

DESIGNNOBIS

CREATIVITY IS OUR BUSINESS

Designnobis is an award winning design consultancy firm with a visionary approach on product design. Founded in 2006, we have ranked among top industrial design firms by achieving 45 design awards only through 5 years.

Specializing in product development and brand identity, we help our clients to differentiate in market by creating products and services with strategic value. We handle design services from research and concept development phase to prototyping and production process.

Acting upon the creativity and interdisciplinary teamwork that product development process requires, we aim to become a sustainable innovation center. Our skills include product design, space design, strategy development, brand identity, prototyping and graphic design.

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FOSCAT 32 (folding solar catamaran)

Hybrid marine technological improvement is one of the best systems that compromise between sun and wind powers by reducing CO2 almost to zero during sailing. The system also contributes to renewable energy by using sailing, as well as, solar power and wind energy in seaworthy manners. Future Transportation is a fascinating compilation of material and energy which explores and defines the way the future is imagined in the present and tries to answer that ever more pressing question of how we move forward.

The design objective of the FOSCAT was to create a new and alternative sailing vessel that would achieve a lightweight system, high sail performance, and all-weather navigation capacity with near zero emissions. Additionally, a requirement was to use technologically innovative materials and new construction techniques to minimize weight and hydrodynamic resistance whilst maximizing performance and durability. These technical requirements were to be incorporated into a new form that allowed freedom of all dynamic parts whilst providing visual appeal and overall quality into a non-stop circumnavigating.

Following an exhaustive research and design activities, the NEW double-layer fiber resin solar CATAMARAN completed in 2009. The FOSCAT (folding solar catamaran) is designed (32' length & 52' high) at very highest calibre which provides high exhilaration performance and unashamedly fast sailing solutions. The FOSCAT is a new alternative concept cat sail-vessel that consumes no fuel with high energy efficiency. Instead, she uses alternative energies and one of a new alternative symbol of raising awareness about sustainable use of resources on the sea.

She has 95 m2-double layer solar panel that sails on the main mast which harness two DC electrical engines that are placed in the hull. The new designed propellers give her an extra strength and allow her to reach ultra high speed during navigating and sailing. The FOSCAT is one of the newest symbol of hybrid sail vessels which provides total carbon free sailing, with high speed navigation.

Yet she can easily be handled, not the professional ones. As well, she can handle any weather conditions within high capability of sailing flexibility. The hulls are constructed on an effective legendary fiber moulding technique which is one of the long lasting solution for its kind. This technique not only gives an incredible flexibility and resilient, but also provides a dynamic stability. The hull shell is made from a composite of double layer carbon fiber and epoxy resin. In addition, the hull body is laminated as a carbon-foam core that is to create a carbon symmetric sandwich panel. This method creates a lightweight, stiff and highly durable composite body structure and it is well suited to the required organic forms. The body is finished with an epoxy primer coat. Additionally, she provides ultra-violet resistant coating above the water line.

The dual-face of moving solid sail harness combines the two of the most abundant sources of energy in nature: solar and wind power. The use of wind power makes it possible to sail uninterrupted throughout the day and night. Double layer solar cell panels –which can be defined as high performance flexible photo-voltaic panels are placed on both sides of the main sail. The solar cell panels charge the small batteries to power the electric motors (DC 2 x 4 HP) and drive the tubular side propellers.

The motors on both sides of the boat are placed in such a way that navigation performance is maximized. The vessel can easily be “u-turned” by using the two DC motors with backward and forward action so as to turn around a point.

The unique hull shape of the FOSCAT makes light work of big waves even smoother and smaller. Hence, the FOSCAT is able to put many larger cats in the shade. The hulls incorporate skegs rather than dagger boards, which beaches the cat in safer and simpler waves. In addition, the lightweight folding hulls are easy to handle ashore and require virtually no maintenance. The FOSCAT is one of the first folding cats which can easily be folded on docks and on any sand shore. She can easily reduce the wind profile during docking and well landing the hulls can be easily retracted with folding rudders and mast.

The rig has been kept relatively simple. This allows the Foscat to be quick and easily rigged and de-rigged. In high winds, mainsail reefing is an option and the jib can be furled in seconds.

All fittings on the FOSCAT provide supreme efficiency and outstanding durability. The controls from raising the mainsail and jib are designed to handle the main sheet loads to be geared smoothly so that young or lighter crew can handle them comfortably in up to a force of 4-5. The rudder system is shared with many of the top end racing cats. This has been tried and tested at extreme levels.

All in all, owning the FOSCAT catamaran is a plain sailing for an extremely wide range of ages and abilities - and what an incredible sailing it would be!

Finally, sailing should be a recreational activity that has no adverse effect on the environment. By drawing an attention to its dual eco-powered and non-polluting attributes, the FOSCAT increases users’ awareness of environmental problems. She is a new generation cat-boat which encourages increased environmental responsibility that is due to the fact of its secure, stable, eco-friendly and outstanding design capabilities.

Youtube link for the projects video;

<http://youtu.be/ekTMnezoBXU>