



eco-REFITec



Eco innovative refitting technologies and processes for shipbuilding industry promoted by European Repair Shipyards

Public Presentation – January 2012

Part A: Project Overview

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- Eco-REFITEC is a “Small or medium-scale focused” collaborative project in the 7th framework programme of the European Commission
- Call ID: FP7-SST-2010-5.1.1 Improved through-life asset management through application of advanced production, retrofit and dismantling processes.
- AREA 7.2.5.1. Competitive industrial processes. The objective is to strengthen the global competitiveness of transport industries through **innovative and cost effective processes**. Especially in the area on **Green technologies**
- Topic is development and implementation of Eco-innovative Retrofitting processes and Life Cycle Strategies in Repair Shipyards using a new decision supporting tool.

- **Project Acronym:** ECO-REFITEC **Project Reference:** 266268
- **Project Name:** Eco innovative refitting technologies and processes for shipbuilding industry promoted by European Repair Shipyards.
- **Start Date:** 2011-01-01 **End Date:** 2013-12-31 **Duration:** 36 months
- **Project volume:** € 3.6m, of which €2.5m funding by EU.
- **Participants:** 13 organisations from 9 EU Member state representing Repair Shipyards, Ship repairs Associations, owner companies, software developers, and top research institutes and Universities.
- **Coordinator,** Fundación Centro Tecnológico Soermar, (SPAIN)
- **Dedicated site web:** www.eco-refitec.eu

■ Project Partners



- **“Eco-innovation”** is the introduction of any new or significantly improved product , process, material, module, equipment, organizational change ... that reduces the use of natural resources (improving the economic performance) and decreases the release of harmful substances across the whole life-cycle.” EIO (2010)
- **“Value analysis technique”** is a methodology which aims at optimizing processes, services or products through the development of alternative ways to provide the required functions at lower cost or with less environmental impacts.

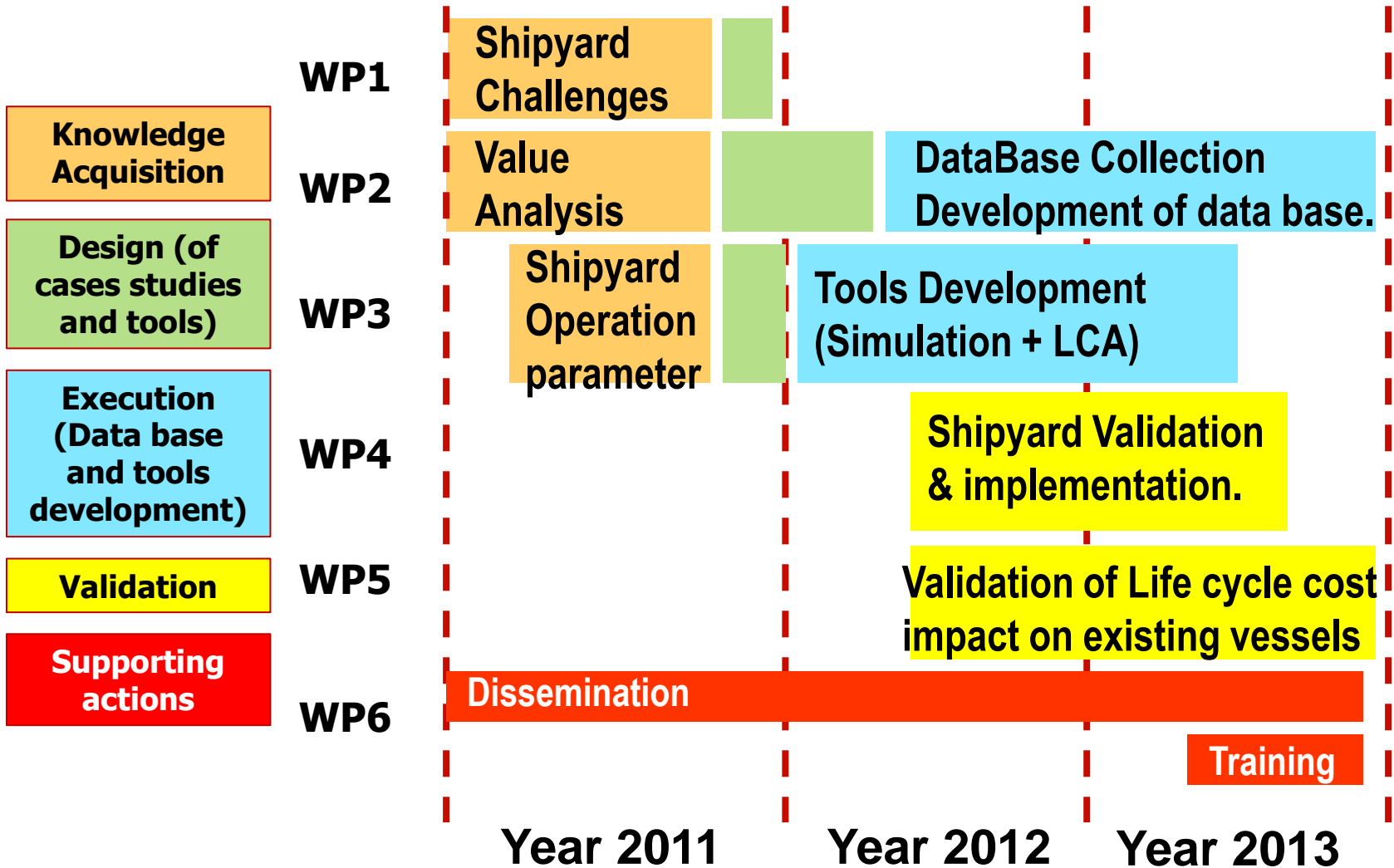
In the Eco-REFITEC project, this technique will be used to identify eco-innovative products, ... for a set of case studies.

- European Shipyards facing the big challenge of continually reducing the environmental footprint of waterborne transport and operations.
- Retrofitting options and environmental upgrades of existing vessels are expected to form an increasingly significant component of additional work within shipyards
- To meet the needs of the shipping industry the ship-repair sector must be prepared to carry out a new range of environmental related enhancement work.

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



- Evaluate the introduction of environmentally friendly and efficient materials and processes 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.



- **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.**
- **The research and the specific retrofit application design studies developed in this project will help to determine cost effective solutions at least in the following areas:**
 - Emission control and
 - Ballast water management.

- 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.

- **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.**

These last could take place through the life cycle of the retrofit, or even through the life cycle of the vessel, including operational parameters, after the retrofit alternative has taken place.

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