eco-REFITec

SEVENTH FRAMEWORK PROGRAMME

# Eco-REFITEC project
# Eco innovative refitting technologies and processes for shipbuilding industry

Francisco del Castillo. Fundación Centro Tecnológico SOERMAR

The Greens | European Free Alliance in the European Parliament

**GREEN TRANSFORMATION OF THE SHIPBUILDING INDUSTRY**
Thurs. 28 June – Public Hearing, European Parliament

FUNDACIÓN soermar

# Content

- Eco-REFITEC background
- The Vision of Eco-REFITEC
- Eco-REFITEC facts
- Eco-REFITEC Objectives
- Project  Implementation
- Outlook

# Background

- Environmental impact of shipping and shipbuilding industry has been becoming more visible.
- European Shipyards facing the big challenge of continually reducing the environmental footprint of waterborne transport and operations.
- Meeting new requirements of environmental protection, resulting from tightening of the law, is a great challenge for the shipyards.
- Retrofitting options and environmental upgrades of existing vessels are expected to form an increasingly significant component of additional work within repair shipyards. Repair market is optimistic.

# Background

- Europe is well positioned in the ship repair segment but competition is fierce and not fare.
- Ship repair Industry is harmed by the lack of clear criteria for best available techniques. Supervisory authorities have difficulties in taking a decision about the use of the best available techniques by operators.
- To meet the future needs of the shipping industry the ship-repair sector must be prepared to carry out a new range of environmental related enhancement work.
- Urge to optimize management and enhance technical innovation to secure a safer position.

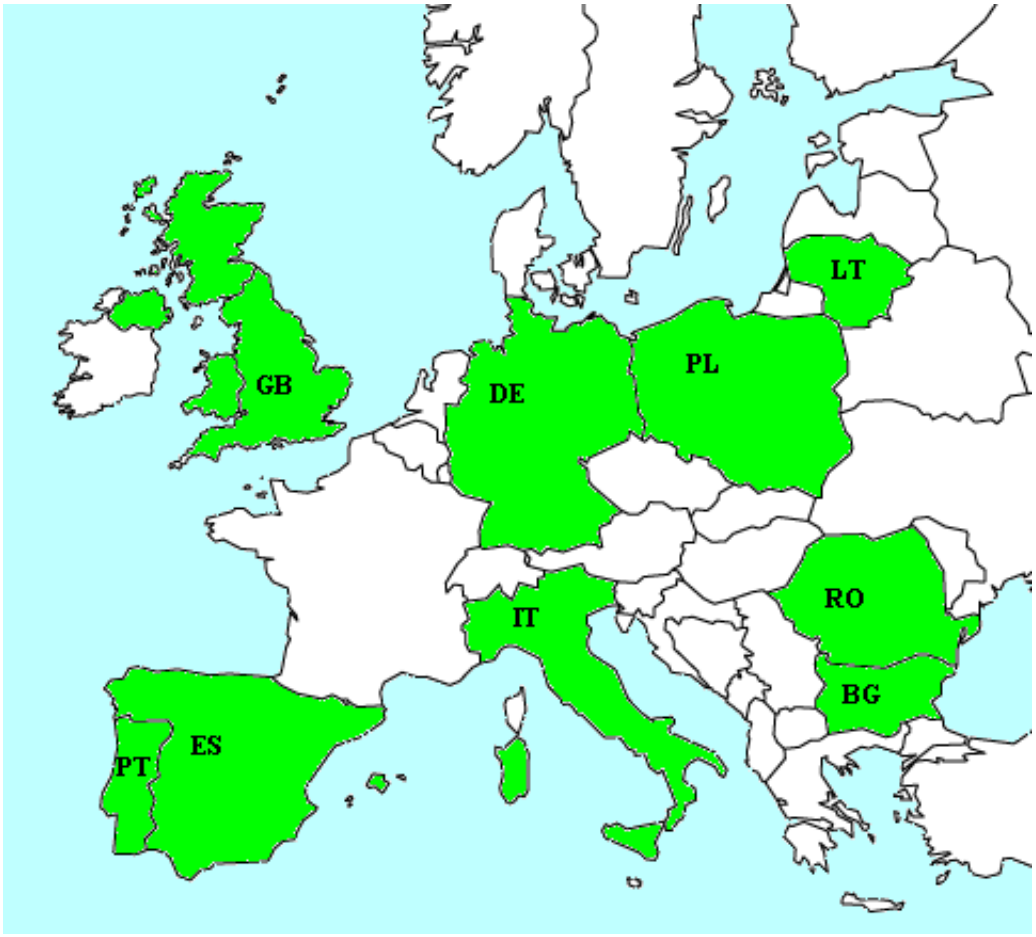
# ENHANCE RETROFITTING SHIPYARD PROCESS THROUGH ECO-INNOVATION TO STRENGTHEN THE COMPETITIVENESS OF THE EUROPEAN MARITIME INDUSTRY, AND IN PARTICULAR OF THE REPAIR SHIPYARDS

# Project Facts

- Eco-REFITEC is a 3 year collaborative R&D project, which started on the 1st January 2011
- Funded under the European Commission's Seventh Framework Programme (up to 2.5 million €)
- to Strength European competitiveness of the Shipbuilding Industry and to reduce the environmental footprint of waterborne transport and operations
- through innovative and cost effective processes. Especially in the area on Green technologies.

# Project Facts

## Project Partners




FUNDACIÓN soermar

ASTANDER Shiprepairs & Conversions

CTO S.A.

iSQ

Design Ship N C

SSA The Voice Of The UK Marine Industry

CONS.A.R.

atlantec enterprise solutions

University of Strathclyde Glasgow

ENP ESTALEIROS NAVAIS DE PENICHE SA

# Objectives

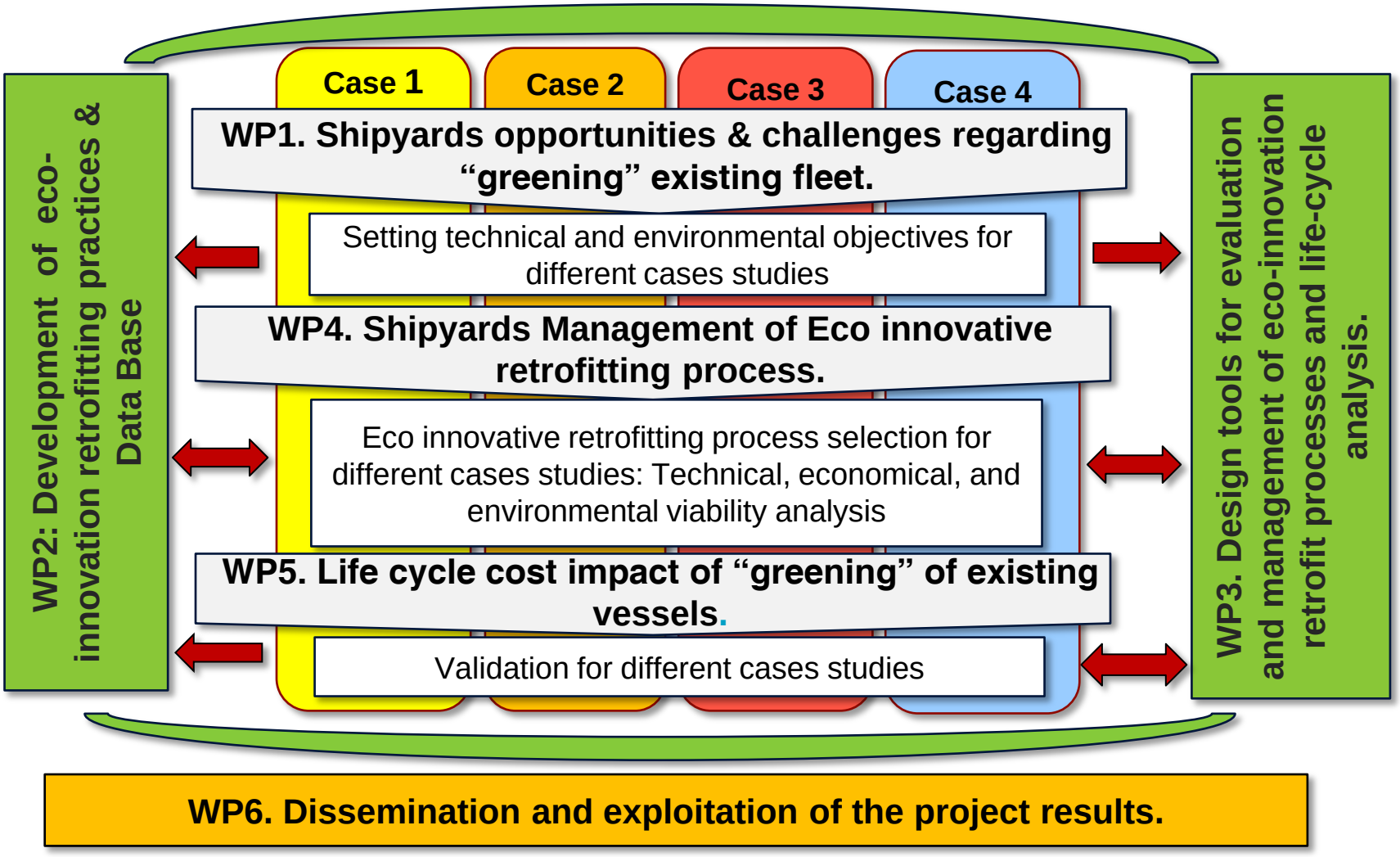
- Evaluate the introduction of eco-innovative processes, materials and modules in the repair and conversion and retrofit of ships.
- Support implementation of current and impending regulatory emission and pollution reduction measures in existing vessels
- Develop a life cycle view: including assessment of cost, safety, and environmental impact
- Emission assessment through IT tools on the planning stage of particular ship repair, retrofit, and conversion
- to develop a specialized package tools for enabling the involvement of SMEs in eco-innovation.

# Objectives

## Strengthening European competitiveness through exploitation of the potential of eco-innovation.

**In summary the Goal is to support repair shipyards and ship operators in performing a refitting of existing vessels through technological development and new tools, helping shipping benchmark their performance, improving the retrofit processes and products, and assessing environmental and life cycle cost impact.**

# Project implementation



# Project implementation Cases Studies

- **A set of case studies shall be applied across ship repair activities in order to develop eco-innovative technologies with a neutral environmental impact to comply with the new IMO regulations.**

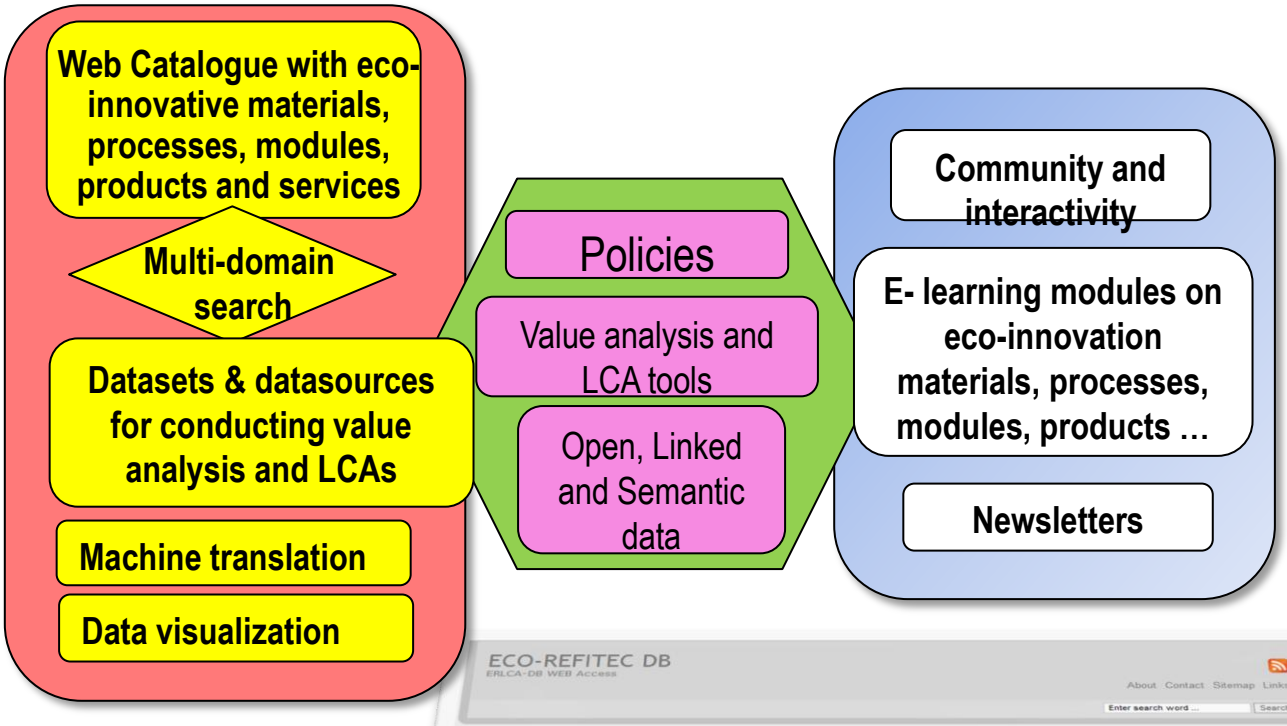
- **Development of cost effective solutions at least in the following areas:**

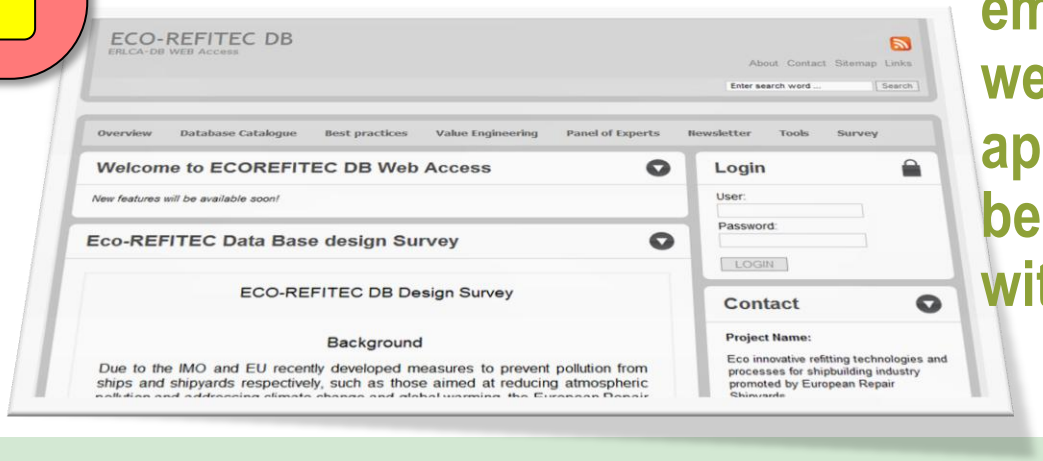
  - Emission control and
  - Ballast water management.

# Desired Benefits: Outlook

- **Eco-REFITEC expects to provide a significant progress in application of Information Technologies in the Repair Shipyards and SMEs, enabling the following novel methods, tools, and products:**
  - **An innovative method to analyse and optimize retrofit process, materials and equipments to be used in repair shipyards with respect to environmental pollution and availability;**
  - **the development of innovative software/frameworks: a Data base of eco-innovative retrofitting practices, a Life cycle cost performance model for existing ships after a retrofit, and a Retrofit Management performance model.**

# Desired Benefits: Outlook



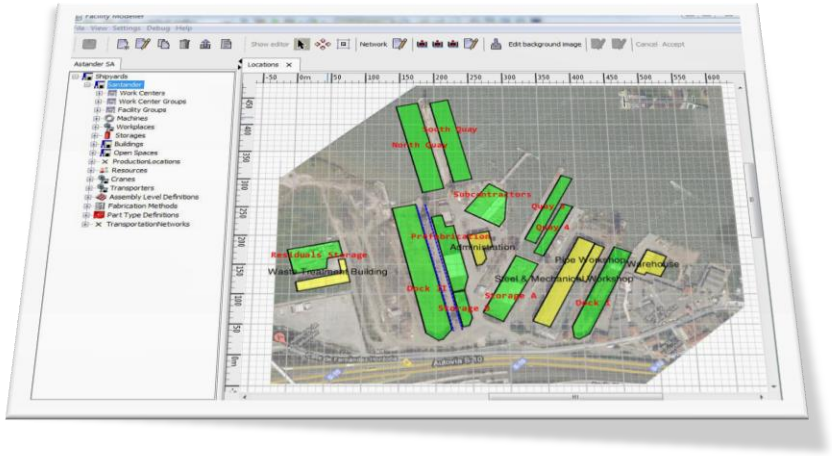




**Eco-REFITEC intends to "map" the eco-innovation knowledge.**
**A Data base of eco-innovation retrofitting practices, embedded in a web based application, is being developed within the project.**

# Desired Benefits: Outlook

- An IT model is being developed as a decision supporting tool, enhancing the retrofit selection of alternative cleaner technologies, materials and equipment. It will assist shipyards to meet the environmental standards, while additionally allowing for the estimation of the associated cost of the ship retrofit.

- In addition, a Life Cycle assessment module will help to evaluate the ship retrofit impact on ship life cycle economy, energy, environmental performance and safety.



# Desired Benefits: Outlook

**True benefit of the project will come from providing ship repairers, operators and SMEs with a tool to aid in the keen selection of a process or product, in order to favor the least environmental burdensome alternative, while additionally being able to assess the cost-effectiveness of each option.**

Visit www.eco-refitec-eu