

SYNERGETICS – Synergies for Green Transformation of Inland and Coastal Shipping – kicked-off!

SYNERGETICS – Synergies for Green Transformation of Inland and Coastal Shipping – is an Innovation Action funded by the Horizon Europe programme of the EU, which kicked-off at DST (Entwicklungszentrum für Schiffstechnik und Transportsysteme e. V.) in Duisburg on 8.2.2023.

What is SYNERGETICS?

Inland and coastal shipping face great challenges with respect to a significant reduction of greenhouse-gas and air-pollutant emissions resulting from the requirements stipulated in the European Green Deal and the Taxonomy Regulation as well as the fact that improved environmental performance has become a feature of ever-increasing importance to the sector in order to remain competitive.

The existing fleet operating on European inland waterways and in the respective coastal areas displays a great potential for greening, which can be unlocked by proper means of retrofit. Currently, different undertakings with respect to greening in the shipping sector as well as other sectors have been carried out or are ongoing. However, the solutions are not brought together in order to facilitate a roll out on a large scale. This is the starting point of SYNERGETICS! The project aims at bringing together the relevant knowledge from different sectors, in particular the waterborne one. This will be realized by creating synergies between the leading research institutions in the field of ship hydrodynamics and energy transition, innovation centres and shipping industry associations, shipbuilding industry, regulatory bodies, vessel owners, and technology providers, as well as between different European regions. The goal is the provision of a consistent catalogue of developed and ready to deploy retrofit solutions which would facilitate and accelerate the green transformation of inland vessels and coastal ships.

What are the objectives?

The key objectives of SYNERGETICS are:

- demonstration of the potentials of retrofit technologies in greening the existing fleets by retrofitting four existing ships in the course of the project duration;
- demonstration of the potentials of hydrodynamic improvements in greening of the existing fleets;
- demonstration of the value of digital assets in greening the existing fleets;
- integration of the knowledge on shipping decarbonisation and air-pollutant emission reduction technologies with experience gained in the pilot projects and in the demonstrations performed within SYNERGETICS, and establishment of the Catalogue of Greening Solutions;
- provision of up-to-date Scenarios to Policy-Makers and the Handbook to Vessel Owners for an accelerated greening of inland and coastal shipping;
- acceleration of the uptake of the greening retrofit solutions by streamlining regulatory procedures;
- propagation of the use of the Catalogue, the Scenarios, and the Handbook developed within SYNERGETICS beyond Western Europe.



What will be demonstrated?

In SYNERGETICS a number of demonstrations will be carried out relating to:

- hydrogen combustion in internal combustion engines;
- methanol combustion in internal combustion engines;
- innovative hydrodynamic improvements of the hull and the appendages;
- electrification of ships by means of hybridisation of the main propulsion system;
- electrification of ships by means of development of power management system for hybrid propulsion and onboard energy storage.

Project facts

SYNERGETICS responds to the Call "HORIZON-CL5-2022-D5-01-04: Transformation of the existing fleet towards greener operations through retrofitting (ZEWT Partnership)".

Grant agreement ID:	101096809
Action:	Innovation Action (Horizon Europe of the EU)
Start:	01.01.2023
End:	30.06.2026
Total cost:	7 162 920.68 EUR
EU funding:	4 184 312.03 EUR
Associated partners costs:	1 840 965.63 EUR (funded by UK and Swiss funding bodies)

Website: www.synergetics-project.eu

Coordinator:

DST – Entwicklungszentrum für Schiffstechnik und Transportsysteme e. V. (DE)

Partners:

SPB – Stichting Projecten Binnenvaart (NL)	Argo-Anleg GmbH (DE)
Scandinaos AB (SE)	FPS – Future Proof Shipping (NL)
MARIN – Maritime Research Institute Netherlands (NL)	Mercurius Shipbuilding BV (NL)
Viadonau – Österreichische Wasserstraßen-GmbH (AT)	ZES – Zero Emission Services (NL)
TTS – Transport Trade Services GmbH (AT)	Compagnie Fluviale de Transport (FR)
Kanzlei Anzböck (AT)	Sogestran (FR)
EUFRAK - Euroconsults Berlin GmbH (DE)	Koedood Diesel Service BV (NL)
CRS – Croatian Register of Shipping (HR)	CMB – Revolve Technologies Ltd. (UK)
OST – Ostschweizer Fachhochschule (CH)	

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