FIBRE composite manufacturing technologies FOR the automation and modular construction in shipYARDS

Fact Sheet

Project Information

FIBRE4YARDS
Grant agreement ID: 101006860

Funded under
SOCIETAL CHALLENGES - Smart, Green And Integrated Transport

DOI
10.3030/101006860

Total cost
€ 7 572 437,50

EU contribution
€ 5 941 720,01

Coordinated by
CENTRE INTERNACIONAL DE METODES NUMERICS EN ENGINYERIA
Spain

Start date
1 January 2021

End date
31 December 2023

Project description

New production technologies for the Shipyard 4.0

The EU’s shipping industry may be an economic giant in the European economy, but it still faces fierce international competition. Particularly for small and medium European shipyards, there is a need to find a balance between reducing production costs and increasing quality processes for the mass production of fibre-reinforced plastic (FRP) ship parts. The EU-funded FIBRE4YARDS project will develop a cost-efficient, digitised, automated and modular FRP vessel production approach, and will
implement it in a Shipyard 4.0 environment to increase EU shipbuilders’ competitiveness. Bringing together a highly skilled and complementary consortium, including SMEs and an FRP shipyard, will ensure the processes proposed can improve the efficiency of vessels in terms of energy consumption and maintenance costs.

**Objective**

To ensure global competitiveness of small and medium European shipyards, a step change is needed. The key to accomplish this relies on overcoming high production costs and low repeatable quality processes which currently inhibit mass production of Fibre Reinforced Plastic (FRP) ship parts. FIBRE4YARDS will bring a cost-efficient, digitized, automated and modular FRP vessel production approach to increase EU shipbuilders’ competitiveness.

FIBRE4YARDS’ objective is to match end-users’ needs with targeted advanced production technologies (adaptive molds, ATP/AFP, 3D printing, curved pultrusion profiles, hot stamping, innovative composite connections) from other competitive industrial sectors, and to transfer, adapt and combine them to improve FRP shipyards’ production and maintenance, in a Shipyard 4.0 environment. Real-scale demonstrators will be designed and manufactured to prove feasibility of technologies. Based on the targeted technologies, design and engineering of small/medium-length FRP vessels will be assessed using advanced computational tools. Compliance with the regulatory framework will be ensured, and the necessary personnel training will be provided. All within validated and viable business models targeting a circular and resource efficient maritime sector.

This will lead to an improved cost effectiveness of European shipyards and their supply chain, an increased turn-over and a growth of jobs with new 21st century skillsets. Consortium’s high number of SMEs and a FRP shipyard, facilitate direct exploitation in the targeted supply chain. A robust cost-benefit analysis for stakeholders, business plans for successful commercialization and market uptake will be provided, specifically recommending an adequate IPR protection strategy. Environmental impact diminution is achieved through weight reduction (less fuel consumption), recyclable materials, energy efficient production and addressing noise pollution. The 36 months project requests 5 941 720 € funding.

**Fields of science**

- engineering and technology
  - materials engineering
  - *composites*
- social sciences
  - sociology
  - industrial relations
  - *automation*
- social sciences
  - economics and business
  - business and management
  - *business models*
- engineering and technology
  - environmental engineering
  - *energy and fuels*
Programme(s)

H2020-EU.3.4. - SOCIETAL CHALLENGES - Smart, Green And Integrated Transport

Topic(s)

MG-3-7-2020 - Improved Production and Maintenance Processes in Shipyards

Call for proposal


See other projects for this call

Sub call

H2020-MG-2020-SingleStage-INEA

Funding Scheme

IA - Innovation action

Coordinator

CENTRE INTERNACIONAL DE METODES NUMERICS EN ENGINYERIA

Net EU contribution

€ 796 677,86

Address

C Gran Capitan, Edifici C1, Campus Nord Upc Sn
08034 Barcelona

Spain

Region

Este > Cataluña > Barcelona
Activity type
Research Organisations

Links
Contact the organisation Website Participation in EU R&I programmes HORIZON collaboration network

Other funding
€ 0,00

Participants (13)

THIRD-PARTY
UNIVERSIDAD POLITÉCNICA DE MADRID
Spain
Net EU contribution
€ 80 322,14
Address
Calle Ramiro De Maeztu 7 Edificio Rectorado
28040 Madrid
Region
Comunidad de Madrid > Madrid
Activity type
Higher or Secondary Education Establishments

Links
Contact the organisation Website Participation in EU R&I programmes HORIZON collaboration network

Other funding
€ 0,00

COMPASS INGENIERIA Y SISTEMAS SA
Spain
Net EU contribution
€ 457 625,00
Address
Carrer De Tuset 8 7 2
08006 Barcelona
SME: Yes

Region: 
Este > Cataluña > Barcelona

Activity type: 
Private for-profit entities (excluding Higher or Secondary Education Establishments)

Links:
Contact the organisation  
Participation in EU R&I programmes  
HORIZON collaboration network

Other funding: 
€ 196,125,00

---

**TECNICAS Y SERVICIOS DE INGENIERÍA, S.L.**

Spain

Net EU contribution: 
€ 623,910,00

Address:
Avda Pio Xii 44 Blo2 Esc Izq
28016 Madrid

SME: Yes

Region: 
Comunidad de Madrid > Comunidad de Madrid > Madrid

Activity type: 
Private for-profit entities (excluding Higher or Secondary Education Establishments)

Links:
Contact the organisation  
Website  
Participation in EU R&I programmes  
HORIZON collaboration network

Other funding: 
€ 267,390,00

---

**CURVE WORKS BV**
Netherlands

Net EU contribution

€ 205 979,38

Address

Rijndijk 229a
2394CD Hazerswoude-rijndijk

SME

Yes

Region

West-Nederland > Zuid-Holland > Oost-Zuid-Holland

Activity type

Private for-profit entities (excluding Higher or Secondary Education Establishments)

Links

Contact the organisation
Participation in EU R&I programmes
HORIZON collaboration network

Other funding

€ 88 276,87

---

NAVAL GROUP

France

Net EU contribution

€ 743 750,00

Address

Rue Du Docteur Finlay 40-42
75015 Paris

Region

Ile-de-France > Ile-de-France > Paris

Activity type

Private for-profit entities (excluding Higher or Secondary Education Establishments)

Links

Contact the organisation
Website
Participation in EU R&I programmes
HORIZON collaboration network

Other funding

€ 318 750,00
INEGI - INSTITUTO DE CIENCIA E INOVACAO EM ENGENHARIA MECANICA E ENGENHARIA INDUSTRIAL

Portugal
Net EU contribution
€ 723 062,50

Address
Rua Dr Roberto Frias 400
4200-465 Porto

SME
Yes

Region
Continente > Norte > Área Metropolitana do Porto

Activity type
Research Organisations

Links
Contact the organisation
Website
Participation in EU R&I programmes
HORIZON collaboration network

Other funding
€ 0,00

---

INDUSTRIAS QUIMICAS IRURENA SA

Spain
Net EU contribution
€ 488 180,00

Address
Carretera De Tolosa S/n
20730 Azpeitia

SME
Yes

Region
Noreste > País Vasco > Gipuzkoa

Activity type
Private for-profit entities (excluding Higher or Secondary Education Establishments)
POLITECHNIKA LODZKA

Poland

Net EU contribution

€ 195 400,00

Address

Ulica Zeromskiego 116
90 924 Lodz  🏠

Region

Makroregion centralny > Łódzkie > Miasto Łódź

Activity type

Higher or Secondary Education Establishments

Other funding

€ 0,00

10XL BV

Netherlands

Net EU contribution

€ 738 412,50

Address

Leerparkpromenade 50
3312 KW Dordrecht  🏠

SME

Yes

Region
West-Nederland > Zuid-Holland > Zuidoost-Zuid-Holland

Activity type
Private for-profit entities (excluding Higher or Secondary Education Establishments)

Links
Contact the organisation
Participation in EU R&I programmes
HORIZON collaboration network

Other funding
€ 316 462,50

---

L - UP SAS
France
Net EU contribution
€ 177 165,63

Address
Avenue De Friedland 32
75008 Paris

SME
Yes

Region
Ile-de-France > Ile-de-France > Paris

Activity type
Private for-profit entities (excluding Higher or Secondary Education Establishments)

Links
Contact the organisation
Participation in EU R&I programmes
HORIZON collaboration network

Other funding
€ 75 928,12

---

INNOVATEKNEA BUSINESS SOLUTIONS KFT
Hungary
Net EU contribution
€ 284 672,50

Address
Ulaszlo Utca 38. VI/4
1114 Budapest

Region
Közép-Magyarország > Budapest > Budapest

Activity type
Private for-profit entities (excluding Higher or Secondary Education Establishments)

Links
Contact the organisation
Participation in EU R&I programmes
HORIZON collaboration network

Other funding
€ 122 002,50

---

BUREAU VERITAS MARINE & OFFSHORE REGISTRE INTERNATIONAL DE CLASSIFICATION DE NAVIRES ET DE PLATEFORMES OFFSHORE

France

Net EU contribution
€ 85 312,50

Address
8 Cours Du Triangle
92800 Puteaux

Region
Île-de-France > Île-de-France > Hauts-de-Seine

Activity type
Private for-profit entities (excluding Higher or Secondary Education Establishments)

Links
Contact the organisation
Website
Participation in EU R&I programmes
HORIZON collaboration network

Other funding
€ 36 562,50

---

INSTITUT DE RECHERCHE TECHNOLOGIQUE JULES VERNE

France

Net EU contribution