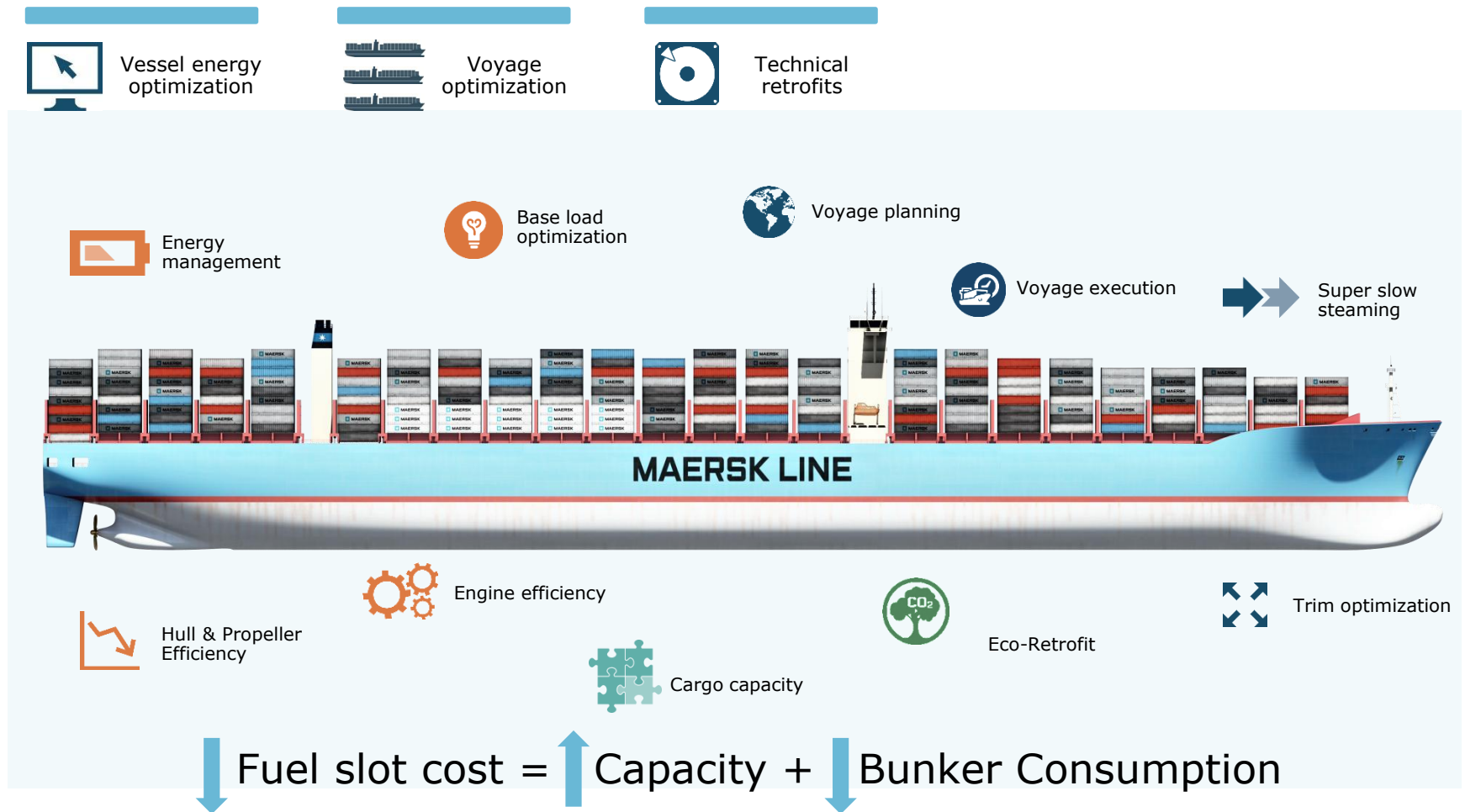


Ship Efficiency from a Maersk Line perspective

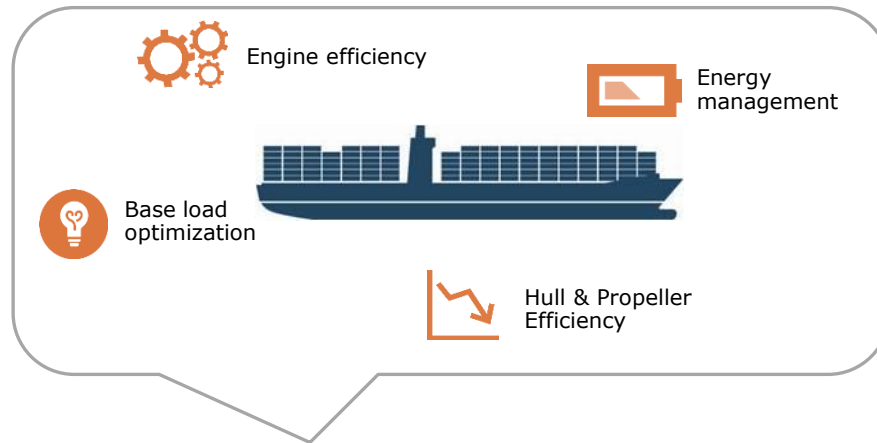
by Niels H. Bruus
Maersk Line – Global Optimisation & Innovation



Maersk Line optimise efficiency from various angles, but all takes off in the fuel slot cost



Performance measurement & benchmarking is used to drive technical efficiency.



VESSEL ENERGY OPTIMISATION



Voyage execution is monitored 24/7 to ensure a constant focus on efficient performance.

- ECO Voyage is used to **optimise the voyage plan** which is then use for dialogue between ship and shore during execution
- The guiding principle is **constant power** to minimise bunker consumption



Voyage planning

VOYAGE OPTIMISATION



Voyage execution

- A **Global Voyage Center** monitors voyage execution **24/7** and is in close dialogue with local offices and vessels to **minimise 'waste'**



Trim optimization

- Trim **utilization is monitored** and feedback is given based on possible improvements



Super slow steaming

- Our Network is continuously optimised to make full use of the **flexibility** provided by the **super slow steaming concept**
- **Average speed** of the fleet continuously **decreases** which has a significant impact on the slot cost



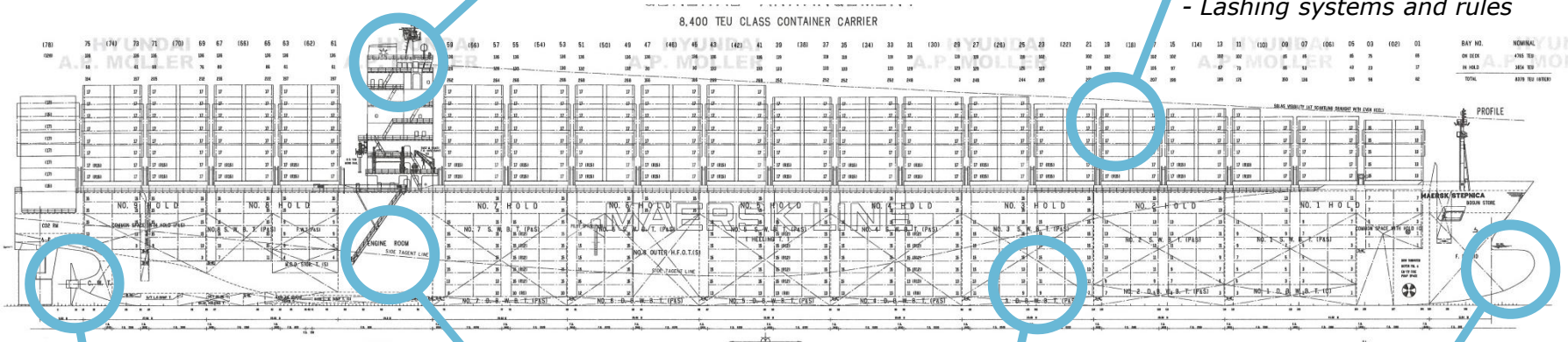
Capacity boosts and ECO Retrofit investments ensure vessels are efficient and capability maximised to minimise slot costs continuously.



**TECHNICAL
RETROFIT**

Bridge
- Elevation of bridges

Cargo
- Lashing systems and rules



Main Engine
- Engine derating
- Cylinder cut-out
- TCCO

Propulsion
- Improved Propeller design
- PBCF

Draft
- Scantling draft

Bulbous Bow
- Modification of bulbous bow



The holistic approach to ship efficiency is important to ensure full effect on actual slot cost.



Vessel energy optimization



Voyage optimization



Technical retrofits



Energy management



Base load optimization



Voyage planning



Voyage execution



Super slow steaming



Hull & Propeller Efficiency



Engine efficiency



Cargo capacity



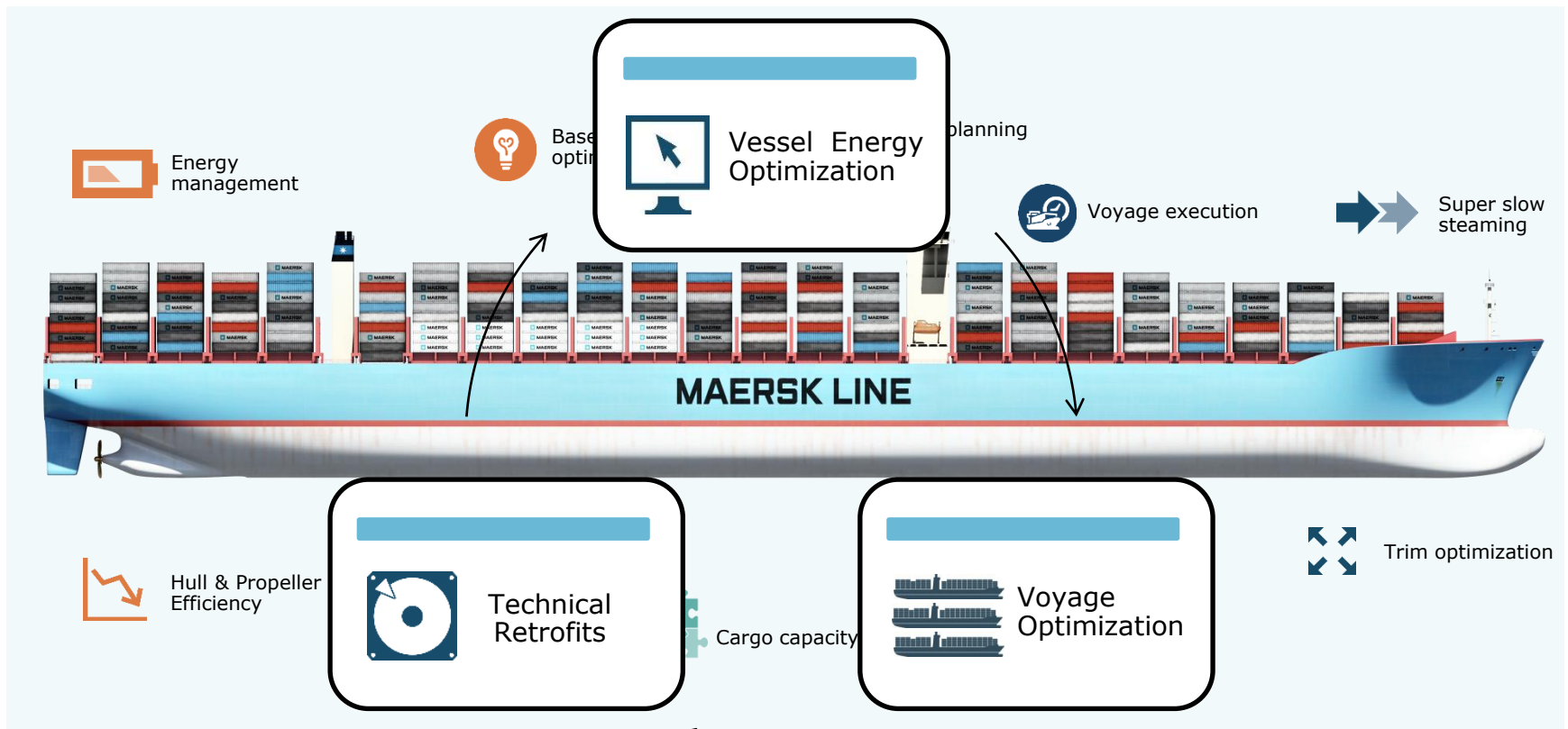
Eco-Retrofit



Trim optimization



The holistic approach to ship efficiency is important to ensure full effect on actual slot cost.



QUESTIONS?

