Inland Navigation Week

EU PROJECT: SYNERGETICS

synergies for Green
of Inland and
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synergetics

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DST

Monday March 20th 2023

Innovation Action SYNERGETICS

SYNERGETICS | Synergies for Green Transformation of Inland and Coastal Shipping | Inland Navigation Week | 20.03.2023

Funded by the Horizon Europe Programme of the European Union under grant agreement No 101096809

Innovation Action SYNERGETICS

General information

Project number	101096809
Project name	Synergies for Green Transformation of Inland and Coastal Shipping
Project acronym	SYNERGETICS
Call	HORIZON-CL5-2022-D5-01
Topic	HORIZON-CL5-2022-D5-01-04
Type of action	HORIZON-IA
Project starting date	January 1st, 2023
Project duration	42 months
Total eligible costs	EUR 5 321 955.05
Maximum grant amount	EUR 4 184 312.03
Total eligible costs of APs	EUR 1 840 965.63

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Structure

- The SYNERGETICS consortium gathers 16 partners and two associated partners from eight countries which were selected with a purpose to take full advantage of concepts of Synergies.
- The project Coordinator is DST – Development Centre for Ship Technology and Transport Systems from Germany.

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Synergies

- Synergy between the ongoing pilot and research projects and SYNERGETICS;
- Synergy between the innovation centres and research institutes;
- Synergy between the shipping industry, and the regulatory bodies and policy-makers;
- Synergy between the shipping industry and other (transport) industrial sectors;
- Synergy between the shipping industry and energy providers;
- Synergy between the shipping industries of Rhine/Seine and the Danube/Elbe regions.

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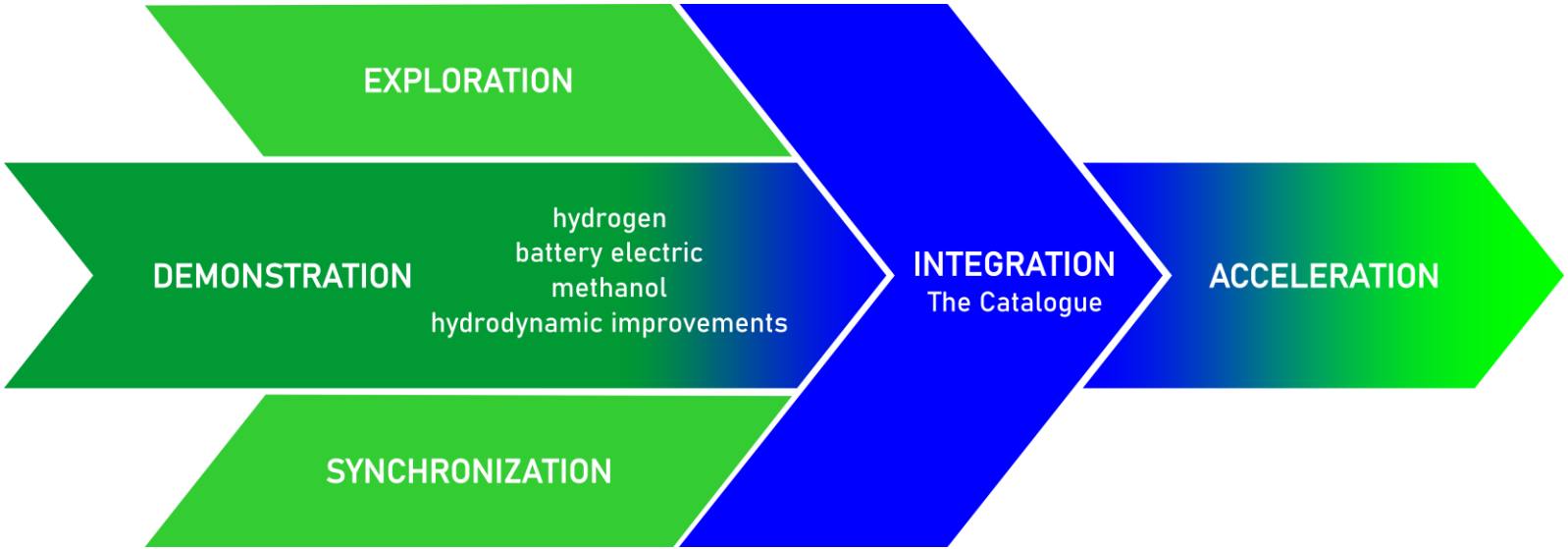
Structure



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Demonstrators

- There are three types of Demonstrators foreseen in SYNERGETICS:
  - Full-scale demonstrators
  - Model scale demonstrators
  - System demonstrators.

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Full-scale Demonstrators

Image: CMB.TECH

The harbour tug Hydrotug will be used for demonstration of **hydrogen combustion in internal combustion engines**.

Image: CFT

The cement carrier Sandre will be used for the demonstration of **electrification of the main propulsion plant**.

Image: Mercurius Shipping

A chemical tanker will be used for the demonstration of **methanol combustion in dual fuel internal combustion engines**.

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Model-scale Demonstrators

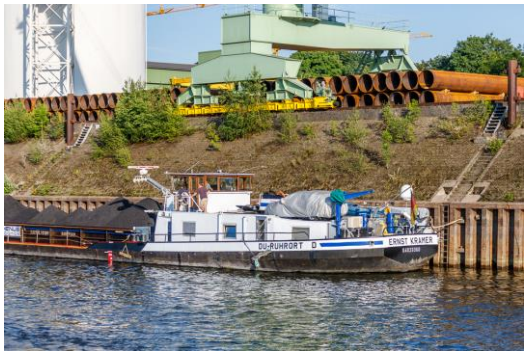

Image: DST

The dry cargo motor vessel Ernst Kramer will be used for the demonstration of the potentials of **aft-ship replacement**.

Image: via donau

The via donau push boat will be used for the demonstration of capabilities of **digital tools and virtual assets in finding the optimal greening solution** for a specified ship.

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System Demonstrators

Image: ScandiNAOS

Two identical marine high speed diesel engines will be converted for **methanol combustion**: one to a **dual fuel** engine and the other to a **compression ignited** methanol engine. After installation of the conversion kits which will be developed, the engines will be run in a test dyno and compared with respect to a range of performance parameters.

Image: Future Proof Shipping

The data collected from the fleet of vessels retrofitted to run on fuel cells and hydrogen, will be used to develop optimal **power and energy management** strategies, which wouldserve as input for system sizing for future retrofits or new builds.

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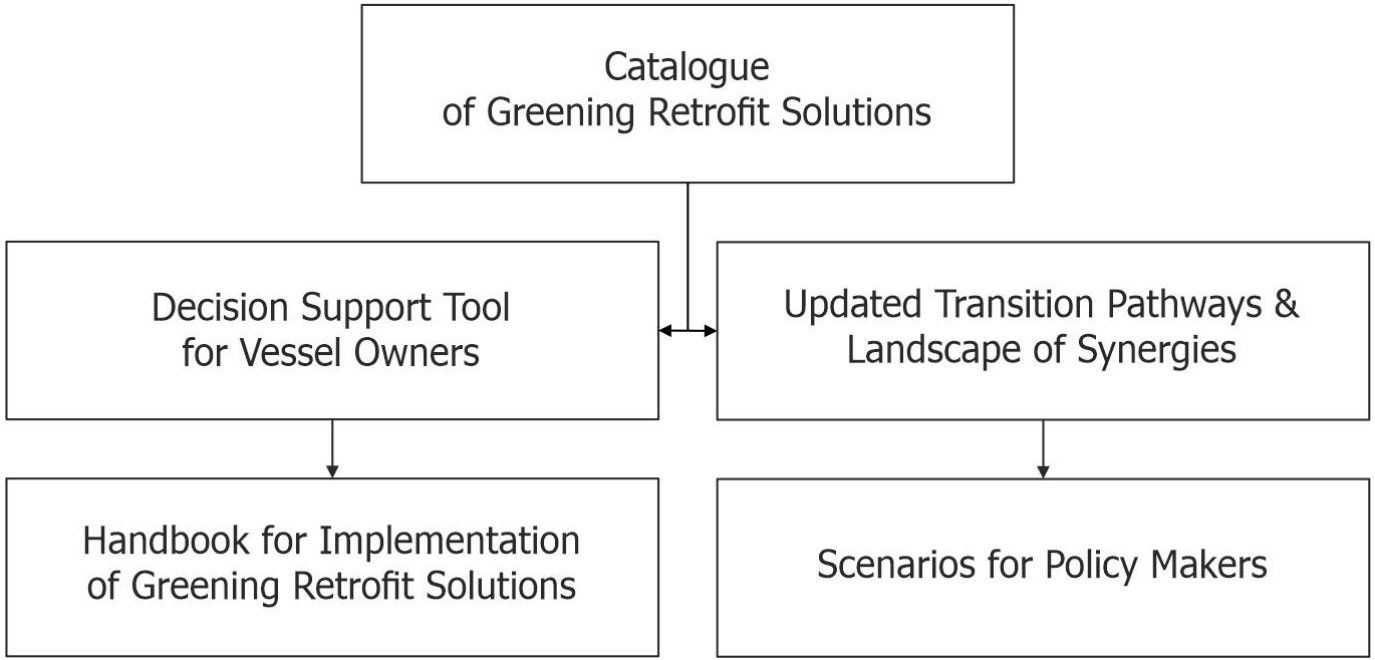
SYNERGETICS Tools



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Thank you for your attention!

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