HY2FISH – Zero Emission
Demonstrative fishing vessel

CC – Sud
WG Traditional Fisheries

Sevilla, 28 Abril, 2026

Juan Pablo Pérez Gómez
Project Manager - ARVI

Co-funded by
the European Union

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COOPERATIVA DE ARMADORES
DE PESCA DEL PUERTO DE VIGO

ARVI’s Role in Sustainable Fisheries

At ARVI, headquartered in the Port of Vigo, we represent over 150 associated vessels operated by 128 different fishing companies. We also host 5 Fishing Associations and 3 Producer Organizations (including OP4, present in the current meeting).

Our fleet operates across all the world’s oceans, positioning us as a key supplier of fish to major international markets. This leadership, both nationally and across Europe, allows us to actively contribute to the sustainable and competitive growth of the fishing industry.

In 2007, we established ARVI INNOVAPESCA, a dedicated R&D department that drives research to tackle the key challenges facing the fishing sector today.

What is HY2FISH?

Zero Emission Demonstrative Fishing Vessel Powered by a Hybridized system of Hydrogen Fuel Cell and batteries.

Retrofitting of an existing fishing vessel with zero emission technologies.

Policy Context

Energy transition of the EU fishing fleet

- European fisheries face growing pressure to reduce emissions and fuel consumption
- Most vessels are aging and difficult to replace
- CFP regulations limit the building of new vessels
- Decarbonisation requires retrofit solutions for existing fishing vessels

HY2FISH as EU initiative

- Call requested by the European Parliament
- Objective: demonstrate innovative decarbonisation technologies in existing fishing vessels
- Requisite: Work with existing 12-24 m. fishing vessel.

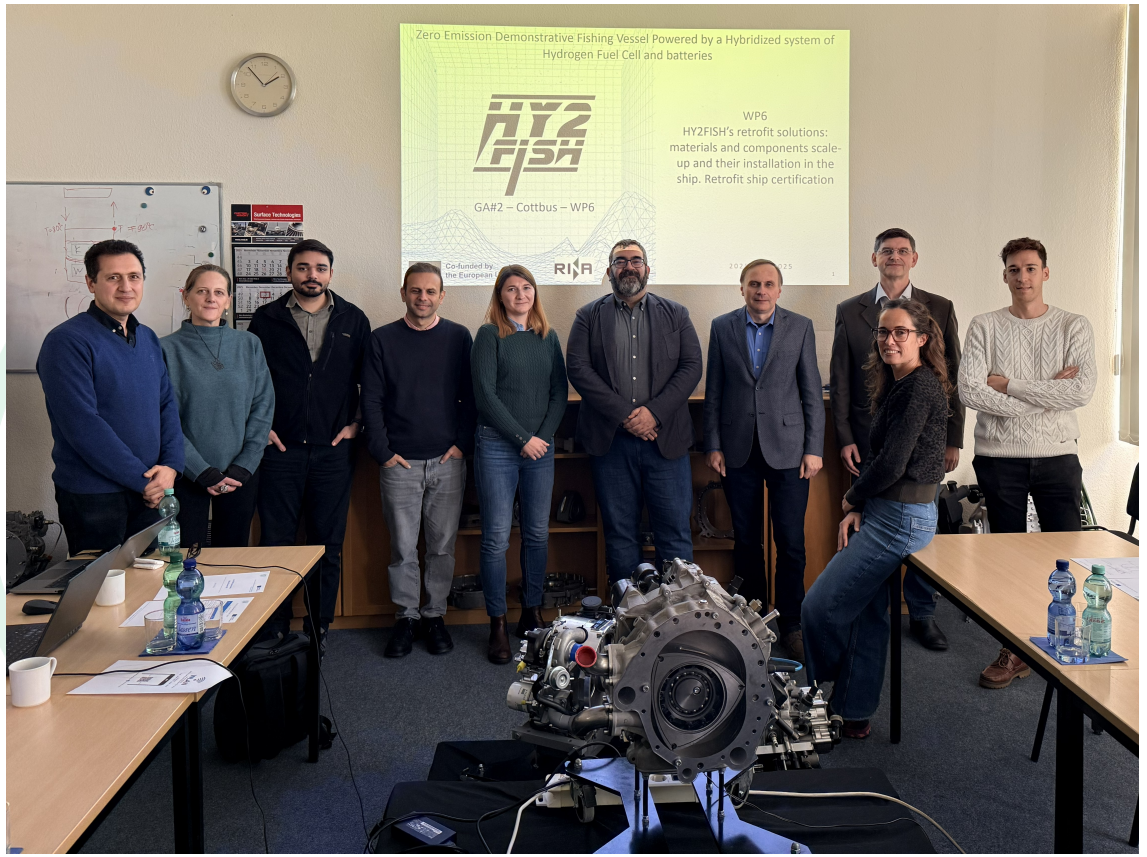
Co-funded by the European Union

EU pilot project funded under **PPPA-2024-FISHVESSELDEMO**

total budget of €2.2 million

3 years Project (2024-2027)

14 partners



Consortium leader:

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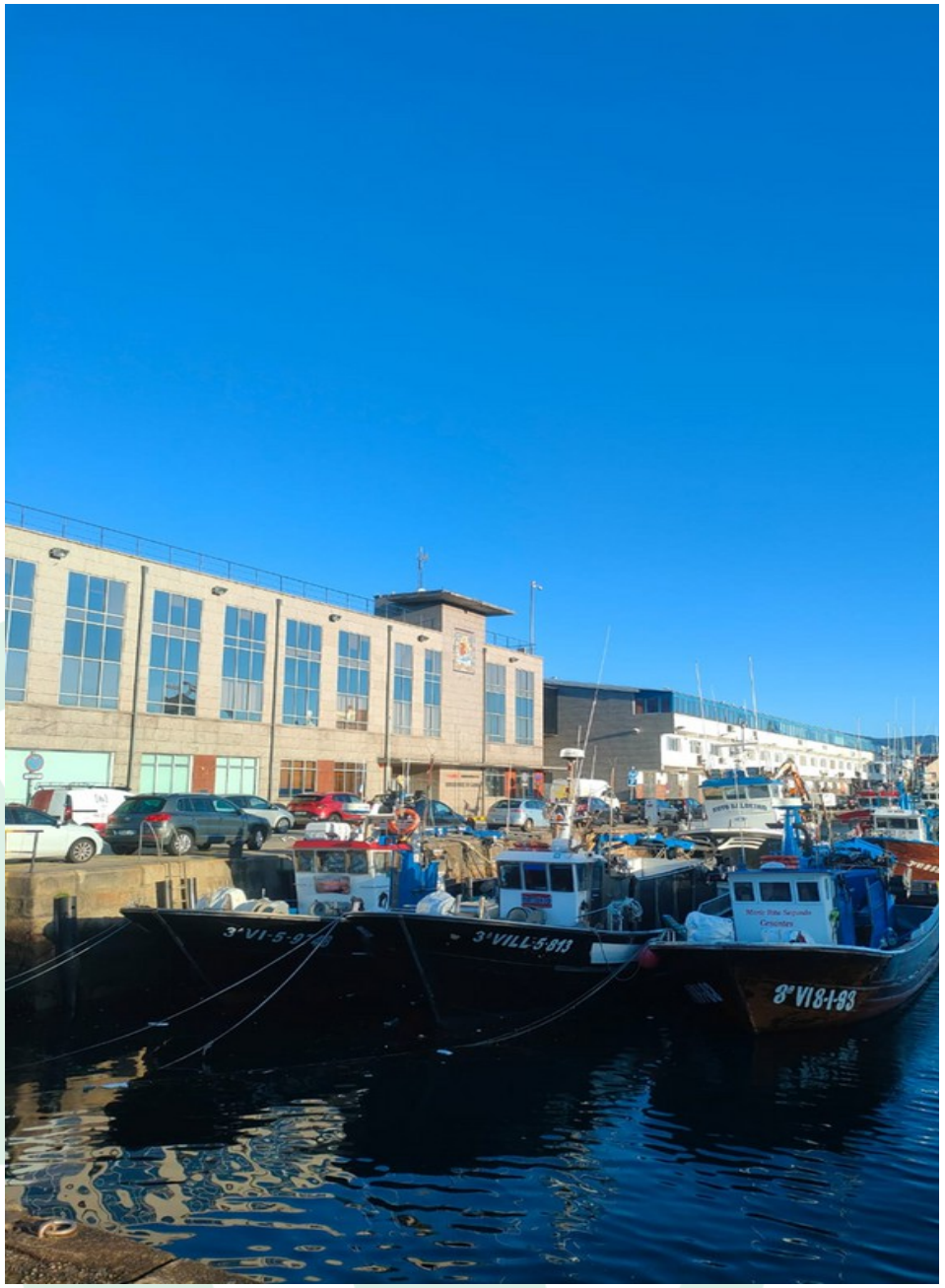


The HY2FISH Technology Concept

HY2FISH will retrofit an existing commercial fishing vessel to demonstrate hydrogen-based propulsion and validate decarbonisation solutions for the European fishing fleet.

HY2FISH focuses on scalable technologies with low CAPEX and easy deployment for fishing vessels over 12 m.

Key technologies integrated:

- Hydrogen fuel cell propulsion
- Battery energy storage
- Solar energy generation
- Smart energy management
- Hydrodynamic optimisation
- Sensors and digitalisation

Demonstrator vessel:
JULIA PICO *

** To be renamed*

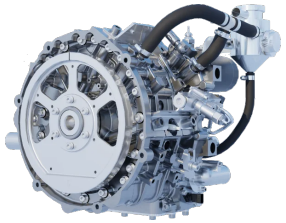
- Originally operating as a Mediterranean Fishing Vessel.
- Built in 1997 (29 years old; average age of Spanish fishing fleet is >35 years)
- In operation until June '25.
- Hull material: Fiberglass.
- Power: 85CV / 65KW
- Gross Tonnage: 8.6 GT.
- LOA: 12.64, BEAM: 3.55, DRAFT: 1.18 meters.

Hybrid Architecture

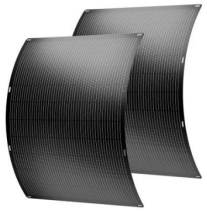
BATTERIES

ENERGY MANAGEMENT SYSTEM

FUEL CELL



GEN SET HYDROGEN ENGINE



FLEXIBLE SOLAR PANNELS

ELECTRIC ENGINE

HULL APPENDAGES FOR HIGHER HYDRODYNAMICS

OPTIMIZED PROPELLER

Expected performance

- Up to 40% fuel and GHG reduction
- Potential near-zero emissions

Requirements

- 10h. of autonomy to replicate fishing operations on the Galician Coast.
- Theoretically main gear: Purse seiner.
- Home port: Vigo (Atlantic coast, NW Spain)

#HY2

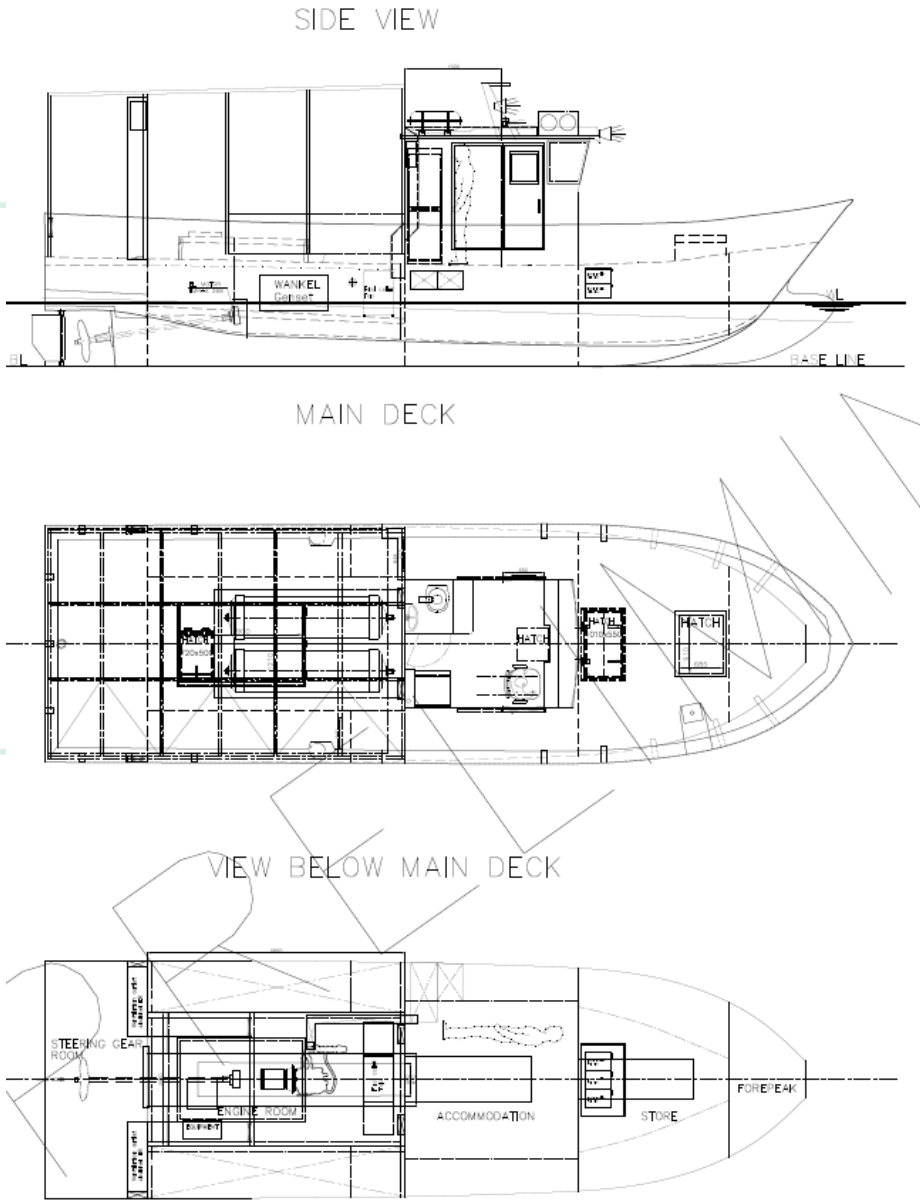
IMPLEMENTATION STATUS

Project progress

- Retrofitting design reaching completion at technical level
- Selection of key suppliers (fuel cell system, energy components)
- Hydrodynamic modifications under development
- Final vessel architecture under validation

Next phase

- Retrofitting works planed during 2026
- Demonstration and operational testing in 2027



EXPECTED IMPACT and REPLICABILITY

Environmental:

Reduction in emissions and underwater noise.

Economic:

Lower energy consumption and operational costs

Technological:

Validation of decarbonisation technologies for the European fishing fleet.

EXPECTED RESULTS

HY2FISH expects, in the short and medium term, to:

- Develop and demonstrate viable solutions for fishing vessels which improve the energy performance
- Increase knowledge on the challenges, benefits and impacts of different technologies to improve energy and emissions performance of fishing vessels
- Strengthen the understanding of the potential to adapt existing technologies in fishing vessels
- Raise possibilities offered to fishers to become more energy efficient and initiate the energy transition of fishing vessels

For more information:

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From pilot demonstration to potential fleet transition

Co-funded by the European Union

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