

Taking autonomy from research to reality



massterly

a Kongsberg Wilhelmsen joint venture

massterly.com

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Massterly - a Kongsberg Wilhelmsen joint venture.

An aerial photograph of a port area. On the left, a large number of white semi-trucks are parked in neat rows. In the center, a large container ship is docked at a pier, with its deck covered in stacks of colorful shipping containers in shades of red, blue, orange, and green. The ship's hull is white with a blue stripe. The water of the port is dark blue with some white foam from waves. The sky is not visible.

Environmentally friendly logistics enabling
the shift from road to sea





- World leader in automation
- Frontrunner in digital development
- Leading in development of autonomy
- In front on cyber security

www.kongsberg.com



- In front on vessel operation
- Major logistics operator at sea and on land
- Owns and operates 20+ terminals
- A global network - 2 200 ports in 74 countries

wilhelmsen.com





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Our offering: The entire value chain



Logistics

Planning and full operation from factory to dealer



Terminals

Design, specification, project management and operation



Autonomy

All hardware and software for the vessel and the shore control center



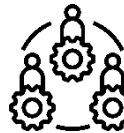
Vessel

Turn key; design, specification, site management and approvals



Operation

Vessel operation from control center, ship management, all approvals etc.



Manning

Access to all maritime and technical competence as required



Insurance

Broking and facilitation



Financing

Facilitation and possible participation





Massterly offers a “Truck to Truck” solution

A



B



Competing with roads in Short Sea Shipping requires autonomous solutions both on vessel and in ports

Major cost drivers

Unmanned vessels offer significant improvement in the two major cost drivers for short sea shipping operations – crew and port handling



Classic feeders



Autonomous Vessels

- Crew
- Port Handling
- Everything else

Major cost drivers

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Crew

○ Classic feeders

○ Autonomous

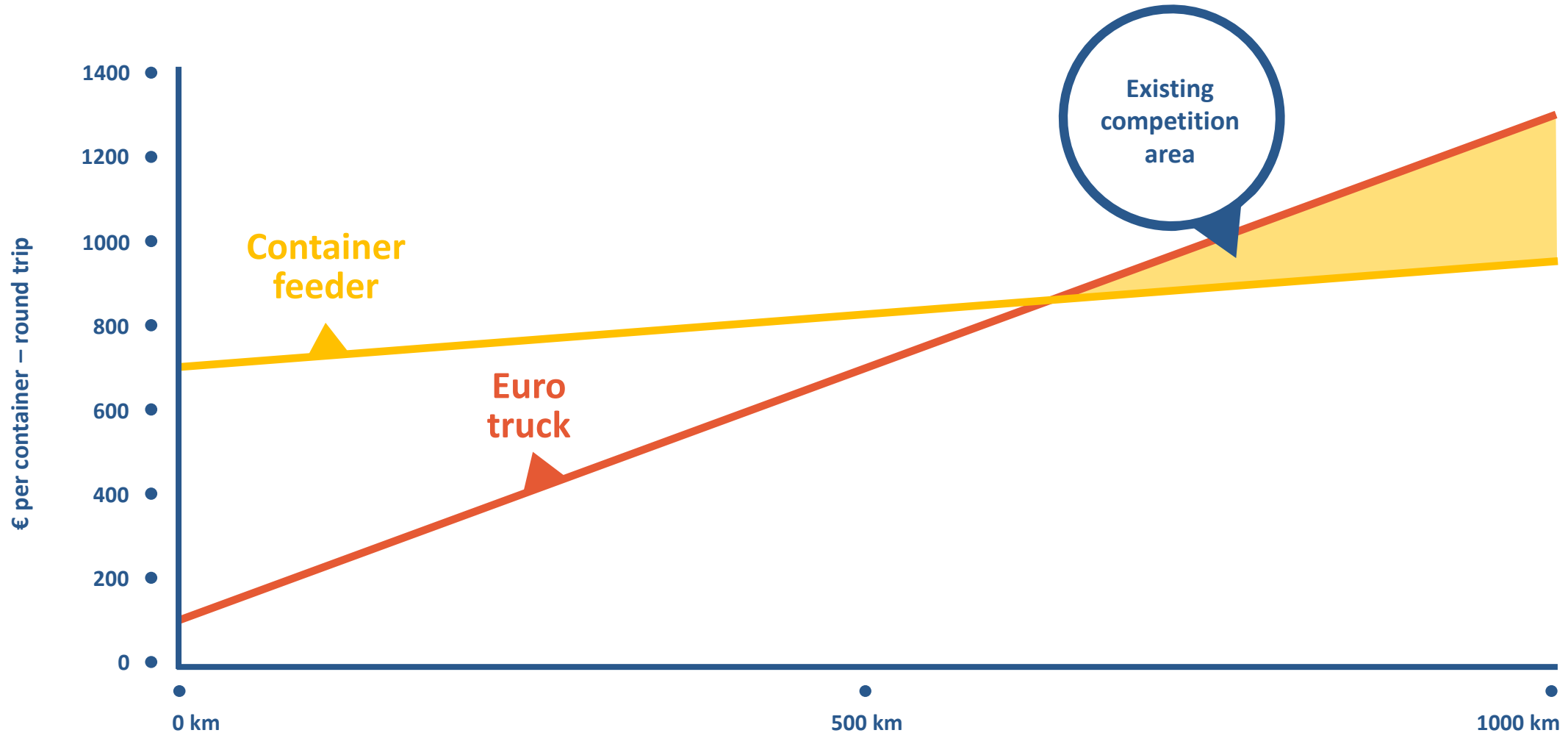


Port Handling

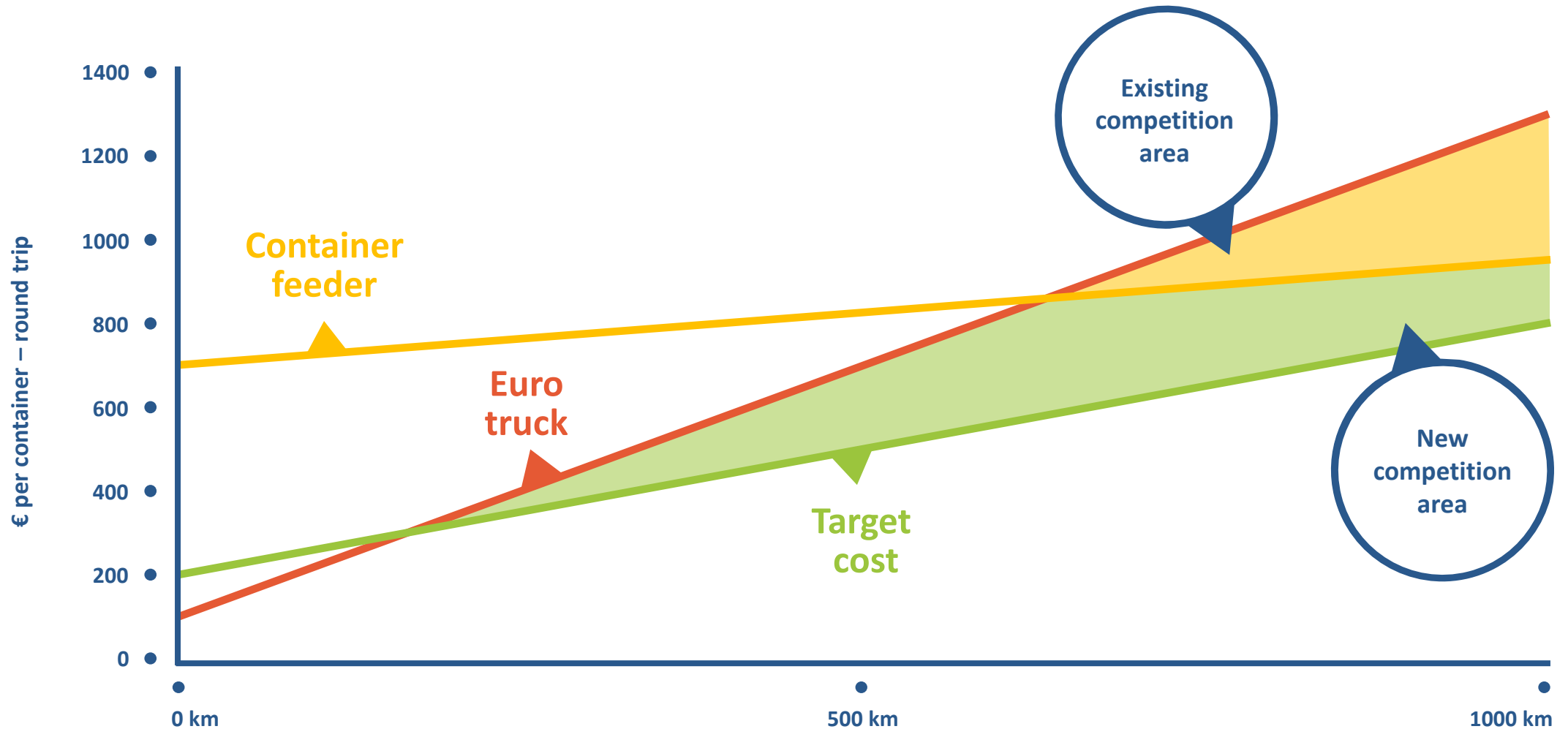
○ Classic feeders

○ Autonomous

Currently, Feeders are competing with trucks
in the 800 – 1000 KM range



“Truck-to-Truck” solution will really compete with road transport on significant shorter distances, opening up a large market for maritime players





Autonomy is the means, not the target

Autonomy will over time contribute to:

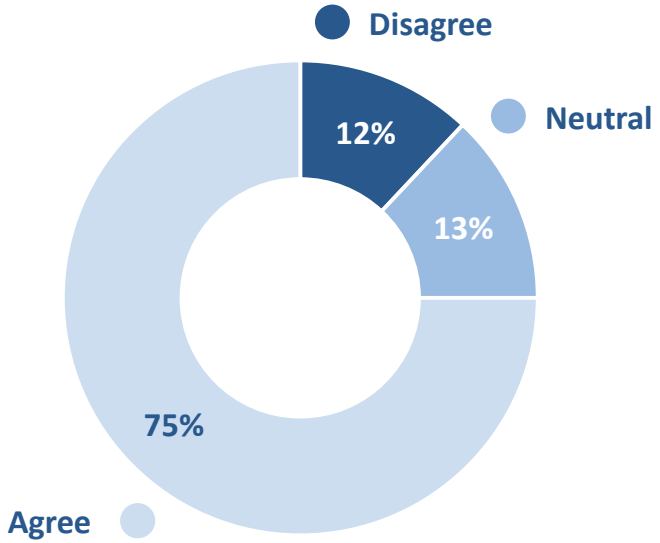
- Simpler vessels; lower investment cost
- Lower operational cost – two persons on shore supporting up to 8 vessels
- Enhanced safety in operation
- Better efficiency in port operations
- Safer and more cost effective conventional vessels

Our autonomy in the interest of the society

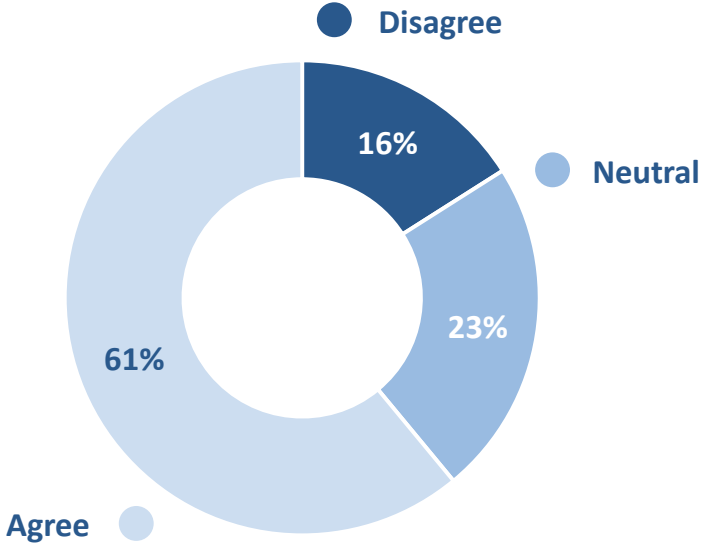
- New, compatible logistics solutions
- Zero / low emission vessels only
- Improved safety at sea and in port
- Removes road traffic
- Speeds up development of new regulations



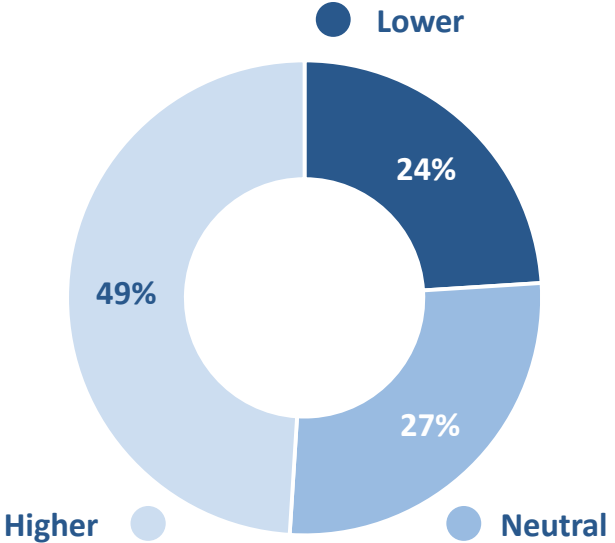
Industry survey assessing core social impacts of remote vessel operation



Being disconnected from their social environment at home for long periods of time is a disadvantage of the work of mariners



Shifting maritime jobs to a shore control center will influence the work-life balance of employees positively



Job attractiveness: How attractive is the working environment in a land based shore control center in comparison to working on board a ship

Sources: [MUNIN Qualitative-assessment](#)





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