PROJECT

S.D.S.

an innovative system for building hulls for recreational and work boats

Funding: European (Horizon 2020)

Duration: Jun 2016 - Nov 2016

Status: Complete

Total project cost: €71,429

EU contribution: €50,000

Call for proposal: H2020-SMEINST-1-2016-2017

CORDIS RCN : 204238

Objectives:

"The project S.D.S. Strength Distribution System, consists of the creation of an innovative system for building hulls for recreational and work boats. Currently boat hulls are made of considerable, almost uniform thickness throughout, while the forces acting on them are very different in their intensity, direction and the areas on which they are exerted. To simplify construction, the point that undergoes the greatest force is studied and everything is built based on those data. This leads to a considerable increase in weight where this is not necessary. The Strength Distribution System, on the other hand, is characterised by the construction of a thin exoskeleton in red cedar that follows the force lines acting on the hull, thus creating a kind of framework on which planking much thinner than traditional planking is applied. Everything is enclosed within two “skins” of vacuum impregnated carbon or fibreglass. The carbon skins so applied and thus distant from each other act with the strength of a beam, much greater than that of one plane.

For the same strength and rigidity, the tests done take us to weights 23-28% lower than a traditional hull. The saving in weight is fundamental because it increases the autonomy of the boat and its safety, reducing consumption and as a result its environmental impact. Because of vacuum impregnation, production costs are slightly higher than for a traditional hull. The boat market tries to reduce weights as much as possible, spending considerable amounts; the Strength Distribution System will be revolutionary because it does not act on materials but on the form. It faithfully reflects the innovative spirit of "Horizon 2020 Work Programme Smart, Green and Integrated Transport" at point 4 "Waterborne". The objective in phase 1 is to create a precise and detailed business plan which defines the technical, economic and commercial feasibility of the solution proposed in order to begin phase 2 starting from solid conceptual bases."

Parent Programmes:

H2020-EU.3.4. - Horizon 2020: Smart, Green and Integrated Transport

Institute type: Public institution

Institute name: European Commission

Funding type: Public (EU)

Lead Organisation:

Sam Sas Di Andrea Macciocu

Address:
VIA ORAZIO 49
39100 BOLZANO
Italy

EU Contribution: €50,000

Technologies:

Ship design and manufacturing
Hull design optimisation

Development phase: Research/Invention

STRIA Roadmaps: Vehicle design and manufacturing

Transport mode: Water transport (sea & inland)

Transport sectors: Passenger transport

Transport policies: Environmental/Emissions aspects

Geo-spatial type: Other