

GUEST SUITE



Four guest commentators present frank yet considered opinions on design-related topics of their own choice.



CONVERT OR REFIT? THIERRY VERHAAREN

Thierry Verhaaren is a chartered engineer who studied at the Ecole Centrale de Nantes. Formerly head of naval architecture with Constructions Mecaniques de Normandie in Cherbourg, he designed *Destriero*, fast missile boats for the Kuwaiti navy and 70-metre missile corvettes for the UAE navy, as well as managing the design of hydrographic ships, fast passenger vessels and private yachts. He created Verhaaren Naval Architects in 2004 and is presently working on two projects of 53 and 47 metres in build at Abu Dhabi Mar.

In naval industry jargon, a 'conversion' designates a commercial or naval vessel converted into a yacht and 'refit' means the upgrade or modification of an existing yacht. Designing for conversions or refits is a specific art, which requires a lot of understanding and adaptability.

When choosing the basis for a conversion or refit, the original hull must have 'potential' for conversion. This means that aside from having the required size and volume, it should have elegant and well-balanced lines. The naval architect/designer should be involved from the very beginning to give advice on the feasibility and to propose a few early outlines and general arrangement sketches, together with budgetary considerations. This preliminary design phase should be performed before buying. A cheaper hull is not necessarily a better hull—it might be more cost effective to acquire a more recent vessel in good condition and with modern equipment, rather than having to fit new equipment with all its additional piping and cabling into an older hull. Many well-built commercial vessels are now on the market after having had their career shortened by the present economic crisis.

An initial survey should be performed carefully to examine the general condition of the hull and superstructure, including checks on corrosion and plating thickness. The equipment should also be examined for dilapidation or obsolescence, as well as for its general condition and the availability of spares. Control commands and electrical or automation systems are often outdated and impossible to maintain with a reduced crew. It is also important to check for the presence of any asbestos, as well as collecting as many construction drawings as possible.

The height between decks is an important decision factor for keeping or scrapping. Modern yachts require a lot of space between decks to accommodate a silent and efficient air-conditioning system, cabling, piping, lighting and entertainment systems. Commercial vessels generally present minimal accommodation areas with small cabins and a general re-organisation of the living space is often necessary to open up large areas for dining, lounges and other recreational areas. This implies re-locating piping networks, cabling, etc. The owner's requirements and available space should be balanced to decide what to keep, where to cut and what to scrap. The cost of dismantling should not be underestimated.

The project should consider the weight and stability of the vessel. The natural temptation is to add covered areas, cranes, tenders, a Jacuzzi, antennas, and the like, which all increase the weight and windage area, thus raising the centre of gravity and affecting stability. The inevitable weight increase should be controlled to respect the scantling draught, the required performance and ultimately the freeboard height. Safety aspects such as fire control and evacuation are also key considerations in redesigning the interior arrangement. The designer's skill should charm the owner, yet preferably retain the general outline and style of the vessel—this is all about customising old bodywork—so that the ship's new style accords with the remaining hull lines. An Aston Martin's body on a Hummer chassis is unlikely to be the best option.

Fairing the hull and superstructure is already an expensive and time-consuming business on a new build and the owner must decide if he wants to compare his yacht to the latest new builds, or retain its conversion status. Old hull plating is most often deflected by the vessel's past life at sea and is likely to move again after conversion. If faired and painted, the owner would be wise to budget for new paintwork after a few months at sea.

In most cases, the main motivation for an owner to undertake a conversion is because it allows for a larger yacht at a lower cost and within a shorter time schedule. Nevertheless, potential owners of conversion yachts should bear in mind that the cost of building the metal structure of a yacht is only about 15 per cent of its overall cost, and this is the maximum saving that they can reasonably hope for if they want superyacht quality. The other side of the coin is the loss of flexibility in the design due to existing architectural constraints and a budget that is less easily pre-determined. The alternative is to accept lesser superyacht quality and to benefit from the large hull volume that most commercial vessels offer. It may be better to rely on elegant design, good quality equipment and forget about fairing and too much superyacht sophistication. The best reason for undertaking a conversion is to obtain a classic, seaworthy and elegant vessel. Rather like with old country houses, the charm of old vessels is never lost—and can often represent real value for money.

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