



A captains' debate
on the future role
of technology on
board superyachts

LET'S GET TECHNICAL

As systems on yachts become more and more advanced, The Superyacht Report asks a number of captains: what current or future technologies do you believe will profoundly change the operation of a superyacht?

PERFORMANCE AND COMFORT WILL INCREASE

The profiles of yachts are changing a lot. They are becoming bigger, more technological and more independent. For sailing yachts, as we have seen in smaller racing boats, there have been a number of developments in the foils. I think the foils approach (not necessary fully foiling) will definitely change in the near future, but we know the industry is very cautious because you always want to be safe, and trying something new is scary. I believe performance and comfort will increase; all sorts of stability features, such as reduced pitching and rolling, will make sailing yachts very popular in the near future. We trust planes to fly high in the air, where lift and reliability are key points, so why should we not trust fast sailing and increased stability in the water using the same concept?

Something that is very appealing is the different perspectives on electrical systems. I think that with more efficient processes and the new electric technologies, you will have a greener and more environmentally friendly approach. You can also now reduce much of the weight on the yacht, which you couldn't in the past. The development in the electrical systems is extremely fast. For instance, in our project, we moved to a higher DC voltage than normal. As a result, we can reduce a lot of the size and weight of the cables transmitting large amounts of power.

Electrical-power transmission can give us a great reduction in noise and vibrations besides allowing a much more smooth and precise management of the forces compared to more traditional systems such as hydraulics. At the same time, having an electrical main engine means there is no need to have a big dedicated thermic motor that is seldom used (especially for sailing yachts). It is easier to have a rotating pod as final transmission and the electric motor can be used as a hydro generator.

Thanks to the efforts and developments in this field (that is, lithium batteries and power-electronic converters), the comfort on the yacht will increase and the maintenance schedules will decrease. Consider the fact that we are aiming to run the generator for six hours a day as opposed to the standard 24/7 of a similar-sized yacht. Furthermore, looking into recovering energy to possibly self-sustain the yacht under sail, or at least reduce the run hours, is going in the right direction for fuel savings and environmental impact.

I think we will see different approaches on the sail plans and the automation related to sailing. Sailing boats are becoming bigger, but of course the crew allowance can't grow above a certain number for obvious reasons, so automation will be coming more and more into the market.

CAPTAIN MATTIA BELLERI

BUILD CAPTAIN BALTIC 142 CUSTOM
(UNDER CONSTRUCTION)

CAPTAIN CHRIS GUY

MIY GALACTICA SUPER NOVA

I believe the current technology that will impact yachting the most is social media because it is connecting to, and exposing the lifestyles of, the rich and famous. Whistleblowing, common tax practices, the growing popularity of the 'Lagom Lifestyle' combined with the green drive will affect the social acceptance of 100m-plus yachts. Yachts will start to reduce in size to be socially acceptable.

Secondly, new development in foil technology with sensitive control systems will impact yacht designs of the future. For many practical reasons, the hydrofoils lost popularity and were never successfully used in yachting. During the last America's Cup, the use of retractable hydrofoils (daggerboards with right-angled hydrofoils on the end) excites me about the possibilities that 'new hydrofoil' could bring to the fast-motoryacht industry. This old 1950s technology, combined with modern strong lightweight building materials and modern designs, will solve the limiting practical problems of the past. The designer Yuriy Skripnik announced the *Rocket* concept in November 2017. Fast-yacht specialists such as Heesen must find the prospect of 60km-plus motoryachts encouraging!

SOCIAL MEDIA IS EXPOSING THE LIFESTYLES OF THE RICH AND FAMOUS

CAPTAIN CHRIS GARTNER

SIY BLACK PEARL

Firstly, battery technology is advancing rapidly. Battery-storage capability for the day-to-day house loads, and even propulsion, has really ramped up. I think the superyacht industry is in the early stages of a battery-storage revolution and that we are going to see big changes in how we generate and store energy. Advancements in power-management systems, energy-saving systems, UPSs and the conversion ability between AC and DC are all improving very quickly, driven by the clean-energy and electric car developers. These rapid changes will require new training for crew in energy management, equipment maintenance and also emergency response.

Another big part of the emerging energy environment is power regeneration: using the boat's propulsion to generate electricity to charge the house batteries. This technology is improving all the time with both motor and sailing yachts. Due to the proven benefits of electrical power regeneration while sailing, it is my hope that there will be a renewed interest in sailing yachts and, especially, the huge benefits of the proven DynaRig. Recently, new-build clients have had less interest in sailing yachts. However, I think this will change

once *Black Pearl* has demonstrated her sailing capabilities and the world sees a beautiful superyacht sailing at 18 knots using very little fossil fuel – especially from those clients who are seeking environmental sustainability and a reduction of their carbon footprint.

Related to environmental sustainability, I believe our industry needs to play a leading role in improving waste management. Increasingly, as yachts visit many more remote places around the world, owners and crew see first hand the problem of plastic and other pollutants in our oceans. On board, we all work towards solutions to better manage our waste but we need to come up with more effective ideas. To my mind, somehow we need to make used plastic valuable so people do not throw it away but hold on to it, take it back to be recycled and get paid for doing so. This type of scheme is being promoted in Norway where one krone is added to the cost of each piece of plastic. When the plastic is returned for recycling, the person taking it back gets the money and the companies that are volunteering to do this get a huge tax break. It's a win-win situation. Who knows, but we need to do something quick!

THE EARLY STAGES OF A BATTERY-STORAGE REVOLUTION

LIBERATION FROM THAT AWKWARD ARRAY OF EGG SHAPES!

The future technologies in yachting that I am most looking forward to will impact design in revolutionary ways. The move to flat-panel satellite domes will free designers from the traditional requirement to carry a dome-heavy mast. The concept and look of future yachts will change massively when the upper structure is liberated from that awkward array of egg shapes!

Equally exciting will be the use of video wall panels throughout the interior. With razor sharpness, these projections will soon be able to mimic, chameleon-style, a variety of looks and moods. Imagine being able to change the decor of every interior surface to your whim – just with the click of a mouse.

CAPTAIN TRIPP HOCK

SIY AMORE MIO