LeanShips

What is this European Innovation project all about ???

The project has received funding from the European Union's Horizon 2020 research and innovation programme (Contract No.: 636146)

LeanShips
Low Energy And
Near to zero emissions Ships

LeanShips ...

... aims to demonstrate the effectiveness and reliability of energy saving and emission reduction technologies at real scale.

Target markets ...

... are the small to midsized ships for intra-European waterborne transport, vessels for offshore operations and the leisure and cruise market.

Seven demonstrators will be carried out ...

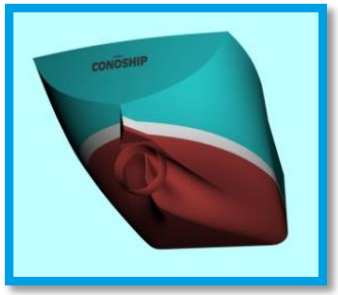
... combining technologies for improved efficiency and pollution reduction, in line with end-users' needs and requirements.

Main objectives ...

- ✓ CO_2 reduction of at least 25%
- ✓ Estimated fuel saving of up to 25%
- ✓ Expected decrease of SO_x/NO_x/PM air pollutants by up to 100%

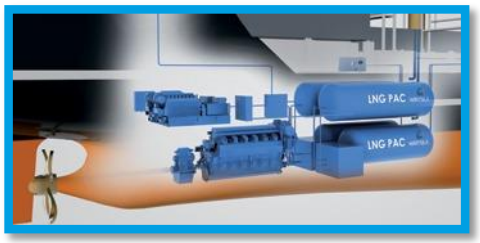
Coordinated by DAMEN

Examples of Demonstrator Cases

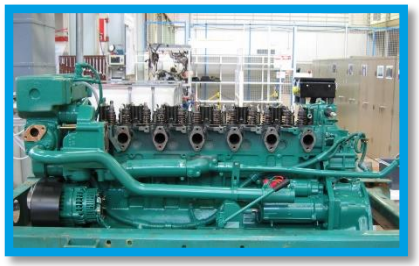


Develop a large diameter propeller to improve the performance of the vessel propulsion system, reducing fuel consumption and emissions

Design and build a new generation ship handling tug with two LNG-fuelled engines



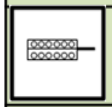
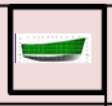
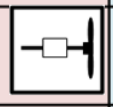
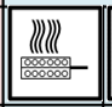
Develop a refit strategy for a fleet of general cargo vessels



Demonstrate a high-speed diesel engine converted to dual fuel operation (diesel/methanol)

Parallel development of demonstrators and their contribution to the project objectives, following the same harmonised innovation process.

LeanShips covers the entire energy chain

Demonstrator platforms	Technology cluster 1: Engines, fuels, drive trains						Technology cluster 2: Hull, propulsors		Technology cluster 3: Energy systems and emissions abatement technologies				
													
	Internal combustion engines	Fuels	Generator	Electrical energy transformation	Storage device	Electrical motor	Improved geometry	Propulsors	Waste heat recovery	Incinerator	Photo voltaics, Wind energy, fuel cells	Scrubbers	Energy management systems
WP04: Tug	XX	XX			XX		XX	XX					
WP05: SWATH/dredge	XX	XX			XX								
WP06: LNG carrier	XX	XX	XX		XX		XX	XX					x
WP07: General cargo ship	XX	XX	XX		XX							XX	
WP08: Inland ship	x	x	x	x	x		XX	XX					
WP09: Ice going cargo ship	x	x			x	XX	XX	XX					
WP10: Cruise/Leisure					x		XX	XX					XX
WP11: Cruise/Leisure									XX	XX	XX	XX	

Lean**Ships'** mission:

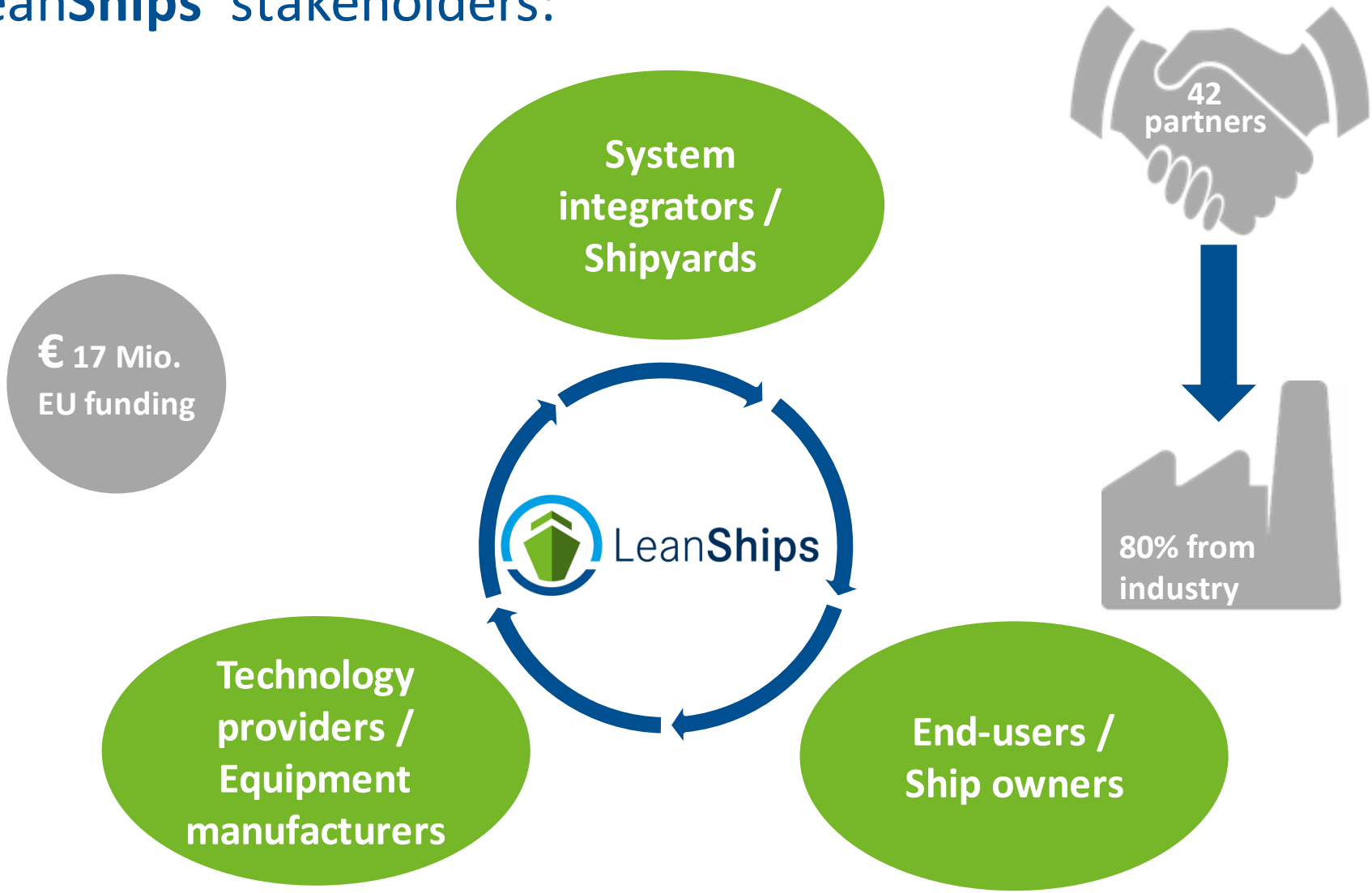
Prove that:

a) **green** technology can be installed **onboard** (new and old - *retrofit*);
b) **green** technology works in maritime and is **reliable**
c) **green** technology can be **economically viable**

And can **significantly contribute** to the EU energy and emission policies by collaborating with:

a) ship equipment manufacturers;
b) ship builders;
c) ship operators;
d) classification societies;
e) research centres and universities

LeanShips' stakeholders:



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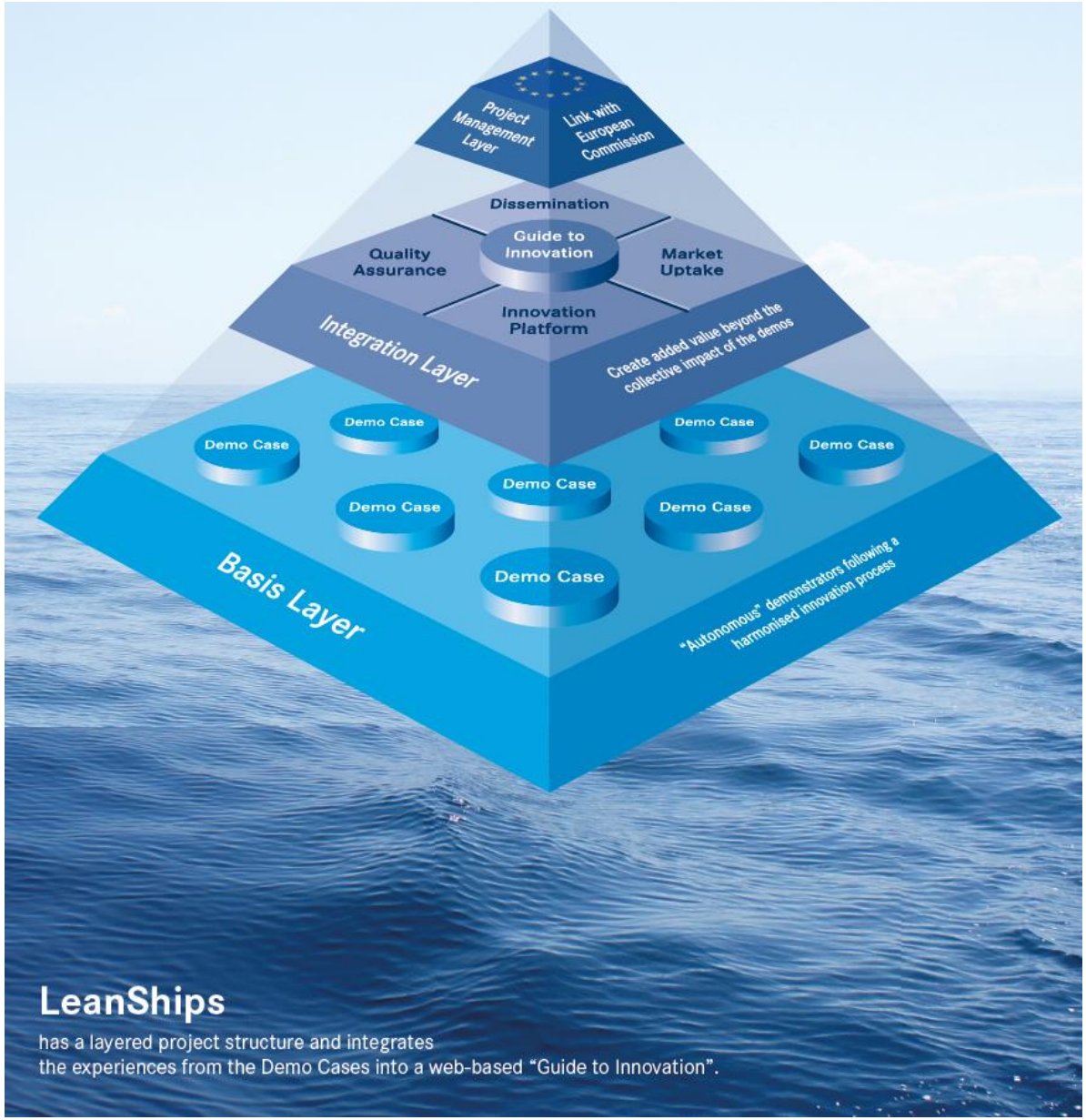

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Thank You

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