

SYI 2019 | VOLUME 14 | ISSUE 1

SuperYacht

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FAR FROM MEEK IN THE MILD WATERS

Palma Superyacht Show

TAILORED TO MEET THE INDUSTRY'S NEEDS

Benetti's Age of the Gigayacht

FOCUS ON ITALY

Where the Wind Blows



SYNERGY IS A NEWLY FORMED HVAC SYSTEMS AND ENERGY MANAGEMENT COMPANY, HEADQUARTERED IN AMSTERDAM. HEADED UP BY PATRICK VOORN, an HVAC consultant with over 15 years in the maritime and offshore industry, it forms part of the Bond™ Group. Here we catch up with Voorn on the importance of independent integrators, and what changes are required within the yachting industry to move the HVAC sector forward.

ALL PHOTOS COURTESY OF VOORN CONSULTANCY

Why is it so important to have an independent HVAC consultant for new builds and refits?

Clients must have the option to receive advice on their HVAC system that is not based on sales. Synergy is an independent company, completely unrelated to any supplier or engineering company. We are there to support our client's needs and requests. Our consultants are able to tell the exact pros and cons of the products, equipment or system choices, and we rate these items against the client's demands. Based on these findings, the client can then make their decision.

Yacht building is one of the most highly demanding industries, and most of the time our clients are not looking for an 'off the shelf' adjusted system, but a bespoke HVAC system. Aside from the technical aspects of HVAC systems, there is also the integration process to consider. HVAC is integral to almost all disciplines on board a yacht, and we are there

to ensure it is smoothly integrated and maintain control of the complex process.

HVAC systems are the largest space and energy consuming system on board a yacht – what are the biggest developments that have happened in recent years?

Very little has evolved with HVAC systems over the past decade, and that's not a good thing! The yachting industry needs challengers to come and improve on the HVAC systems that are currently offered. Every day clients are delving deeper into their HVAC options, mainly thanks to raised awareness around topics such as emissions, energy saving, and system efficiency. At present, we have witnessed an increase in the number of waste heat recovery systems being used on yachts. This is already a step forward in lower energy consumption, but for the near future I predict that energy savings and air quality will become key points of focus.



Synergy has worked on many large yacht projects, including Jubilee.



Patrick Voorn, co-founder of Synergy Consultancy.



A well-executed climate system is critical for any owner's or guest's satisfaction while on board.

What are the biggest improvements that captains can make to HVAC systems in order to save energy?

From a technical point of view, I would recommend having a systems survey undertaken, which will cover all options of a technical equipment and automation systems upgrade if required. The return on investment can sometimes be made within one or two seasons depending on several parameters, of course. Alternatively, a quick and easy option is awareness training for the captains, technicians and crew. That would help them to understand simple yet critical information, such as when to use the different economic modes available in the system, cleaning the system on a regular basis, replacing inefficient components, etc.

When did Synergy become part of the Bond TM Group, and how does this partnership strengthen the services that you provide?

To give a bit of history, I first met the BondTM



The biggest misconception is that HVAC only controls the temperature, but it is far more than just cooling and heating.

team on a new build project in 2017. Bond were operating on the owner's side, and I was hired by the yard as an independent HVAC consultant with 10 years' experience running my own business. I recognised many similarities in the way both I and Bond approached the project, and I was impressed by the amount of overall control that they displayed. Both disciplines (AV/IT and HVAC) require a specific technical

knowledge and both need technical spaces and influence over the interior and technical design. It occurred to me that if we were in discussion earlier on in the project, the entire process would be even smoother. After some consideration I reached out to Will Faimatea, founder of BondTM, and after a number of meetings and discussions we developed the Synergy brand, with me as the owner of the company, but forming part of the BondTM Group. There is a lot of crossover in our roles on a project, from the discovery and functional specification phase right through to on board inspections and acceptance testing. Together, we work in harmony, delivering a smooth and complementary service to the client.

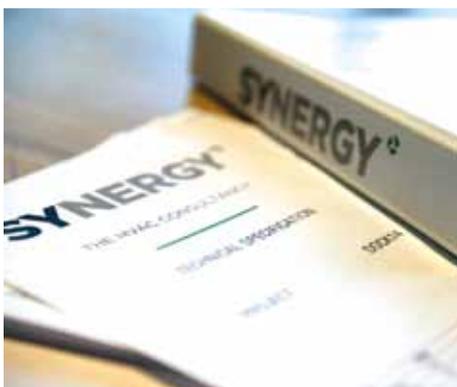
What are the most common misconceptions with HVAC systems among captain and crew?

The biggest misconception is that HVAC only controls the temperature. It is a climate control system which is far more than cooling and >>

Headed up by Patrick Voorn, an HVAC consultant with over 15 years in the maritime and offshore industry, Synergy forms part of the Bond™ Group.



The HVAC system is the largest energy consuming system on board a yacht, besides propulsion.



Synergy is an independent company, completely unrelated to any supplier or engineering company.

heating. Probably the most common problems are that the crew don't understand exactly how the system works. Changing temperature settings takes some time to respond and we see them making huge adjustments at the controls that will result in ramping up the fans and airflows, or keeping the doors opened which destabilises the system, and most importantly the overpressure. Overpressure is what prevents salt and humidity from entering the yacht and destroying sensitive interior materials, electronic devices and artwork. So, it's not temperature but humidity that is actually our biggest challenge. When you don't control the humidity the risk of mould and health issues grow. A well-executed climate system is critical for any owner's or guest's satisfaction while onboard.

How can a fully integrated HVAC system reduce a yacht's carbon footprint?

I wish there was a simple answer to this, but there are a lot of things that need to be considered. As the HVAC system is the largest energy consuming system on board (besides propulsion) it stands to reason that this is where the largest energy savings can be made. For new builds, energy saving options can be integrated in the design, but for refits it depends on the age of the yacht and the available space. To lower the yacht's carbon footprint the main areas would be waste heat recovery systems, lower air amounts, better insulation, cooling on

demand and a smart HVAC system design. Smart automation and monitoring will be a good solution as well.

How often should an HVAC system be reviewed?

If you follow the given maintenance intervals, a yearly inspection would be advisable. This would measure the quality of the air, clean the system where necessary and provide a visual inspection of the equipment. There is a big difference in keeping your system running and having good maintenance.

If you could give owners and captains one piece of advice regarding their HVAC systems, what would it be?

For owners I would advise them to be very clear on their expectations, don't take things for granted. Talk to a specialist who is able to ask the right questions. For example, don't expect an AV room to be 21°C because it is part of the interior as the HVAC supplier might see it as a technical room and allow for a temperature nearer to 27°C. But, asking the right questions as a client is far more difficult than when a specialist asks these questions. For captains, I would advise them to know the specifications and the basics of climate control. HVAC is not only about temperature but is integral for comfort and quality, too.

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