



Waterborne Transport



HORIZON EUROPE

ENGIMMONIA

Sustainable technologies for future
long distance shipping

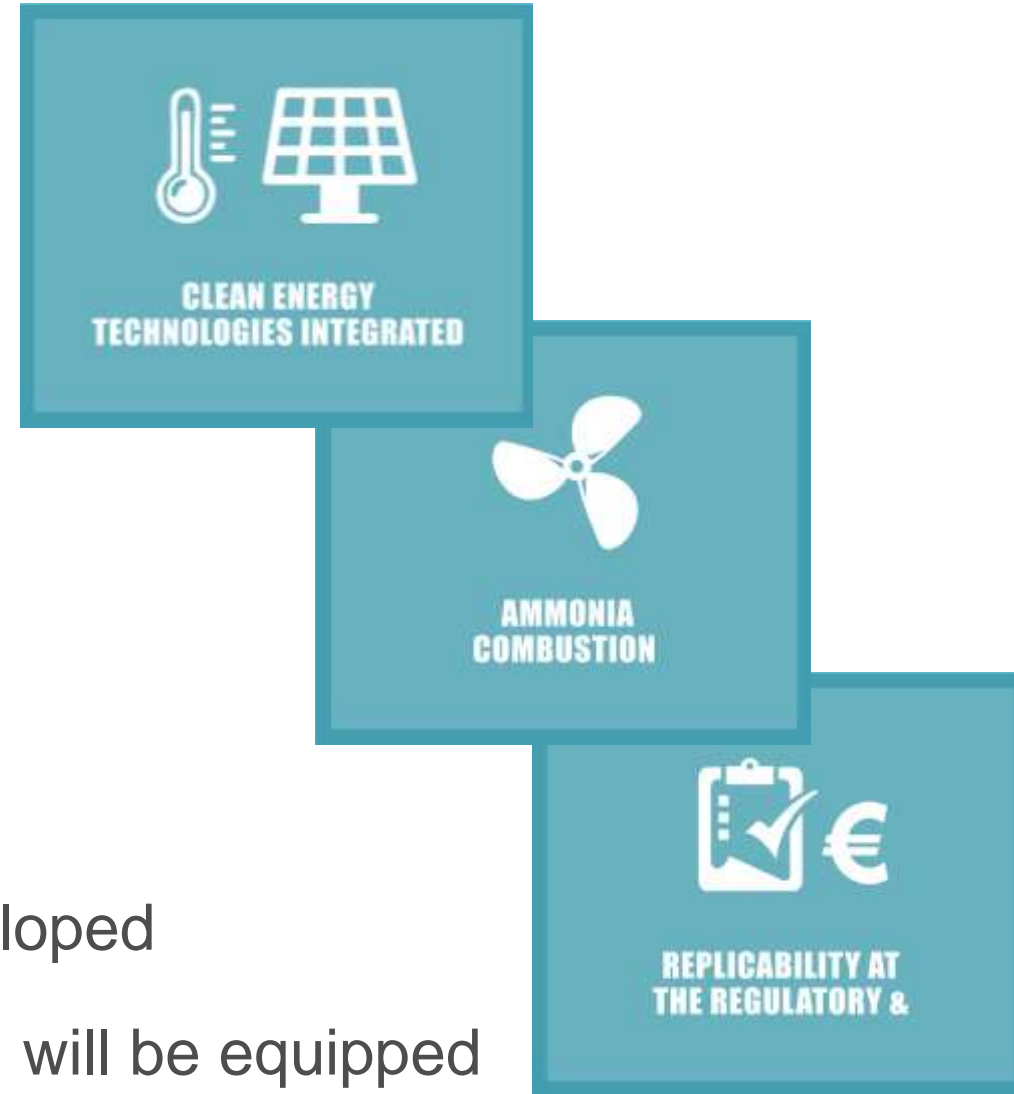
Clean and sustainable waterborne transport

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The challenge

- The project is developing three R&D Lines:
 1. To optimize ammonia combustion and EATS towards zero emission
 2. Bringing on board of real vessels samples of decarbonization technologies
 3. fostering replicability at business, regulatory, policy and naval classification level, interacting with on-going international initiatives
- A combustion model for ammonia is being developed
- Three demo vessels (ferry, oil tanker, container) will be equipped with onboard walkable PV, ORC, an absorption Chiller and an energy management system



The ENGIMMONIA project

- Expert consortia:

- | | | | | |
|---------------------|-------------|-----------|--------------|------------|
| 1. RINA-C (+RINA-S) | 10. POLIMI | 15. RIC | 20. POG | |
| 2. NTUA | 6. AUTH | 11. ORCAN | 16. Seastema | 21. Famous |
| 3. CNR | 7. Tecnalia | 12. METIS | 17. MAN | |
| 4. TUM | 8. DTU | 13. FAHR | 18. ANEK | |
| 5. UNIGE | 9. LUND | 14. C-JOB | 19. Danaos | |

- Budget €9.5M with EU support of €9.5M

- 48 Duration months, from May 2021, until April 2025



Achievements.

- Modelling of the ammonia combustion for 2 and 4 strokes engines
- Selection of most promising catalysts
- Walkable and on-board ready PV technology
- Adsorption chiller for on-board HVAC systems
- ORC system for waste heat recovery
- On-board energy management system.



Next Steps

- Further development of the ammonia combustion model
- Selection of the catalysts and test of combustion
- Review of the current design of the demo ships
- Detailed design for PV, ORC, Chiller integration
- Installation of demonstrators, including the EMS
- Approval in principle for tests
- Guidelines for future replication



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Q&A ?

Speaker will be available on the stand for the remaining of the day.

Contacts:

- Link to project website: <https://www.engimmonia.eu/>
- Project Social media: <https://www.linkedin.com/company/engimmonia-project/>
- Project Contact details: andrea.pestarino@rina.org
- Horizon Europe Horizon Europe | European Commission (europa.eu)
- Waterborne TP: [Welcome to Waterborne - Setting the agenda for Maritime Research in Europe - waterborne.eu](#)