

INTERNSHIP VESSEL FOR THE FUTURE



INTRODUCTION:

Due to climate change, new applicable regulations in term of pollution emission and likely increase of the cost of fossil energies, vessel of the future shall innovate to go through this challenge successfully.

Considering this, PRINCIPIA would like to study preliminary development of what could be the vessel of the future.

SCOPE OF WORK:

The scope of work includes the 5 following tasks:

- ✓ Rule and regulation analysis in term of pollution emission
- ✓ State of the art and future propulsion solutions
- ✓ Review analysis of propulsion hybridization
- ✓ Energy independence and associated range
- ✓ Preliminary design of an innovative vessel

Rule and regulation analysis in term of pollution emission

Analysis of on-going applicable rules and regulations in term of pollution emissions as well as new regulations to be applied within the next decade.

State of the art and future propulsion solutions

Comprehensive market analysis of propulsion solutions and review of R&D programs dedicated to propulsion of the future. Review of associated constraints and technological issues to be solved.

Review analysis of propulsion hybridization

Based on the state of the art and future propulsion solutions, define how propulsion solutions can be mixed and what the consequences are in term of ship design and arrangement.

Energy independence and associated range

The vessel of the future should be as much as possible energy independent / self-sufficiency. Technological solutions and architectural design to decrease energy needs should be investigated as well as on-board self-energy generation to increase vessel range.

Preliminary design of an innovative vessel

Based on all work performed above, carry on the design of an innovative vessel of about 50 m long. The whole naval architecture process will be done (general arrangement, hull design, structural scantling, propulsion solution, weight estimates, stability, performances, 3D model of the vessel).

DELIVERABLES:

1 - Technical report including

- ✓ Documentation about the rule and regulation analysis
- ✓ Review analysis about propulsion solutions and hybridization

- ✓ Main assumption and design parameters for the innovative vessel
- ✓ Calculation outputs in the frame of the naval architecture process

2 – Preliminary general arrangement of the innovative vessel (AUTOCAD)

3 - 3D Model of the innovative vessel and associated 3D views (RHINO)

GENERAL:

Based in PRINCIPIA offices at La Ciotat (13) or Nantes (44).

To apply : job@principia.fr