



AUTOSHIP

Autonomous Shipping Initiative for European Waters



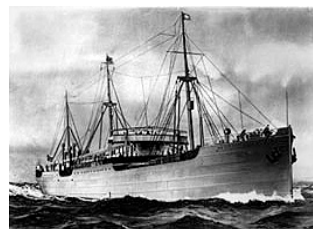
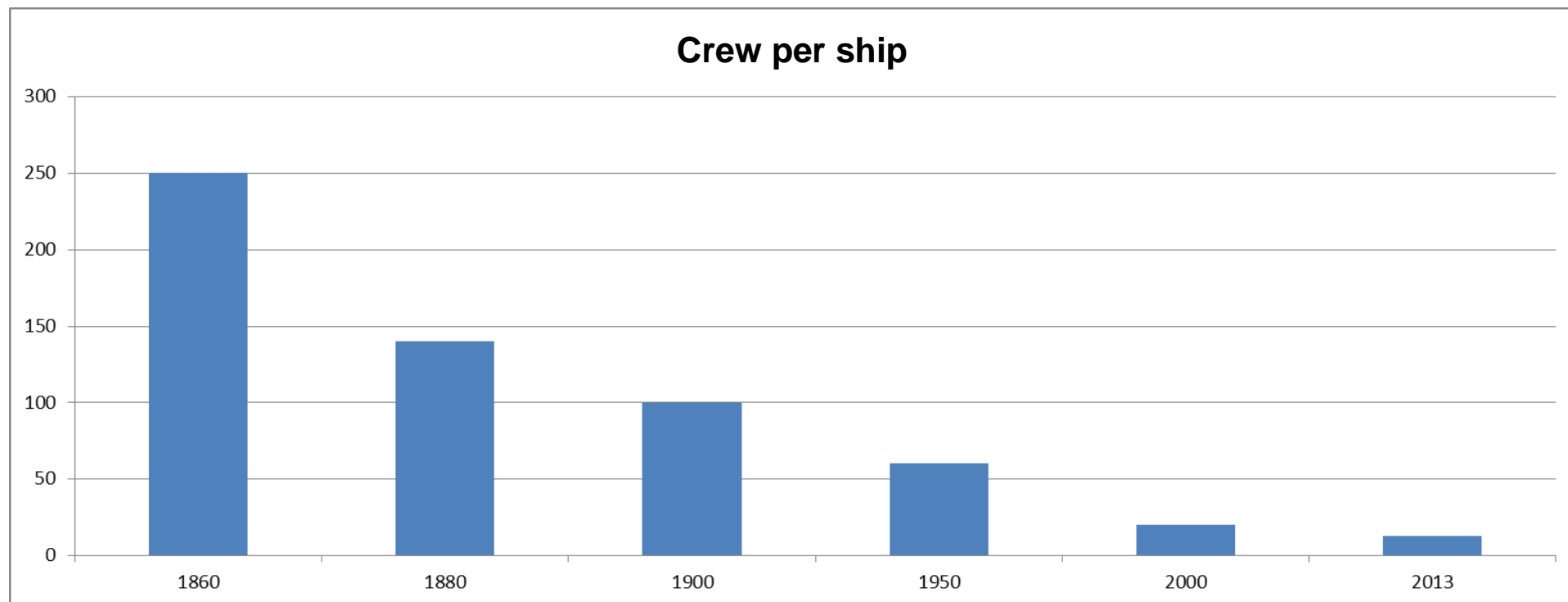
AUTOSHIP: Demonstrating autonomous ships in Europe

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Why autonomous ships?



Crew number is steadily decreasing.



Automate where dull, dirty or dangerous: 3D



Dirty: Cargo handling



Dull: Slow steaming over long distances



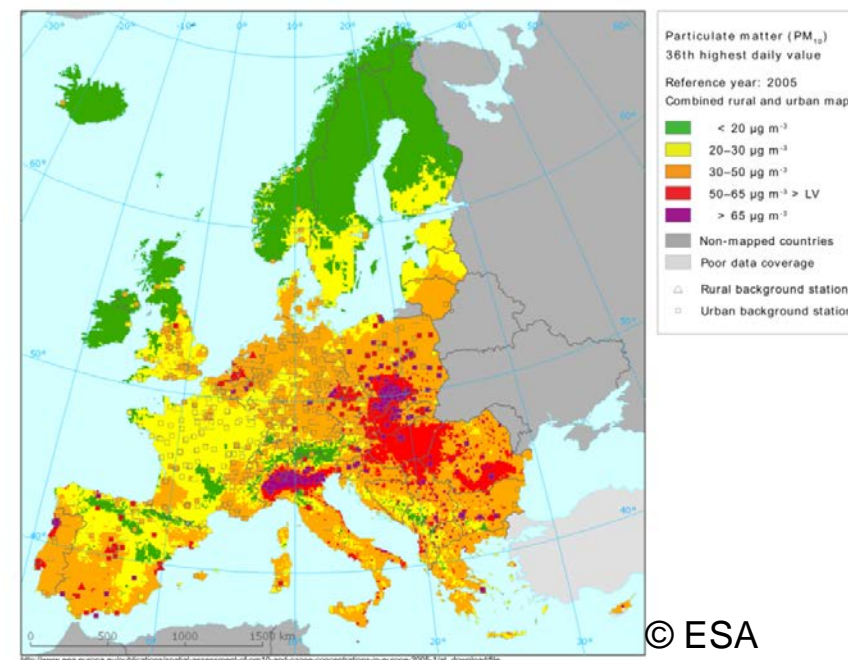
Dangerous: Mostly occupational hazards, but also ship accidents

Cargo from road to waterways

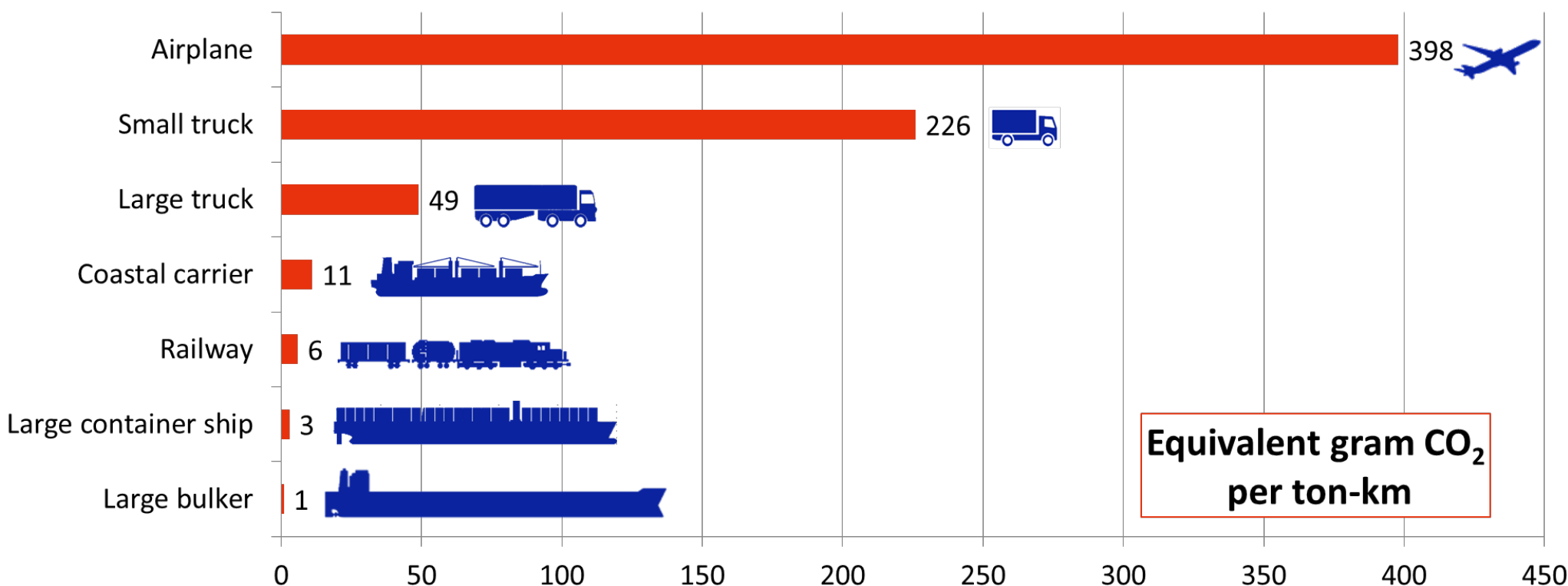


Reduce congestion and investments

Reduce noise
Reduce emissions, dust and particulate matter



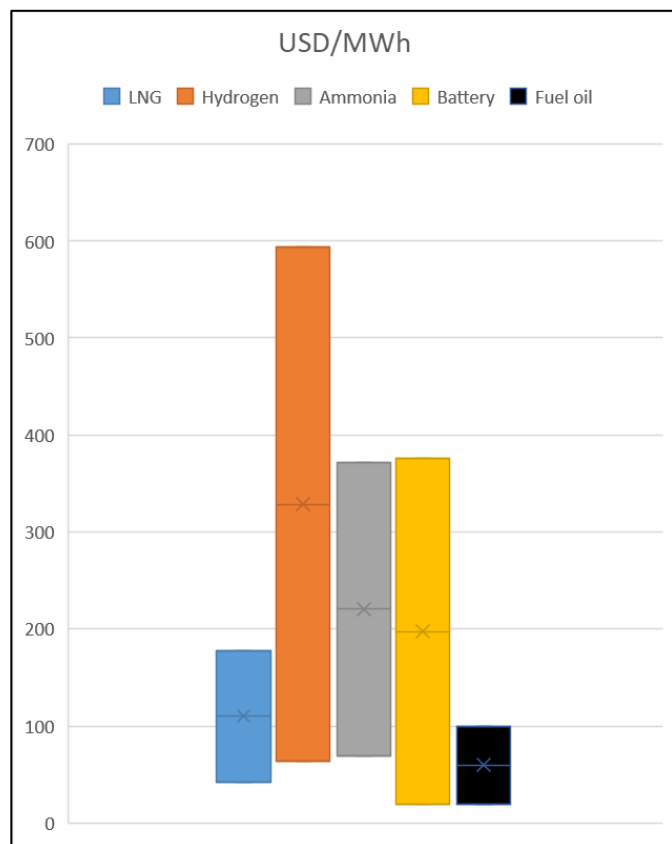
Ships represent the sustainable lifeblood of the world



Sources: IMO 2nd GHG Study, Maersk, Intertanko

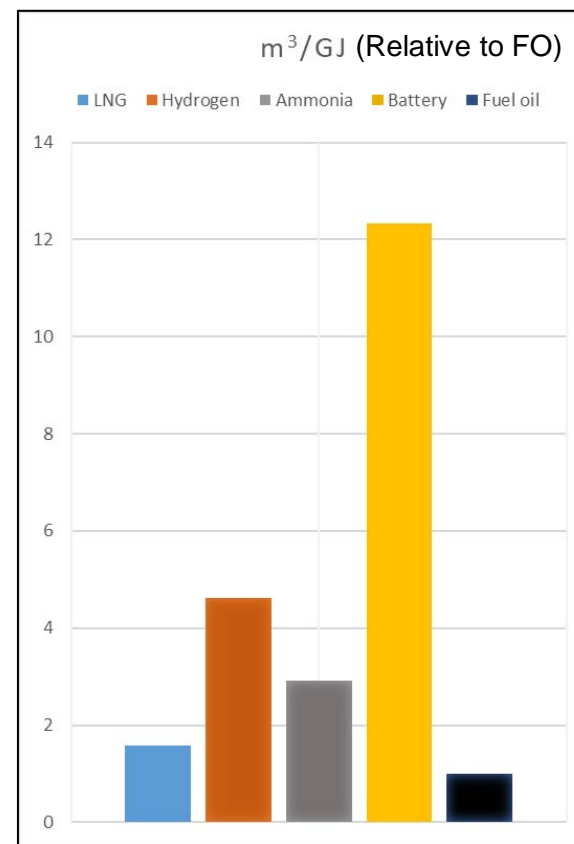


... but must still meet climate goals



Cost of Energy

DNV GL: Comparison of Alternative Marine Fuels
SEA\LNG Ltd



Volume of Energy

IRENA: Navigating the Way to a Renewable Future: Solutions to Decarbonise Shipping

Autonomous ships provide new opportunities

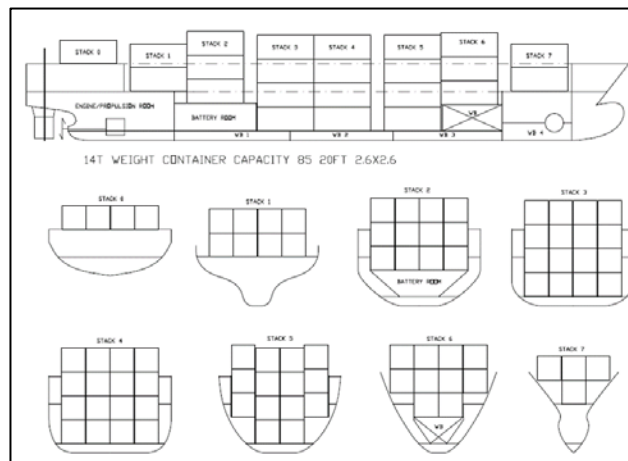


No accommodation

More cargo

Less energy

New designs



... but still with crew on land



New transport systems



Smaller and more flexible

Why AUTOSHIP?



There are obstacles!

Risks may be perceived as too high for investments.



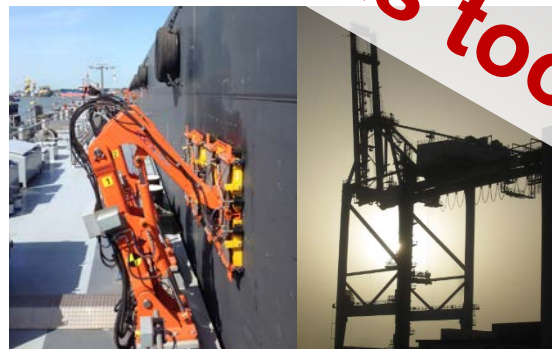
More expensive sensors and control system – cyber security



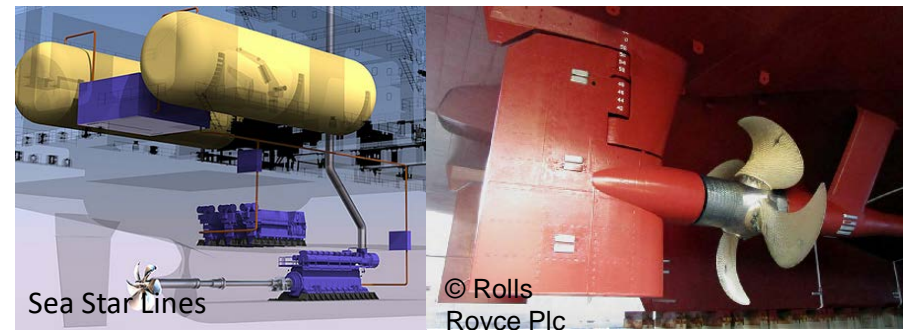
Continuously manned shore control centre



Unclear risk picture and higher safety requirements



More and automated shore infrastructure

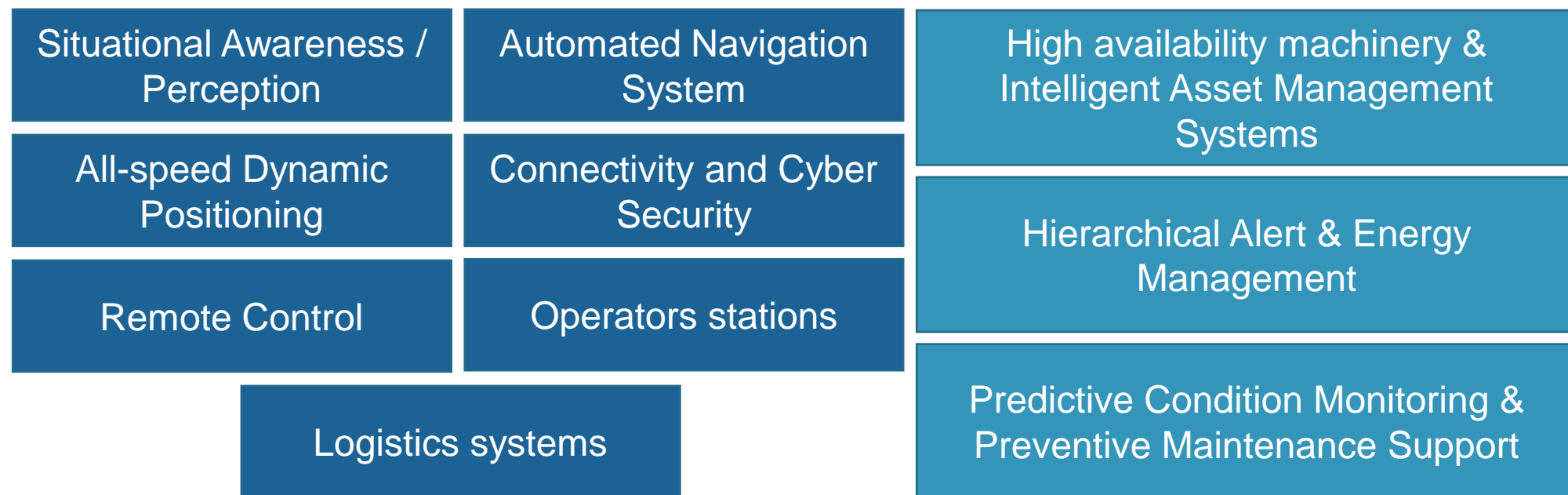


No crew onboard: No HFO, more redundancy, more costly maintenance



Long time for international legislation is in place.

AUTOSHIP will develop Key Enabling Technologies to TRL 7



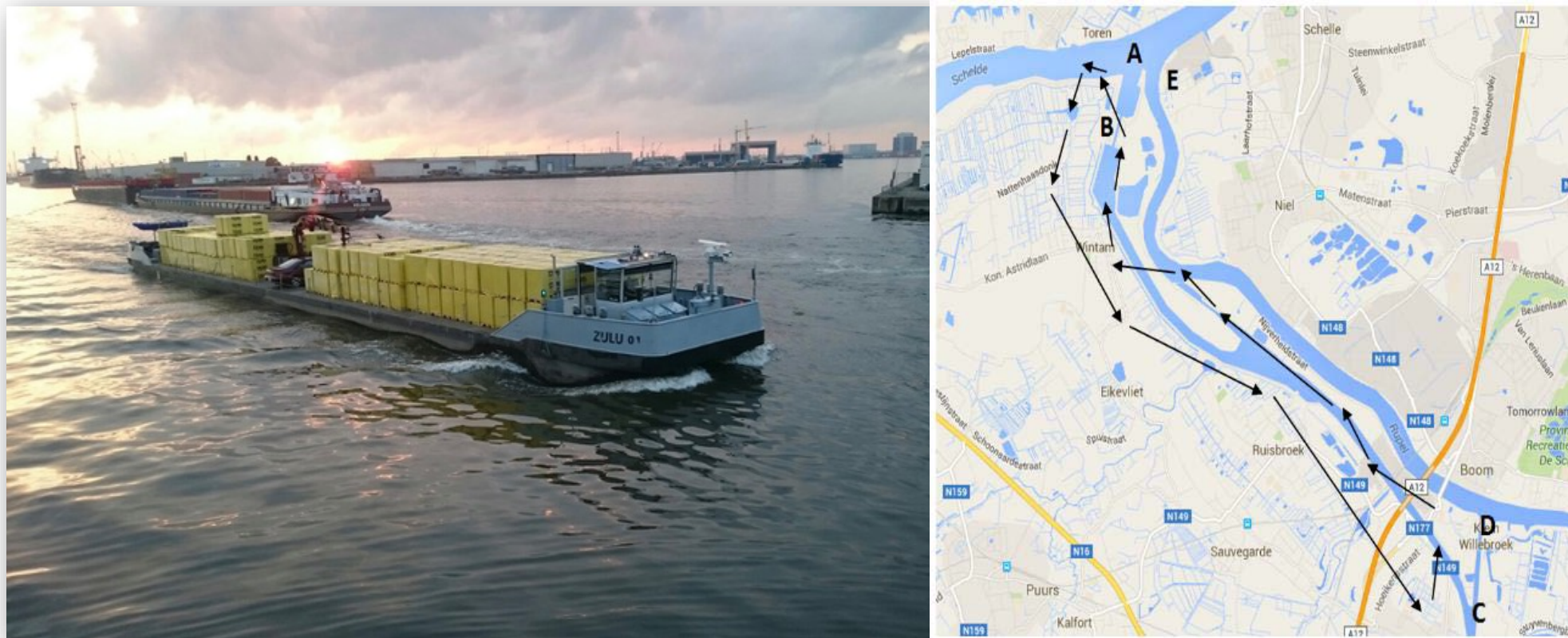
"Artificial Captain"

"Artificial Chief Engineer"

... and demonstrate on
two real world use cases



Inland Waterways – Pallet Shuttle Barge



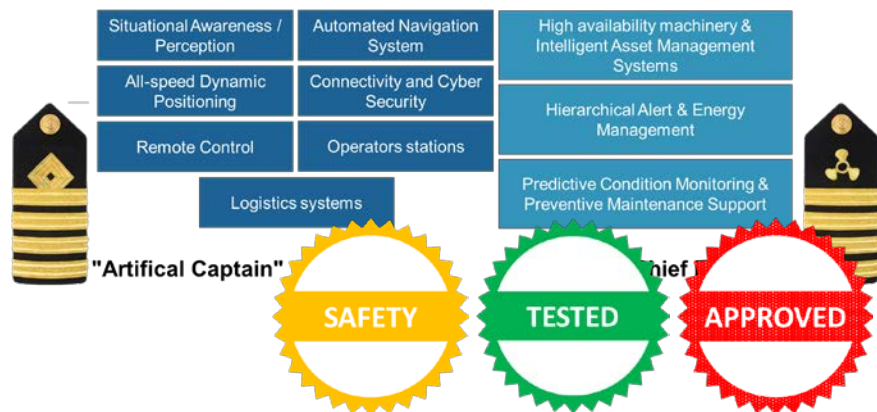
Demonstration in Belgium, but with a view to other jurisdictions.

Short Sea Shipping – Fish Feed Carrier



This case will also be prepared for ship transit to Denmark (International)

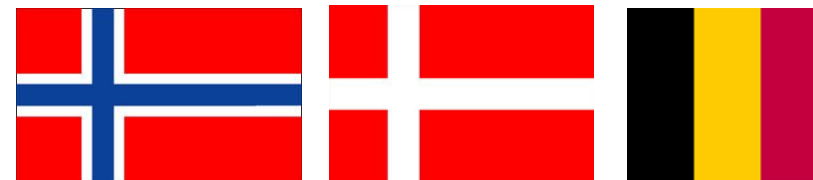
... including proof of concept



Technical systems



Concept of Operations



National approval for operations



Cost-benefit analysis

Partners and Funding

Total Budget **EUR 29,5M**

EU Funding **EUR 20,1M**

www.autoship-project.eu



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More information

