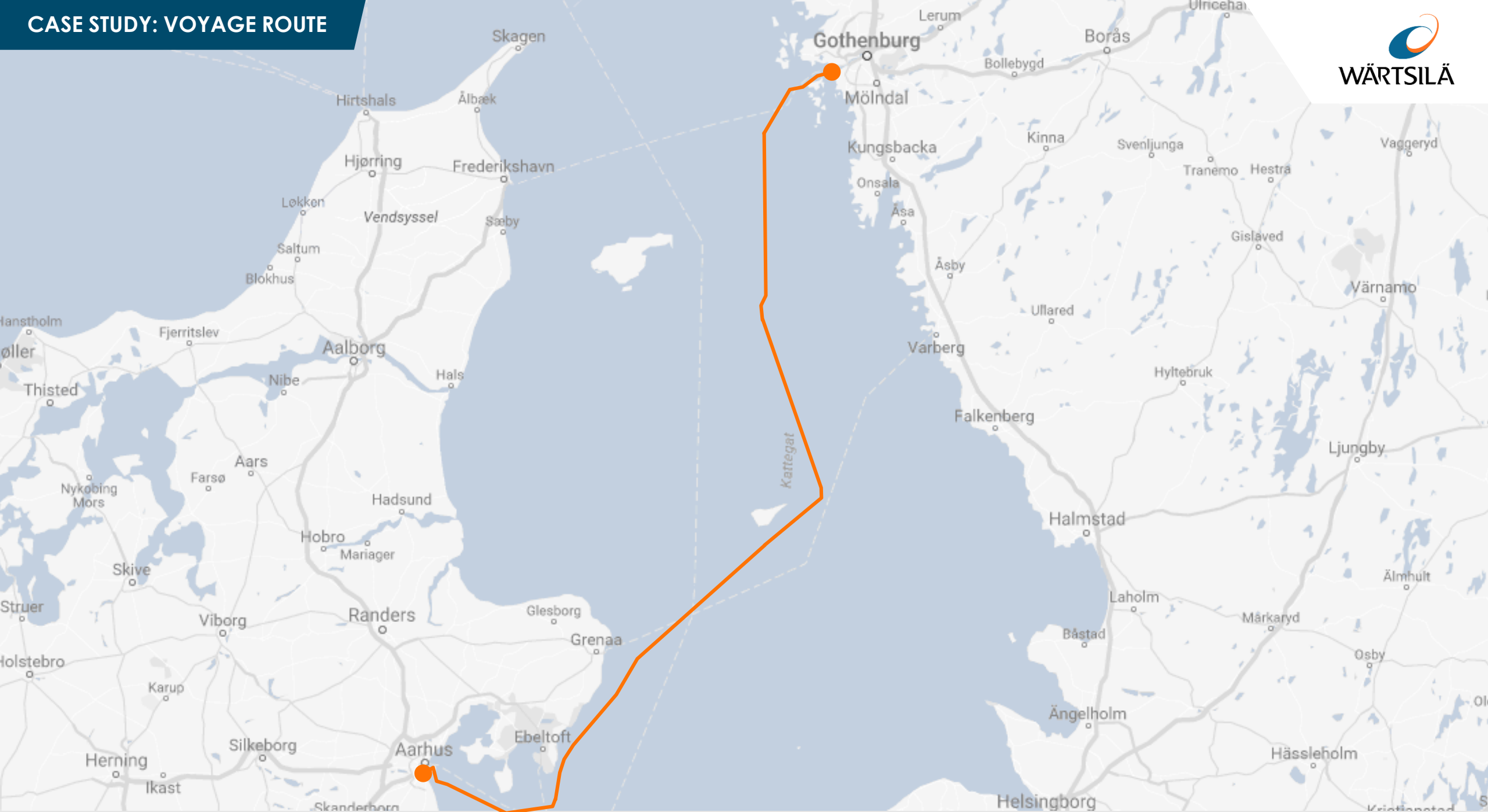
RIMORCHIATORI RIUNITI

- 2 x Wärtsilä HY2
- Diesel
- Delivery Q3 – 2018



Chemical & Oil Tanker

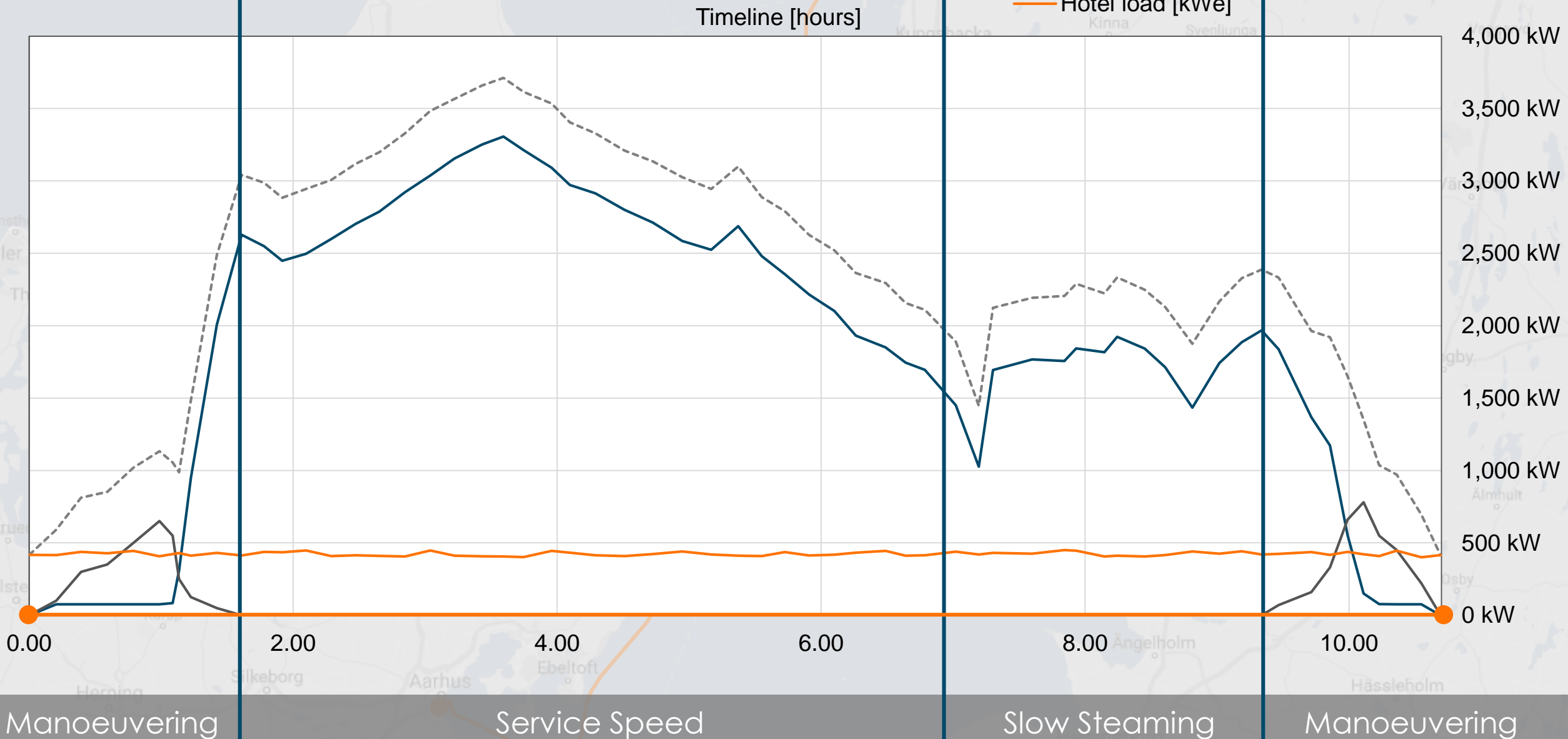
- 16 610 DWT
- 14kn service speed
- ICE Class 1A
- 144 m Loa
- 8,9 D
- 23 B
- 11 900 GT
- 18 491 cbm



CASE STUDY: VOYAGE PROFILE



- Total Power [kW - kWe]
- Propulsion load [kW]
- Manoeuvring thrusters [kWe]
- Hotel load [kWe]



Manoeuvring

Service Speed

Slow Steaming

Manoeuvring

Zero Smoke

New, enhanced automation for start-up and load variation

Reduced OpEx

Less maintenance, longer TBOs, less consumables

Increased Safety

Increased redundancy, no blackout and low stress of components

Optimized Engine Room

Less cylinder installed without re-engineering and better system integration through EMS

Green Mode

Zero emissions, noise, vibration when near harbours





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