



INNOVATIVE TECH START-UP

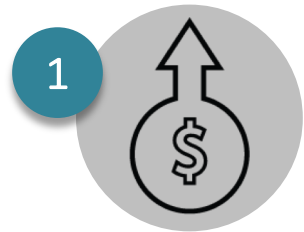
Acca Industries S.r.l

HYMOOV Device: FISHING



PROBLEM

FISHING VESSELS MAINTENANCE



1

Average fuel consumption - 20,000 LITERS / MONTH

The equivalent of 9 years of consumption for a car!



2

Fuel prices have increased significantly



3

Engine upgrade costs + €50,000

SOLUTION



LESS

- Fuel consumption,
- Combustion pollutants (NOX, HC, CO, PMX)
- CO2
- Carbon residue

Acca Industries s.r.l. has **developed and patented a hydrogen and oxygen production device** intended for use in endothermic engines, allowing significant environmental and economic benefits to be obtained. Solution which is part of a transitional phase where **current engines are “transformed” into less polluting engines.**



Experiences in the fishing sector



FERST PROJECT



FLAG "Costa d'Argento"

Municipalities : Monte Argentario, Orbetello, Capalbio, Isola del Giglio in the Grosseto province



Testing in operational environment

n°2 large tonnage fishing boats (22000cc engines)



Modernized fishing boats with primary engine Diesel



Reduction of consumption (-) 14,85%



CASA DEL PESCATORE



Casa del Pescatore

Soc.Coop a r.l. - Navy of Catholic Gabicce Mare



Testing in operational environment

No. 1 small ton fishing boat (4000cc engine)



Modernized fishing boats with auxiliary engines



Reduction of consumption (-) 16,49%



Photo showcases





PROGETTO F.E.R.S.T (Fisheries Energy Reduction for Sustainability in Tuscany)

Project start date: May 2023 - Expected conclusion: July 2023

Trial financed by the Municipality of Monte Argentario through the FEAMP

PROJECT GOALS

- **INNOVATION:** the HYMOOV device was installed on 2 fishing boats (22000cc engines) for an operational experiment which made it possible to collect data on the positive impact of the device on pollutants, Co2 and on the calculation of fuel consumption.
- The installation is made up of **3 HYMOOV devices for each fishing boat** (average for a standard fishing boat)
- **DATA EVALUATION AND CERTIFICATION :** All test data has been analyzed and then certified by certified organizations
- Certification of the installation process of the HYMOOV device in a marine environment: **RINA Marine division**
- White certificate issuance feasibility assessments: **Archita Engineering**
- **STANDARD ISO 22948:2020 CARBON FOOTPRINT:** “Carbon footprint for seafood – Product category rules (CFP – PCR) for finfish”. All data and documentation produced during the different phases of the project were analyzed. It is necessary to continue the experiment for more months (12 months of analysis by law)
- ISO 22948:2020 Carbon footprint **Consulenza e Risorse S.r.l.**



CASA DEL PESCATORE Soc.Coop a r.l.

Project start dates: October 2022 - Project conclusion: November 2022
Marineria de Cattolica Gabicce Mare – Soon a new experiment

PROJECT GOALS

INNOVATION: La Casa del Pescatore Soc.Coop a r.l. project- Marineria di Cattolica Gabicce Mare (around 1,000 associated fishing vessels) is an innovative experience that aims to reduce CO₂ emissions in the fishing sector through energy efficiency and to the valorization of catches in terms of sustainability.

The installation consists of **1 HYMOOV device on auxiliary engines** (standard fishing boat)

DATA EVALUATION AND CERTIFICATION : All test data has been analyzed and then certified by certified companies

Provision of the vehicle for the experiment: **Casa del Pescatore Soc.Coop a r.l.**

HYMOOV device: **Acca Industries srl**

Energy efficiency certification: **RINA Service MARINE**



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