topdeck

DIXON yacht design

Tomorrow’s Yachts Today

Issue 7
Our theme for Topdeck this year is to showcase some amazing projects and concepts the team has worked on over the last year.

While most of the projects are the result of commissions, we decided to have some fun as a team, creating ideas and concepts for future designs for the upcoming 60 metre sailing yacht in the centre spread of this issue that we hope we will see sailing in the not too distant future. For me, the resulting 80 metre sailing yacht is the exciting outcome. A design that we hope we will see sailing in the not too distant future.

This past year has been particularly interesting, working with clients that are willing to embrace our vision of future Superyacht design trends. One particular project personally excites me, the Sencora 52m long range motoryacht, a sneak preview of which has been included in this Topdeck. A design which you will see more of in the coming year.

I am fortunate to work with a multi-talented team of Yacht Designers and Naval Architects, with the range of disciplines required to undertake the complexity of tomorrow’s Superyachts. Their experience and expertise forms the solid backbone of Dixon Yacht Design.

Recognised as one of the world’s premier production boat design companies, we are delighted that we have signed two major European motor boat builders this year. If one boat this year has shown more than any other our understanding of production design and future trends in yachting, it is the universally lauded Moody 45DS.

‘La Luna’ 73

Fast, stiff and strong, and she is a corker! - just two of many favourable comments made by the owner of King 73, ‘La Luna’ shortly after her launch in Buenos Aires.

Built by King Marine, she is no ordinary cruising yacht. ‘La Luna’ has all the luxury, but in her performance this sets her apart from her contemporaries. Usually she has composite rigging increasing her ability to carry sail and hence further improve performance. Reduced weight aloft decreases pitching in a dynamic situation and increases comfort in a seaway.

Skipper briefing

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With naval architecture by Dixon Yacht Design, the recently launched Peri 37 metre is the latest in a series of successful collaborations between ourselves, Scaro Design who are responsible for styling and interior design, and the builder Peri Yachts. Work is already underway on the larger tri deck 41 metre, with the hull design and tank testing program already completed.

Launched at the 2007 Fort Lauderdale Boat Show, the Johnson 103 has been a great sales success. Dixon Yacht Design is responsible not only for the complete design, but also for the strong unique styling and brand identity of both the 103 and the new 125. This trademark of wide beam, distinctive styling and an interior layout comparable with much larger vessels.

Our latest collaboration with Royal Denship is this 120 foot semi planing tri-deck composite design. With two examples already sold the yacht is destined for success and shows the tremendous benefits of Dixon Yacht Design and Royal Denship working together in the same 3D virtual environment; a collaborative success, not just in the execution of the design but also in the modern build process.
The ultimate “Open” design, with emphasis on performance, sleek modern styling at the expense of maximising interior volume. Long and slim in design for speeds in excess of 30 knots with triple or quadruple MTU high performance diesels.

80 metre fast motor yacht

A new concept for long range cruising the Sencora composite motor yacht marries aspects of both modern sailing and motor yacht design. Efficiency is the main criteria; although under 500GT the long lean hull waterline length is 52 metres, maximising speed potential and enhancing comfort and rideability. An interior with the owner on the lower deck and the large and uncluttered living space which offers 360 degree visibility is more akin to a large flybridge sailing yacht.

80 metre fast performance yacht

The Dixon team’s creative energies have combined to produce this 80 metre yacht concept. Distinct and unique, it renews today’s flybridge yachts into a larger fully groundbreaking new design: modern, sleek and sporty with amazing accommodation.

Sencora 52 metre
Two very different takes on 83 foot cruising yacht design. The Open 60 inspired design was produced for a client requiring a yacht with off wind speeds more akin to a modern cruising catamaran. By contrast, the Seavista 83 provides motor yacht styling and levels of comfort in a sailing yacht. The Seavista could easily be the expedition yacht of the future with long range capabilities under both power and sail. Concepts have been developed for 100 and 120 foot versions.

The Opus 68 is the first in a line of high quality German semi production sailing yachts. Classically styled outside, the warm and welcoming interior has been crafted by interior designer Alv Kintscher. With a thoroughly modern underwater profile, the Opus 68 is a perfect example of how classic styling can be had without sacrificing usable internal volumes.
Production Design

The last 12 months have been our most successful in terms of the number of production motor and sailing yachts design commissions.

We have forged new collaborations with major European powerboat builders; one is a new range for Norwegian builder Windy. The groundbreaking Moody 45DS, launched to worldwide critical acclaim typifies our creative design talents. Already selling well, we are developing further DS models for Hanse Yachts, as well as the modern classic Moody Heritage series.

Research and Development

Research and Development sits at the heart of our design evolution, explains Anders Berg, Dixon Yacht Design’s Principal Architect. With a continual investment in R & D, the client is able to relax, safe in the knowledge that their project has benefited from this experience and design ratification. There are 4 main areas of investment:

Computational fluid dynamics (CFD):
This is the use of numerical techniques to solve equations defining fluid flow around and between bodies. CFD is becoming more affordable and useful to designers and with the advancement of computer technology, the time to process the colossal amount of data has been reduced. This technology can be used to predict and improve the performance of potential design candidates, such as a keel or rudder design.

The year CFD carried out a CFD study on the flow around a lifting keel with particular interest centred on the junction between the fixed stub keel and a the lifting fin. Using CFD, several winglet designs were investigated in a bid to reduce the drag and improve the flow between the two sections of the keel.

Tank testing:
Tank testing has been used to evaluate hull design since the late nineteenth century. This technology has improved from using rudimental spring gauges and string to the exacting science it is today. Tank testing is used to evaluate and ratify the performance characteristics of motor yacht and sailing yacht hulls. A test matrix would be devised to cover a range of motoring conditions and in the case of sailing yachts a range of heeled and yawed conditions appropriate to sailing to windward and close reaching. The aim of the test will be to produce the upright, heeled and induced components of drag for use in a VPP (Velocity Prediction Program) whereby calculations of the resistance can be estimated at conditions other than those tested.

Free running evaluation:
Although you might think that this is an excuse for the designer to go and play with radio controlled models, free running tests allow the opportunity to assess the vessel manoeuvring characteristics in a dynamic situation. Of particular interest would be the vessel turning circle characteristics and the dynamic and directional stability in both full sail and waves.

Wind Tunnel testing:
The obvious application would be the investigation of the sail configuration, sail balance and sail shaping forms. The recorded sail lift and drag coefficients would be input into the VPP together with the longitudinal and vertical centre of pressure locations so the full spectrum of sailing performance can be assessed.

There are many applications for motor yacht design, for example the flow characteristics of engine room exhaust, navigating superstructure ventilation grills, which, if incorrectly designed could seriously compromise your enjoyment of your yacht.
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