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Presentation title:	<b>Alisea - Electric Hybrid Power Catamaran Yacht</b>	
<p>The target of this paper was to investigate the employment of advanced and eco-friendly modern propulsion solutions in the cruising yacht industry, in order to achieve low emissions and carbon footprint, access to environmentally restricted marine zones, increased comfort levels for the guests as a result to silent and electric propulsion, as well as the interaction of all these design requirements with the need to provide a fresh, contemporary and harmonious exterior and interior design language in conjunction with efficient and functional space planning. After thorough research of various hull geometries and their characteristics and new and alternative propulsion combinations, we settled into the concept of a hybrid power catamaran. Regarding the multihull geometry, we chose a catamaran because of the particular benefits that this geometry presents on the subjects of stability, low draft, minimal wetted surface and consequently lower drag and better maneuverability. Concerning the hybrid propulsion system, we designed it around four diesel gensets that provide electric energy to two Voith Inline Propulsors, one under each hull, that provide propulsion and steering. Complementing this setup, we decided to use a number of batteries in order to be able to store energy either from the gensets or from shore power and use it for silent electric propulsion in particular occasions for example leaving or entering port or through pristine marine environments. Further energy can be accumulated from the solar panels designed into the sundeck, while the dedicated sky sail can be used in certain wind conditions to reduce further the energy consumption of the yacht, and the whole energy and propulsion system is to be controlled through an advanced Automation and Power Management System. Both the hull geometries and the propulsion units and solutions were then introduced into the design of a prototype yacht designed to host 12 guests and 8 crew and perform Mediterranean and Caribbean cruises. Both the passenger requirements, the environment designed to perform into and the above mentioned propulsion system were used as guidelines in order to produce a 49 m yacht that is luxurious to travel and reside for the guests, efficient to work into for the crew, highly energy efficient and with a number of intelligent spatial, functional and ambient characteristics.</p>		

CV:

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Scholarships: **2015, Neraida Floating Museum**

**Publications:**

Tsokos - Pappas, Andreas, Nichelli, Mario, Poggi, Laura, Bonomini, Matteo Silva, and Mazarakos Thomas, P., (2017). «Alisea - Electric Hybrid Power Catamaran Yacht», **International Conference: Energy in Transportation 2017** (EinT 2017), 21 October, 2017, Athens.

Tsokos - Pappas, A., Giftopoulos, S., and Mazarakos, T., P., (2015). «Conceptional and Practical Ship Design of a Hospital Ship- An architectural approach of a conversion from ferry», **18th International Conference on Ships and Shipping Research** (NAV 2015), 24 - 26 June, Lecco, Italy.

Tsokos - Pappas, A., Giftopoulos, S., and Mazarakos, T., P., (2015). «Conversion of ferry to hospital ship: An Architectural approach», **1st International Conference, Energy and Environment in Ships** (EEinS), 22- 24 May, 2015, Athens.

**Exchange Programs: 2017**, Cruise Ship + Super Yacht Interior Design International Exchange Program, Florida International University and University of Genoa

**Exhibitions: 2016** , Design X Designers 2016, Salone del Mobile, Milan