



SHIPLY

SHIP LIFECYCLE SOFTWARE SOLUTIONS



Example of a hybrid ferry as one of the ship case scenarios

SHIPLY (Ship Lifecycle Software Solutions) project aims to improve the competitiveness of the European SME shipyards by reducing the time and cost involved in ship design and production. It will result in a software tool that integrates early ship design tool with life cycle, environmental and risk assessment tools. The tool will support SME shipyards and design offices in responding to new building or ship retrofitting tenders.

The three-year Horizon 2020 project started in September 2016 and gathers a team of 12 partners.

Work completed

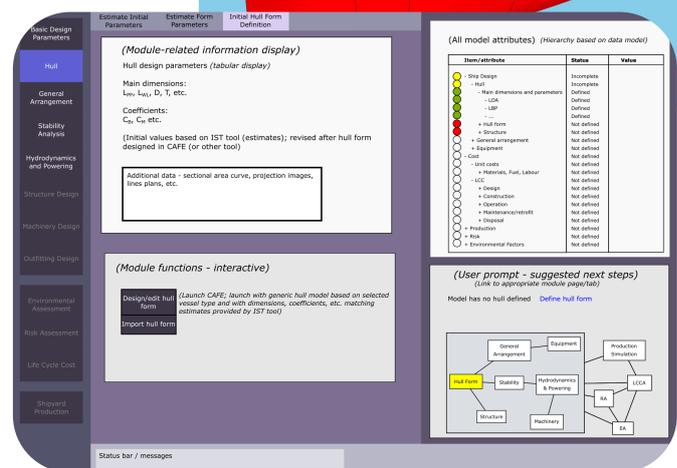
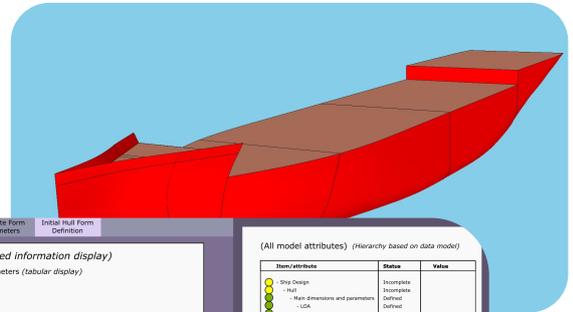
- Obtaining and analysing the end-users' needs using the Quality function deployment method
- Selecting the SHIPLY design scenarios and addressing their needs
- Collecting the relevant data and parameters for early ship design and LCA
- Selecting the existing software tools to be used within SHIPLY

Work in progress

- Software tools' integration
- LCA implementation

Following detailed analysis of various users' needs, it was decided that among others, **SHIPLY** will integrate at least:

- **IST tool** – concept design tool (IST)
- **RSET** – tool for compartment arrangement (BMT)
- **CAFE** – 3D design tool (BVB)
- **LR SEASAFE** – stability calculations (LR)
- **RulesCalc** – determination of scantlings (LR)
- **Topgallant** – shipyard production simulation software (AES)
- **LCT tool** – life cycle analysis (USTRATH)



SHIPLY platform GUI



This project has received funding from the European Union's Horizon 2020 research and innovation program under grant agreement No 690770.

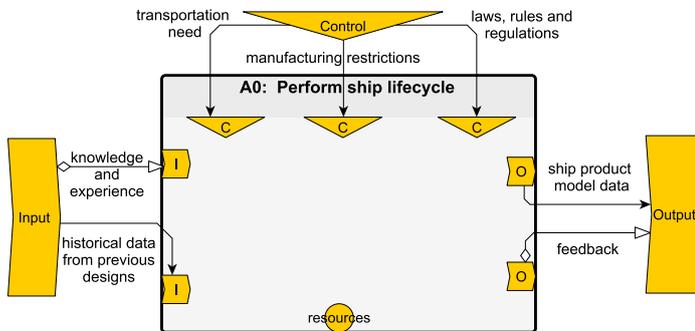
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ISO 10303 Application Activity Model as a process flow model applied in the SHIPLY platform

Three case scenarios

The functionalities of the SHIPLY tool will be tested through three relevant ship case scenarios:

- Optimisation of a novel hybrid propulsion system used in a short-route ferry
- Development of conceptual ship design with inputs from risk-based life cycle assessments
- Development of software to support early planning and costing of ship retrofitting accounting for life cycle costs and risk assessments

Publications

After the first year, project results were presented at International Maritime Association of the Mediterranean (**IMAM 2017**) in Lisbon, Portugal. Besides the project partners, the special session gathered members of the SHIPLY Stakeholder Advisory Committee where the following papers were presented:

- An overview of the project
- Three ship case scenarios
- SHIPLY end-users' requirements
- Investment cost estimate accounting for shipbuilding constraints
- Challenges with data availability and quality during LCCA calculations
- Framework for multi-criteria decision analysis
- LCCA on engine selection
- Refactoring early ship design methodology

Public project deliverables

Several project deliverables are completed and available to public:

- Selected scenarios
- Business case and ROI
- Existing approaches in shipbuilding industry
- SHIPLY model and data requirements
- Requirements for the integration of SHIPLY tools and existing tools
- Initial dissemination and business plan activities

Public deliverables and publications can be downloaded at: www.shiplies.com/library



Project partners visiting Ferguson Marine shipyard within 2nd Consortium meeting in Glasgow

Project Consortium:

