

Contribution ID: 63

Type: Paper

Proposal of a coastal ferry using last hybrid technology for green transportation in touristic areas

Wednesday, 15 June 2022 17:20 (20 minutes)

The coastal passenger transport in touristic areas like Costa Smeralda (Sardinia), Cinque terre (Liguria) , Costiera Amalfitana (Campania) , Venetian Lagoon (Veneto) and others, is constantly growing. At the same, time the sensitivity of authorities to the issue of environmental impact in those areas is leading the transportation companies to investigate technical solutions that can guarantee high volumes of passenger being as much as possible eco-friendly.

Hybrid or full electric passenger vessels are becoming more and more popular, starting from this assumption the authors examined the possibility to combine state of art technologies, with an innovative approach to match the propulsion system with hull resistance data, in order to propose a passenger ferry capable to operate in protected areas with an extremely low impact on the environment and taking advantage also from a basic energy distribution ashore. The usage of new generation batteries, with the highest safety standards, will be also investigated.

The paper starts from the determination of the operative profile for the ferry, evaluating the best solution in terms of efficiency and power management, considering the resistance data of various hulls, focusing on a traditional displacement hull, and then developing a study of the propulsion system through the usage of last generation generators with variable speed and batteries different from traditional Li-Po, in order to achieve a high efficiency level.

Primary authors: Dr REPETTI, Gian Piero (Vulkan Italia); Mr ZANGRANDI, Matteo (Vulkan Italia); Prof. RUGGIERO, Valerio (University of Messina)

Presenters: Dr REPETTI, Gian Piero (Vulkan Italia); Mr ZANGRANDI, Matteo (Vulkan Italia)

Session Classification: 3B

Track Classification: Environment protection and ship energy efficiency