



Waterborne

Asset design,
sharing &
modularity

Designing a Small Autonomous Zero-emission Vessel (SFAZ) by means of Digital Twin and Simulation Tool

Developed by :



"DUNAREA DE JOS" UNIVERSITY
OF GALATI



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Operational fields

Technologies

Solutions



DESIGNING A SMALL AUTONOMOUS ZERO-EMISSION VESSEL (SFAZ) BY MEANS OF DIGITAL TWIN AND SIMULATION TOOL

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Solution description

- To optimise **hull and vessel designs for SFAZ** tailored to shallow and narrow urban waterways.
- To design with modular components for improved manoeuvrability, reduced emissions and cost efficient construction.
- Drawings and CAD models (hull geometry, propulsion integration) providing a basis for vessel construction and integration into Digital Twin Platform.
- A platform for creating and testing DT's of SFAZ's integrating hull, propulsion, energy, route & environment,... Designers and operators can simulate performance to refine design and plan operations.



Benefits

- Ability to design, engineer, build, vessels that match the requirements of sailing in specific urban waterways and urban logistics

Main beneficiary:

Ship designers/builders; LSP's, shippers, who want their next vessel to be 100 % tailormade.

Zero-emission:
Battery Electric
Swap and floating
H2 cells

Propulsion

Teleoperation

Cargo capacity

Handling

Vessel platooning
Better PLC commands
Shallow water

Maneuverability

Rudder

Hull/Ship design

Awareness

Technology readiness level : **5**
Implementation stage : **Concept**

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**Would you like to know more?
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