



TRA Visions 2014

Project Abstract Template – This template is to be used for submitting an abstract explaining what your idea is all about. It should be no more than a few paragraphs and should be submitted by the 30th of November 2013.

Idea Number: z1F30rMj

PILLAR / TRANSPORT MODE	
ROAD ☐	RAIL ☐ MARINE x ☒ CROSS MODAL ☐
Project Related to:	☐ RA1: Environment and Energy ☐ RA2: Industry Competitiveness ☐ RA3: Logistics and Mobility Systems and Services ☐ RA4: Safety and Security x ☒ RA5: Transport Infrastructures ☐ RA6: Transp. Policy Res./Socio-econ./Human sci. ☐ RA7: Vehicles & Vessels Technologies

Project Abstract:

The aim of this project is to evaluate the potential success and feasibility of a Catamaran Cruise Ship. A critical approach is taken to analyse a range of influencing factors relating to technological operation and economic performance in a twin-hulled design.

Since the 1980's the number of new build cruise ships has increased significantly. The Cruise Lines International Association (CLIA) predicts that in 2013, there were 21 million passengers globally. This growth is forecasted to reach 36 million passengers in 2025. To accommodate this expansion, 5 new cruise ships would need to be built in 2014, with a further 9-13 new builds entering the market every year till 2025. In 2011, the Cruise industry generated an unprecedented €36.7 million for the European economy alone with 5.6 million passengers departing from Europe.

This project considers the volumetric advantages provided by a catamaran vessel for a large cruise ship. The catamaran provides the same volume as a conventional monohull cruise liner at a lower length. This application opens a new market, offering every passenger with a large seaview cabin at no extra cost. As well as this, the combination of large deck space and considerable transverse stability provide greater passenger comfort. With a large GM and

considerably lower motions than a monohull, this could permit higher accommodation. To consider the effects of different hullform designs on the overall performance, different geometries are considered including Round bilged, Wave piercing and Deep Vee hull shapes. The Catamaran Cruise Ship is also shown to be considerably safer in a damaged condition compared to that of a monohull vessel, this gives this design yet another competitive edge. As well as this, the aim is to provide an exciting new design which can address various openings in the current market. The final design will be optimised for manufacture in European shipyards.

