



### MODULAR CONSTRUCTION DESIGN OF A COMPOSITE CATAMARAN BASED ON FIBRE4YARDS TECHNOLOGIES

#### **Partners: TSI**, CIMNE, COMPASS, CURVE WORKS, NAVAL GROUP, INEGI, IRURENA GROUP, LODZ UNIVERSITY OF TECHNOLOGY, 10XL, L-UP,INNOVATEKNEA, BUREAU VERITAS, IRT JULES VERNE

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The proyect FIBRE4YARDS

#### WP3: Catamaran Design

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# TSI

# **1. The Project FIBRE4YARDS**

Project Motivation Objetives Work packages

Partners

### **TSI** Project Motivation

The use of composite materials has a number of operational and structural advantages:

- Structural weight savings
- Lower maintenance costs
- Lower acoustic signature
- Savings in fuel consumption
- Longer service life





### The main objective is to maintain European global leadership in ship building and ship maintenance, through implementation of the Shipyard 4.0 concept in which advanced and innovative FRP manufacturing technologies are successfully introduced.





1. Introduction of smart and secure engineering, manufacturing and data sharing concepts.

2. Embedding advanced and highly automated FRP production, maintenance and dismantling methods.

3. Develop and validate new (digitized) engineering and analysis simulation solutions.

4. Facilitate the industrial deployment of the FRP Shipyard 4.0 by providing guidelines for design and production, certification and staff training.

5. Development of business plans and Intellectual Properties Rights (IPR) strategies for the shipyards.











## TSI 🚫

# 2. WP3: Catamaran Design

Catamaran design

Modular construction

F4Y technologies

# TSI SCatamaran Design





#### MAIN PARTICULARS:

32.6 m
32.6 m
31.8 m
10.44 m
3.83 m
1.44 m
(abt.) 68.5 t
(abt.) 22,0 Kn
0.581
0.6 m

## **TSI** Modular construction





#### **IRURENA - Stiffeners**

### Technology













#### CURVE WORKS – Curve Pannels assemblies

#### Technology











#### 10XL - Bow

#### Technology











### INEGI – Joint reinforcement

Technology









### NAVAL GROUP – Deck and assembly Technology







## 3. Demonstrators

Bow

Superstructure











# TSI Superstructure

- IRURENA Stiffeners
- CURVE WORKS Curved Panels
- NAVAL GROUP Deck
- INEGI

Joint reinforcement







# 4. Summary







### FIBRE4YARDS project

- Maintain European global leadership in ship building and ship maintenance.
- Introduction of advanced and innovative FRP manufacturing technologies.
- **Validation** of the results by the construction of demonstrators.









## https://www.fibre4yards.eu/

in <a href="https://www.linkedin.com/company/fibre4yards/">https://www.linkedin.com/company/fibre4yards/</a>

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