

THE PANTAENIUS MAGAZINE 2022/23

YACHTING NEWS



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Editorial

INNOVATION OR RENUNCIATION?

Climate change is real. Fewer and fewer people are able to ignore this truth. It is not only us who are asking the question: what impact does our industry have on the challenges of the 21st century, and what changes are needed?

Organisations like SEA Index and the Water Revolution Foundation want to answer both questions and utilise the unique potential of the yachting industry for sustainable change. Their argument is as simple as it is ingenious. An industry that rewards success the way ours does, and is committed to the highest standards of quality and innovation, is tailor-made to develop answers to the ecological issues of our time. It is already evident that yachting is driving the development of alternative propulsion systems, fuels and more efficient engines through the growing awareness of many owners. Research and development that, in the long term, will not only benefit commercial shipping but also the series production of smaller recreational boats. Without the resources of those behind the projects as clients, however, this would be unthinkable. Some such projects and developments can also be found in this issue of Pantaenius Yachting News.

Every now and then, however, it becomes apparent that research and development is one thing, acceptance is quite another. Biocide-free antifouling paints, for example, have long since ceased to be dreams of the future. Nevertheless, they are rarely used. This is a topic to which I personally and we as a whole company have committed ourselves. Our vision is a yachting industry that completely abandons biocides and, together with various partners, we want to prove in the future that this is possible.

As industry professionals and enthusiasts, we should nevertheless be aware: there is a long way to go towards truly sustainable. I am therefore convinced that only together can an efficient, plausible and thus ultimately successful sustainability strategy be developed. To anyone who is willing to make a contribution, I encourage a partnership with SEA Index and the Water Revolution Foundation.

Each one of us can make a difference.



Yours faithfully, Martin Baum

A handwritten signature in black ink that reads "Martin Baum". The signature is fluid and cursive.

Managing Director, Pantaenius Yacht Insurance



Sea Index

MEASURING THE IMPACT

In 1999, Olivier de Roffignac, Pantaenius' Managing Director of Monaco, singlehandedly crossed the Atlantic on a 6.5m yacht with nothing but a solar panel and the wind (as well as Pantaenius insurance) to power his journey. While thrilling and a real personal accomplishment, Olivier knows he wasn't the first and won't be the last person to undertake such an adventure. But it did reinforce one message in particular: "It is possible to enjoy the sea with very low consumption," he says.

Fast forward two decades and the idea is now one that is front and centre of everyone's mind, as designers and shipyards scurry to come up with technological innovations that will reduce the carbon footprint of tomorrow's superyachts. But what about the current fleet of vessels on the ocean? What do we know about their carbon output and how can we quantify it?

Until recently, this has been a question we didn't have an answer for. But the paradigm shift in yachting isn't being driven just by the shipyards in Northern Europe and Italy; it's growing out of exchanges around the world, wherever people passionate about yachting and the ocean meet. One of the most important hubs is the striking building situated not far from where you may well be reading this: The Yacht Club de Monaco.

And it's inside here where the SEA Index, the first carbon footprint index for superyachts, was born, under the umbrella of Monaco Capital of Advanced Yachting, an initiative supported by H.S.H Prince Albert II of Monaco that aims to position the principality as the "Silicon Valley of the Seaside". "Yacht owners were telling us they were curious to find out the carbon footprint of their yacht to be able to improve and make changes, but there was nothing to help them do so," explains SEA Index's Natalie Quévert. In response, the Yacht Club, along with partner Credit Suisse, started exploring potential tools, settling on the IMO's

existing EDI — or Energy Efficiency Design — Index as a base, customised by superyacht naval architects for the yachting industry.

In September 2020, the SEA Index, as well as the Superyacht Eco Association non-profit organisation to support it, was launched. In practice, the index is a confidential online form where required data points such as gross tonnage, total installed power of main (propulsion) engines (kW), total installed power of auxiliary engines (kW), and power of the largest installed auxiliary engine (kW) are imputed to feed back a rating between zero to five (where five is the least impactful on the environment) of the yacht's CO2 emissions.

In its first iteration, the SEA Index was a simple, no-frills tool, but with the backing of independent verifiers Lloyd's Register, it has evolved and the updated methodology of what is called Phase II now incorporates the typical operational profile of a yacht (ie at berth, anchor or cruising), as well as hybrid and battery-based propulsion systems and innovative auxiliary power features. "The whole point of the initiative is to support owners towards energy efficiency and transition," Natalie says.

But it's also about starting a much-needed conversation. "We wanted to open up the discussion, to give owners a snapshot, a quick comparison tool so, if they are at industry events such as the Monaco Yacht Show and are hesitating between two yachts, they can quickly learn which one is more energy efficient," Natalie says. The rating is not only useful in purchase situations. "If the yacht is heading into a refit period with extensive work to be done, you know where you stand," she continues.

Since joining the index in 2021, Natalie has learned that it's not a simple case of the older the yacht, the lower the rating — in fact far from it. "It's all about the balance between the size of the boat and the power of the engines," she says. "I'm not an engineer, but I've been

inputting numbers for the best part of a year and I've seen a trend. Yachts before a certain period are well-balanced and then you see this 'Miami Vice' effect in the late 90s where everybody just wanted to get there faster and had these engines that were oversized for tiny little boats."

Currently, just over 500 yachts have been rated to establish the baseline results, including M/Y Artefact, M/Y Lady Christine, M/Y Najiba, M/Y Savannah, M/Y Madame Kate, and M/Y Triumph. "This is a voluntary, easy-to-use, tried and tested tool. We don't have a mandate to force anybody to do anything, it's just about knowing where you stand," says Natalie. And while the average rating is three stars, which is also the minimum required for any yacht to fly the SEA Index flag in phase II, there's no judgement that comes with the results. "We're not here for finger-pointing," she says. "Instead, the objective is to inform."

As it stands, the index is open to motor yachts 40 metres and longer. "And that's not because of snobbery or anything, it's just because the tool is very precise for displacement yachts and we find under this length you tend to have semi-displacement yachts," Natalie says, adding "We're looking to index smaller yachts, as well as other developments we hope to reveal in the near future".

Once rated, there are three different types of membership available: private yacht membership, professional membership and a 'friends of the Sea Index category' – "for people who might not own a 40m-plus yacht or for companies who make electrical tenders or solar-powered catamarans", she explains. Alongside Amels and Damen Yachting, Monaco Marine, MB92 and Yacht Carbon Offset, Pantaenius is proud to be a corporate member.

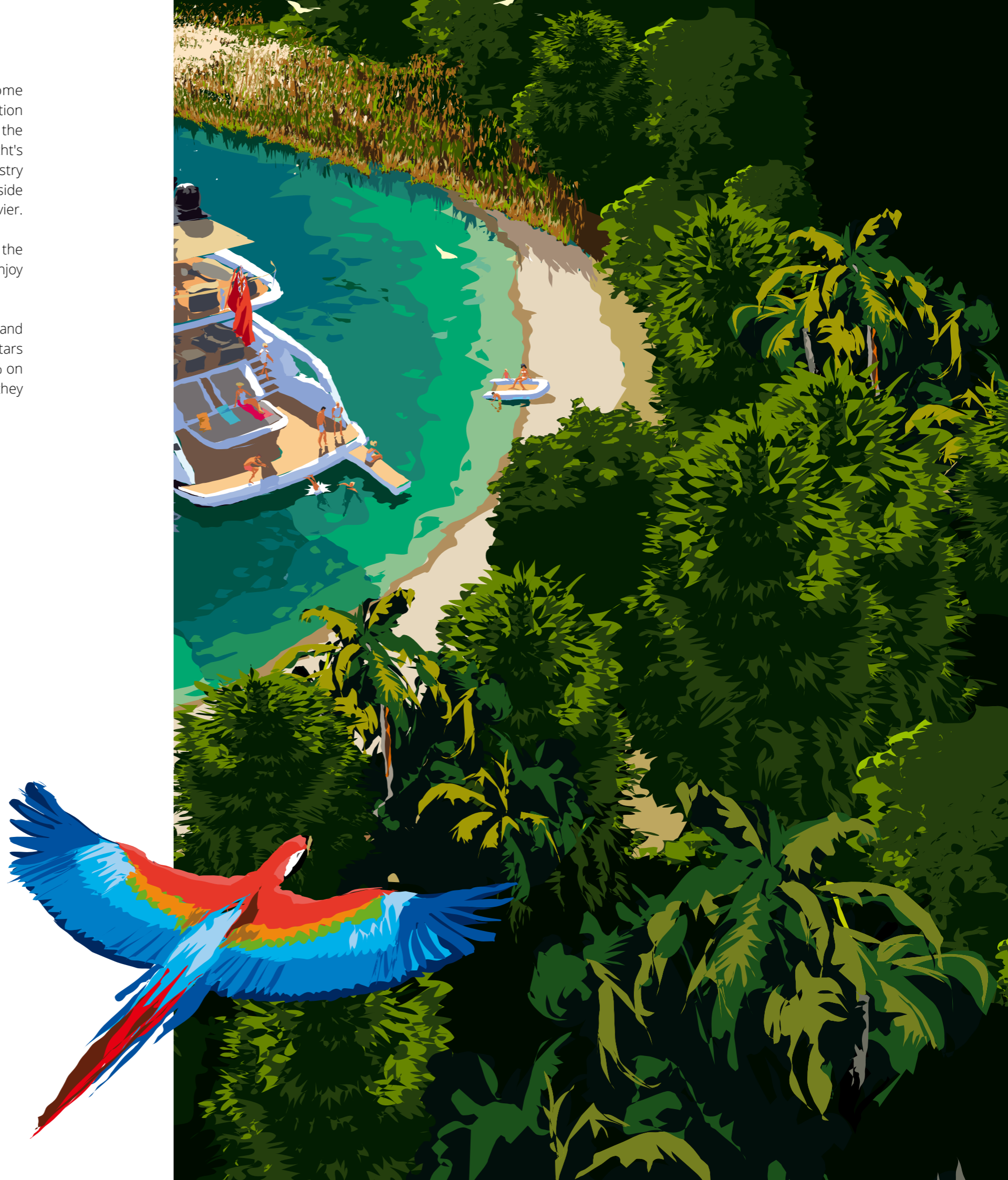
Natalie says the long-term goal of SEA Index is to become "the energy-efficiency standard for superyachts". Even better if the tool crosses over into other sectors to create a multifaceted sustainability index. Closer to home, she'd love to see the day when a fleet of SEA Index flags is beyond the principality of Monaco.


In a world where emissions have become essential criteria alongside cost and duration for calculating the simplest of journeys, the time has come to understand every yacht's carbon impact, especially with the industry facing increasing scrutiny from those outside it. And it's not a moment too soon for Olivier.

"If you have a yacht, it's because you love the sea and being on the sea. So how can we enjoy it while also taking care of it?" he asks.

SEA Index-rated yachts that achieve 3 stars and SEA Index-rated yachts that achieve 4 stars can respectively qualify for -5% and -10% on Yacht Club de Monaco marina berths if they join the Superyacht Eco Association.

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Eco fuel and hybrid engines

DECARBONISING SUPERYACHTS

Sustainability is a question that is now raised almost every time a new yacht is being built, and superyachts are no exception. The drive for greener yachts is gathering pace, coming partly from forward-thinking owners who want to play their part in a cleaner world, and travel at sea more quietly.

The sea change is also being forced along by proposed new regulations. The municipality of Amsterdam, for example, has stipulated that all boats must switch from diesel to electric power by 2025. In Norway, fjord areas classified as World Heritage sites will be restricted to zero-emission vessels in 2026. Four years after that, Norwegian waters will be restricted to vessels with low- or zero-emission technology.

At the very large end of the market, the superyacht industry is also moving towards less reliance on fossil fuel, and many of these conversations being driven by owners themselves. Some believe that hybrid propulsion is the future here, allowing the range, speed and hotel loads required with electrical and diesel propulsion systems operating side by side. Powering large yachts by electric power alone is likely many years away.

Daniel Nerhagen of Tillberg Design says: "This is a big topic and it comes up at every client meeting. How can you be self-sufficient? Wind turbines, solar panels, battery packs and fuel cells – how to extend your range or reduce fuel consumption and run the generator for only a few hours per day."

But he adds: "These systems require more space than traditional diesel engines so it's always a question to look at your priorities." But, he adds: "For many people, the technology is a showcase. This kind of reason built into a yacht, it will accelerate – that's inevitable."

For sailing yachts, there is 'free' energy to be generated by turning a propeller while sailing. The superyacht Black Pearl is an example of this, very nearly producing enough power to run the yacht when it is sailing at a decent speed. Then there is the possibility of taking the energy generated and making hydrogen for fuel.

Fuel cell technology is being looked at closely by designers, among them Bill Dixon of Dixon Yacht Design, who says: "On one of my potential projects, a client has already investigated fuel cell technology. In the scheme of things, a large yacht of 100m can go fast and generate a lot of free energy. If you really want to do something incredibly special, this is the way to look at one future for large, eco-friendly superyachts.

Among yards, builders San Lorenzo has decided to build a forerunner of its own. A 50m yacht equipped with hydrogen fuel cells is being built for CEO Massimo Perotti. Hydrogen is potentially the cleanest of all fuels, producing only water. The fuel cells generate power from methanol.

However, this will not be an all-green solution; it is one way of accomplishing a diesel-electric system. The fuel cells will generate power for the yacht's hotel loads, but not the propulsion system.

San Lorenzo was one of the first companies to adopt a hybrid system in 2015. The Italian yard built its 32m SL106 with a diesel-electric e-Motion hybrid system. The same system is now being offered on the larger Sanlorenzo 58 Steel and 62 Steel, and will be offered on the company's 50 Alloy and 58m 1000Exp expedition yacht later this year. This system uses twin MTU diesel engines alongside electric motors powered by variable-speed generators.

Such projects are no longer the exceptions. Baltic Yachts recently announced that it is building a 110ft performance cruising sloop with an electric drive. The Danfoss electric propulsion unit, powered by lithium-ion batteries, will drive through a conventional shaft. Charging is from twin 129kW diesel generators designed to meet IMO Tier 3 emissions regulations.

‘The benefits of the electric drive include vastly reduced emissions, high levels of efficiency, a quieter drive train with reduced vibration and a modular setup allowing flexibility within the engine room,’ says Baltic.

Hydrogen fuel cells are an option as part of the energy mix and may become more practical if fuel from renewable sources becomes more widely available. Such systems are already being used on trucks, trains, cars and even some planes.

One example is the Energy Observer, a zero emissions 100ft converted racing catamaran that sports twin solid wingsails, a drivetrain powered by comparatively small 45kW motors and several energy sources: a lithium battery bank fed by large solar arrays, hydrogeneration and a marinised hydrogen fuel cell originally developed by Toyota for its hydrogen-powered Mirai car.

The project team notes, however, that ‘electric hybridisation, or even in diesel-hydrogen-electric hybridisation, appears today as the option most likely to reduce as much as possible CO2 and fine particle emissions on board ships, at least until... it will finally be possible to run entirely on hydrogen to meet all of the on-board energy needs.’

Other zero emissions projects are popping up all the time. The first-ever fuel cell powered superyacht is being built by Lürssen. The yacht, which has been commissioned by a ‘pioneering and technology-driven client’, will also feature a fuel cell driven by hydrogen continuously reformed from methanol.

While hydrogen systems may look attractive, the tanks take up much more space than a diesel equivalent system. Ben Pym of UK-based

Engineered Marine Systems, says: “Hydrogen takes up 13 times more space than diesel for the same power output. At larger sizes, say 150ft upwards, which have more the space you can start to justify taking the entirety of the bilges, but then you have to ask if you are willing to give up [some of] the lower decks for that. But there are some projects that naval architects that have put proposals out there.”

However, for some boats that do not see high loads or need a large range under motor, hydrogen fuel cells may be one solution. Solo sailor Phil Sharp has set up Genevos Power Modules and hopes to do the Vendée Globe round the world yacht race to showcase its abilities.

“There is really a very big range of yachts it is applicable for, and it can be used for propulsion power or auxiliary power,” he says. “Multiple modules can be linked together in parallel to achieve desired power output and, in effect, can be used to feed anything from a 35-40ft sailing yacht to a superyacht with 250+ kW propulsion.

“You have to take into account that you can get away with an electric motor with 30-40% less power than an equivalent diesel due to greater torque. And then also, hydrogen fuel cells can be used in parallel with a battery back to reach peak powers for limited periods (up to 1 hour typically) for a propulsion system that is much higher power than the total fuel cell power.”

Hydrogen fuel cells make no noise or vibration, and are essentially maintenance free. Eventually, if infrastructure is built out to provide hydrogen produced from excess wind energy, for example, this really will be a green means of transport. Using methanol as source fuel, has some downsides: While it can be stored in liquid form without being pressurised, it is comparatively expensive in its renewable form and is less energy dense than diesel. You would need around 2.5 times more methanol than diesel for the same range. That would require larger tanks, which in turn impacts on the interior space and accommodation designers have to play with.



DO ALL THE GREEN OPTIONS ADD UP?

If you are building or refitting a boat right now, which of the many alternative energy and propulsion systems are most suitable and cost-effective? The answer is a complex one: with each solution currently available there are downsides that need to be considered.

Ben Pym of Engineered Marine Systems, a UK-based company that works on systems for everything from racing yachts to expedition yachts, commercial vessels and hybrid powered wind farm crew transfer vessels, says the question every owner needs to ask is: how much extra would you spend, and how much would you alter how you expect to sail or live on board in order to go green?

‘With all these projects are downsides over diesel – diesel systems are enormously energy dense and efficient, don’t take up much space, are very efficient and not very expensive. You need owners with very deep pockets who are willing to accept limited range, yet no one even sees or knows you are being green. It is important, though, and I think that will naturally shift with a younger generation and as technology develops.”

Matt Cherry, also a systems engineer at Engineered Marine Systems, recently completed a dissertation on alternative fuel technologies, sums the current situation up like this:

“Large vessels which can accommodate large storage facilities will be able to use hydrogen and ammonia in the future, hopefully. Although the infrastructure to produce these fuels

renewably will need development. Small vessels which can’t accommodate these storage facilities will be limited to using battery technology, and due to the much smaller energy density, these vessels will be severely limited in journey distance and time.

“Ultimately, the vessels that are going to struggle most with adopting alternative fuel technology adoption in the future are those that are too large for battery technology, and too small for hydrogen storage facilities. Technological advancement on both sides of this will shorten the gap through new fuel cells, battery compositions and storage facility upgrades, but it’s a pretty large gap, and will likely remain so far into the future.”

While there are rapidly advancing plans for decarbonising shipping and ports around, we are a very long way from an infrastructure that could supply hydrogen, for example. Hybrid systems would allow yachts to venture to any destination, no matter how remote; fully ‘green’ systems would be severely constrained in range and scope.

So for the foreseeable future, diesel systems are key in the marine world. However, there are increasing options for owners can using with fuel cells and electric drives to extend periods of silent running and self-sufficiency. Solar, wind turbines and water turbines can all make a contribution. More efficient batteries and generators allow crews to reduce the run time of diesel plants. A bigger change is coming. The hybrid and regenerative technologies we are starting to see in superyachts today are important pioneers, and they are just the forerunners.

Marine wildlife

ORCA ENCOUNTERS

On a perfect sailing day in the summer of 2020, delivery skipper Pete Green was sailing off the south-west coast of Spain. Green and his crew were delivering an Amel 52 from Gibraltar to the UK and all was going smoothly when, suddenly, the yacht's rudder spun uncontrollably from side to side. They had been hit by a whale.

"We knew there was a risk of meeting some orca [whales] so we stayed close to the Spanish coast, but we didn't see them coming," says Green, managing director of Halcyon Yachts. "The wheel was just suddenly spinning from left to right as they collided into the rudder." The crew immediately turned off all the electrics, shut down the engine, furled the sails and lay ahull. All the advice they had seen said to sit passively in the water until the whales grew bored.

The orcas circled the Amel slowly for nearly two hours, so close at times that the crew were able to photograph and video the animals. The whole time, the orcas were bumping into the hull, the keel and hitting the rudder. "It seemed like an age before they finally left us in peace," said Pete Green. By the time the whales were gone, the rudder had been badly damaged.

"In some ways it was amazing to be so close to these magnificent creatures, huge and elegant. But it was also frightening knowing that they have the power to cause serious damage. If the rudder had been destroyed, we would have been left drifting with no control. Luckily, we still had a tiny bit of rudder left, just enough to hold a course and make for shelter," he explained.

Incredibly, this was not the first time Green had been on a yacht attacked by orcas. A year earlier, while close to A Coruña, on the north-west corner of Spain, the Hallberg-Rassy 36 he was delivering to the UK was "rammed at least 15 times". The yacht lost steering and had to be towed into port.

Why are these whales targeting yachts? How widespread is the problem, and should we be more concerned about our interactions with marine animals?

ATTACK OF THE KILLER WHALES

Close encounters between killer whales and yachts were rare occurrences until something very strange happened in 2020. The behaviour of a small sub-population of orcas off the coasts of Atlantic Spain and Portugal suddenly changed. They began to attack yachts aggressively, often causing serious damage to their rudders.

The behaviour kept being repeated, and attacks spread as the orca population travelled north on its habitual migratory route north along the Iberian peninsula to Galicia, where they feed on bluefin tuna, and nurse their young.

Dr Ruth Esteban, a marine mammal researcher who works for the Madeira Whale Museum, has spent years studying the abundance, life history and social structure of killer whales in the Strait of Gibraltar. The group of whales in question is a small one, just five pods comprising 28 individuals. It is an endangered sub-population she knows well. She was both fascinated and alarmed by this bizarre evolution.

"The orcas were more than used to being surrounded by vessels, sometimes hundreds of vessels at a time, but were never as far as we knew touching the vessel," she says. "Then when 2020 arrived, after the worldwide lockdown, [this] disruptive behaviour was observed. They were reported interacting with boats and entering in contact with them, particularly sailing boats, resulting mainly in breaking the moving parts of their rudders."

Dr Esteban collected and reviewed videos taken on board some of the yachts that had been targeted and damaged, meticulously identifying each animal where possible and reviewing the whales' behaviour. They were



mainly juveniles, but there was at least one adult involved, the mother of one of the younger animals.

She observed that they were purposely attacking boats and trying to push them around, hitting and moving the rudders to turn the boats. "We could see the animals come close to the boat at the stern. Sometimes they showed up with intense bubbling. They would approach and start by observing moving parts before touching and pushing to control the movement of the boat."

The whales mainly targeted sailing yachts under 15m, although some fishing boats, RIBs and motorboats were also attacked. In one case, they broke a yacht's rudder in half. In another, a yacht crew endured repeated collisions for over an hour as the orcas repeatedly struck their rudder, breaking it and bending the stainless steel shaft by almost 90°. "The cost to repair was almost €21,000," says Dr Esteban.

A group was formed to investigate this behaviour, Grupo Trabajo Orca Atlántica (www.orcaiberica.org). "In the middle of this craziness we created a working group formed of all the NGOs, institutions and administrations," Dr Esteban explains. Various entities such as Sea Life, WildWatch and the Cruising Association collaborated to share information, photos and videos. "It was an incredible unpaid effort from a lot of people," she says.

GT Orca Atlántica continues to collate information on orca attacks, plot where they occur and promote the conservation and management of the whales. It also offers advice aimed at mitigating damage to yachts or the animals themselves.

But Dr Esteban and her colleagues are still mystified about the reasons why. "Everyone is puzzled. We don't know what is going on and we do not know why they are doing this. There have been a lot of hypotheses but none of them is based on clear evidence."

The behaviour, though sporadic at first, has become an established set piece for the whales, and it has evolved. "Now they are

repeating this behaviour over and over again, the same population," says Dr Esteban. "At the beginning it looked like it was only sailing boats but now they are looking for different things and targeting a lot of different types of boats with different characteristics and materials."

In 2020, there were 43 recorded interactions with sailing yachts, of which 31 resulted in damage. Similar numbers were recorded last year, and in 2022 there have been 18 interactions up to the end of May. There is no sign of this behaviour fading.

So what can boat crews do? The best advice so far is to stop and make your vessel look unexciting, to try to quash the whales' prey drive. Take your hands off the wheel or disengage the autopilot to allow the rudder to turn freely. GT Orca Atlántica also advises not to yell at the animals, throw anything at them, 'and do not let yourselves be seen excessively from overboard'.

Crews are also advised to discreetly record any interactions and report the sighting and position to organisations such as GT Orca Atlántica or the Sea Watch Foundation www.seawatchfoundation.org.uk.

WHERE CAN I SAFELY WATCH MARINE MAMMALS?

From a wildlife perspective, however, reports of whales are a good sign. Stronger protection for marine mammals has been needed for most of the last century, after the whaling industry decimated breeding populations. In fact, orca groups off the coast of Spain are so scarce that they are designated as vulnerable by Spanish authorities, and endangered by other monitoring studies.

After years of reports of marine mammals as a potentially dangerous nuisance, a new generation of sailors and boat users is alive to the reality that this is their environment and it's up to us to behave appropriately around them, and avoid when necessary and if possible. Beyond being a neutral influence, there are things that boat users can do that may have a positive impact on wildlife and

increase scientific understanding of the marine environment.

There are many places in the world rich in whale and dolphin activity where you can travel or sail to watch them safely in the wild. Some of the biggest hotspots include the Azores and Canary Islands, the Dominican Republic, Baja in California, and Mexico, Alaska, Norway and New Zealand. You are also likely to see whale and dolphin populations around the western coasts of France, Spain and Portugal and further north off western Scotland and Ireland. There is an active, though declining harbour porpoise population on Germany's North Sea coastline.

Watching these populations is an experience that boat owners are in a special position to enjoy, and there are some very good guidelines online of how to go about it.

According to Whale and Dolphin Conservation (uk.whales.org), we should keep our distance, 'allow the whales and dolphins to decide what happens', maintain a steady direction and slow to 'no wake' speed. It is also advised never to approach whales and dolphins head on, move between them or scatter them and to take special care if you see mothers and young. If whales are feeding or resting, leave them be. 'They are particularly sensitive to disturbance,' says the WDC.

Don't do the Instagram thing and try to swim with, or touch, whales or dolphins. This is as much for your safety as theirs. Don't go ashore in places where you know there are nesting seabirds. As with so many areas where people and nature crossover, the motto is: look and enjoy, but don't disturb.





Fine wines

LABELS, STORAGE & INSURANCE

Onboard the 107-metre explorer yacht *Andromeda*, launched by Kleven in 2018 (originally as *Ulysses*), there's a dedicated wine tasting space framed by floor-to-ceiling wine storage. While *Endless Summer*, the 49.9-metre *Delta Marine* delivered in 2017 has a polished wood temperature-controlled cellar, custom-built at the request of her owner. The recently-launched 38-metre *Rossetti Superyachts* explorer *Emocean* has a wine wall connecting the dining room to the salon, which can store up to 150 bottles — perfect for long stints at sea in off-the-beaten-track destinations.

Overflow wine for a particularly boozy charter may still occasionally find its way to hidden storage spaces like the bilge, but onboard wine cellars are becoming increasingly sophisticated — and, in some cases, a statement design feature in their own right. "Many owners today want to make selecting and pouring the wine part of the

whole superyacht experience," Marc Jessing, head of yacht interiors at Lürssen told *The Robb Report* in 2021. It's a trend that makes sense. After all, as highly trained chefs with Michelin backgrounds bring their gastronomic techniques to a yacht's galley, it's natural for the wine list to be similarly high-end.

SERIOUS COLLECTIONS AT SEA

So, what exactly are the types of wine you'll find inside a cellar at sea? "There is always a core demand for vintage Champagnes like Dom Pérignon and Cristal, Grand Cru Burgundy and of course the First-Growth Bordeaux and Super Tuscans," says Jessica Dunnett, an ex-chief stew who, along with her husband Ed, founded Antibes-based business Onshore Cellars to supply wine to yachts in 2015. For red wines, that means fine and rare names such as Château Mouton-Rothschild, Château Haut-Brion, Château Pétrus, Domaine de la Romanée-Conti, Sassicaia and Ornellaia.

In terms of white wines, there's a distinct preference for rich yet nuanced Chardonnay from producers such as Domaine Leflaive in Burgundy, quality Sauvignon Blanc from Sancerre or Pouilly-Fumé or, from across the border in Italy, a crisp Gavi.

"We sell Provence Rosé in huge quantities throughout the summer," Dunnett continues. The pink drink has long been the wine of choice on summer afternoons cruising the Mediterranean, even before labels like Brad Pitt's Château Miraval started to appear in bars from New York to Shanghai. The preference list remains fairly predictable when it comes to rosé: Domaines Ott, Château d'Esclans and Château Minuty are firm favourites.

Dunnett makes a distinction between two very different onboard wine scenarios. "There are the wines for the boss or the wines for a charter guest," explains Dunnett. "For private yachts, we would normally top up the cellar a few times a year and often we are just replacing bottles that have been drunk." Whereas a charter wine list will have a more expansive, celebratory feel. "They must buy what they think they will drink in a week, and as it's a holiday for them they do like to buy very expensive bottles and specific vintages," she continues.

SHORE UP YOUR STORAGE

As yachts like *Endless Summer* demonstrate, it is possible to recreate your home cellar at sea. But wine professionals will be the first to tell you that open water and wine aren't perfect pairings. "Ideally, wine should be stored at a constant temperature in a relatively humid environment, away from any strong light sources and free of vibrations," explains Sarah Jameson, a fine wine consultant at The VSF Group. "Particularly in terms of this last one, it would be hard to think of a worse place to store wines for any length of time than on a yacht." Jameson explains that the constant movement of the vessel, along with the vibrations from the engine, are a combination that can trigger the premature aging of the liquid inside the bottle over a long stretch of time, something worth considering for permanent yacht wine collections.

"In the short to medium term though, two of the main things to think about are temperature and light," Jameson continues. "Ideally, the temperature should be somewhere between 10 and 20°C but the most important thing is to ensure a constant temperature and to avoid big fluctuations." She recommends caution when storing wines by a door that sees heavy use, near appliances that give off heat or near a window. "Try to limit exposure to light as much as possible and, if storage allows, it's best to keep the wine boxed," she says.

PROTECTING YOUR PASSION ASSETS

Just as you can take measures to ensure your wine is stored correctly onboard, you can also take measures to protect your collection in case of accident or misadventure. As with provisions and fuel, wine is usually covered under the yacht's hull insurance against external causes: damage resulting from bad weather or a collision, grounding and theft (with visible signs of entry). Proof of value, such as invoices, would need to be provided in the event of a claim; it's also important to remember that any claim would be subject to an excess.

"Similarly to other assets such as fine art and antiques kept on board, it is important for yacht owners to consider the risks of damage that might not be covered by the yacht's hull insurance," says Pantaenius' Michelle Van der Merwe. "If there are expensive wines being kept on the superyacht, the owner could consider separate fine wine insurance which may be able to cover the wine whilst in transit, the loss of resale value due to labels being washed off, and compromised quality that could potentially be caused by the failure of the fridge or air-conditioning."

For further information on insurance policies for any high-value wines you may have onboard, reach out to the Pantaenius team today.



Tow Pro

ADVANCED TOWING SYSTEM

When the 66m catamaran Hodor was launched in 2019, it amazed even the most seasoned insiders. Although a large boat in its own right, Hodor had been built as a shadow vessel for a superyacht, a floating toy box designed to carry all the gear and playthings guests might wish for, from jet skis, all-terrain vehicles and trail motorbikes to an Airbus H145 helicopter.

Hodor represents perhaps the most extreme end of superyacht support vessels, but it also illustrates a growing trend: tenders and shadow vessels of all kinds are becoming larger and faster.

Many owners have support vessels or chase boats that cannot fit into a superyacht tender garage. These tenders are bigger, but also heavier and more complicated to tow. Yet they are also the main form of transport for guests, so crews need to be able to take them between cruising areas.

Inevitably, damage to tenders or loss has become more expensive. The risks led to insurance conditions that could restrict passage planning, such as maximum wind strength or exclusions for towing at night. Crews might have to wait for weather to pass that they would previously have been able to go in.

So owners, captains and insurers have been looking for solutions to reduce deductibles and extend the conditions in which tenders can safely be towed.

“We wanted to reduce the number of tender losses and claims, or at least minimise the extent of losses. But also, importantly, we were responding to the market and clients’ requests to tow tenders for longer distances and sometimes at night,” says Michelle Van Der Merwe, superyacht account manager at Pantaenius.

UK electronics company TSM Systems were looking at the mounting issues too. “Towing can be a problem; the line can part, it can be damaged and a boat can sink,” says William Ferlazzo, the company’s head of sales.

“Tenders were no longer 5-7m boats; they were often 12-15m boats which cost \$1 million plus and were built very specifically for the yacht. And if you are chartering a 50m yacht for \$450,000 a

week and the tender is damaged or lost, it can really mess up the guest experience. It’s often not easy to find a substitute of a similar quality.”

TSM realised that the technology existed to alleviate some of these difficulties and in 2021 designed and launched a remote monitoring system, TowPro. In-house technical input came from Vincent Geake, a well-known professional yacht navigator and former performance information systems for the Team New Zealand America’s Cup team, and David Robins, a project delivery specialist with a broad background in marine, electrical engineering and marine telematics.

SO HOW DOES TOWPRO WORK?

Although AIS data can be used on tenders and chase boats when they are in use independently, regulations do not allow it to be used on a vessel under tow. TSM Systems therefore had to develop a different solution. A specially developed VHF marine data exchange system (VDES) module was created. “We use two VHF antennas, one on the yacht and another on the tender [and broadcast] on a frequency that sits between AIS bands so only the yacht can see it,” explains Ferlazzo.

The TowPro system sends a continual stream of real-time data to the yacht. This is displayed on a touchscreen in the bridge which can also be interfaced to ECDIS through a multiplexer or alarm system on the bridge. It shows information such as tow length, bilge water level and pump activity and battery state, as well as pitch, list, roll and yaw, information that illustrates the state and load of the tow. These alert crew to issues on board the tender day or night, including problems that cannot readily be seen even if someone were keeping watching from the stern of the mother ship. If any of the pre-set parameters are exceeded, the TowPro monitor triggers audible and visual alerts.

The system can also set a geofence 150m from the mother vessel. If the tow line breaks, TowPro will activate the tender’s emergency AIS unit to show its position and flag the boat as a vessel not under command. An optional three-year package is available for a web-based

global satellite tracking service using the Iridium network, which allows the tender to be located anywhere, then tracked so it can be recovered. It uses an integrated battery that gives around seven days’ continuous operation.

The benefits of TowPro have quickly been seen by yacht management companies and insurers. “We have found after presenting to the market at the METS Trade Show last year that they are pushing to have a system on board that helps the captain and the management company to understand what is going on,” says William Ferlazzo.

“Insurers have been able to reword some of their stipulations. Before that, yachts were often not allowed to tow at night, in [winds of] more than Force 3 or more than 60 miles from nearest port. Now they can be covered for towing at night or further from coast and up to Force 4,” he adds.

“By installing this system, we were able to offer an alternative towing of tender clause wording, separate to the standard one we offer, which allowed for towing longer distances and towing at night time,” confirms Pantaenius’s Michelle Van Der Merwe. “The introduction of this new clause has only been available in last few months so we don’t yet have data on claims improvement, but from an insurance perspective, any system that helps keep loss or damage to a minimum is obviously very interesting. Equally importantly, Pantaenius is keen to support innovation.”

TSM Systems are already hard at work on the next generation system. ‘TowPro 2.0’ will add other monitoring data and alarms such as fire, anti-theft and anti-intrusion alerts. The company is also creating a mobile app for the system, so that information and location can be viewed remotely from anywhere.

Towing a tender can be fraught with concerns for captains and watchkeepers. If they are alerted to any problems as they develop, they have more options. They can, for example, transfer someone aboard while it is still safe to do so, or seek shelter to stop and check the situation out. An early warning can help avert damage, or even the loss of an essential asset.

Lithium batteries

OVERLOOKED DANGER

They are at the heart of many electrical appliances: Lithium-ion batteries are now an invisible part of our daily lives. But it's not just smartphones, tablets and similar devices that receive their energy in this way. More and more toys on board yachts and even entire tenders are relying on lithium-ion batteries. The danger that can emanate from this technology is often underestimated.



A lithium-ion battery or lithium-ion accumulator describes a storage medium that works on the basis of lithium compounds. It serves as a generic term for a variety of different batteries - so in this sense there is no "one" lithium battery. A lithium-ion battery pack is made up of several cells, depending on the capacity. Each lithium-ion cell consists of a positive and a negative electrode, the anode and the cathode. Between them is an ion-conducting electrolyte. This guarantees the transport of the lithium ions between the electrodes during the charging or discharging process. The best-known form of lithium energy storage is the lithium-ion accumulator, in which a liquid electrolyte is used. Another important component is the separator. It prevents direct contact between the anode and cathode and thus prevents a short circuit.

UNDERESTIMATED FIRE HAZARD

In case of defects or improper use and storage, the rechargeable batteries can release their stored energy suddenly and uncontrollably. This uncontrolled release of stored energy is called thermal runaway. If thermal runaway occurs, the lithium-ion cells in the battery block heat up. One cell can reach several hundred

degrees Celsius and in turn heat up other cells - a chain reaction. This can cause even chemically embedded lithium to ignite at over 600 degrees Celsius. If an attempt is made to extinguish the fire with water, a so-called oxyhydrogen explosion can occur. Due to the high reactivity of the alkali metal lithium, water can be broken down into its components and hydrogen gas is released. Since a hydrogen-air mixture is ignitable in a very wide mixing ratio, even the slightest ignition source may be devastating.

The resulting fire is difficult to bring under control by conventional means. This is because if the chain reaction was triggered from the centre of the battery, it is almost impossible to reach it with an extinguishing agent, e.g. water, and thus stop or contain the reaction. If one now tries to cool such a module, the water only reaches the outer layers or the housing of the batteries. The situation is different with smaller modules, where fewer cells are used. Here, external cooling usually has a direct effect on the reacting cells. In addition, toxic and flammable gases can be produced in the process, so that deflagration can occur.

According to the findings of the German Insurance Association, physical damage,

extreme temperatures and so-called deep discharge are the most frequent causes of fire in lithium batteries. The experts of the Pantaenius claims department therefore advise to always follow the manufacturer's specifications when charging, to use the original charger and to neither disassemble nor damage the batteries. In addition, the batteries must not be exposed to extreme heat or cold to avoid ignition of the batteries. In many modern devices, however, the electronics are programmed in such a way that deep discharge is not possible. In this situation, the device can no longer be used.

WHAT TO DO WHEN A BATTERY BURNS

Fires of lithium-ion batteries are considered very difficult to fight. Attempts to extinguish fires with conventional means are usually unsuccessful, as lithium-ion cells produce the oxygen needed for the fire themselves. When selecting the appropriate extinguishing agent, the size and quantity of the batteries, but also the operational conditions play a role.

Every battery fire has a high hazard potential. Only very small devices can be brought under control by using as much water as possible. For example, a burning smartphone can be extinguished with plenty of water and then placed in a larger container filled with water to cool the battery and prevent re-ignition.

If a larger battery catches fire, think of a sea scooter or hydrofoil, it can fill rooms on board with smoke within a few seconds. Persons at risk should immediately seek safety, leave

the affected area and close doors. As already described, attempting to extinguish the fire with water can lead to an oxyhydrogen explosion.

In order to reduce the risk for crew, guests and the yacht itself, garages or rooms on board in which mainly toys or electrically operated tenders are stored can be equipped with an aerosol extinguishing system. This works without the addition of water and extinguishes the incipient fire at a very early stage by extracting heat. Within a few seconds, the chemical combustion process is stopped. Since the technology does not work on the basis of oxygen displacement, as is the case with CO2 extinguishers, there is no danger of people suffocating. To fully exploit the possibility of such a system, heat, gas and smoke detectors are logically required. Specialised providers such as LiCELL now also offer smaller handheld or mobile fire extinguishers that use an aerosol extinguishing agent.

INVISIBLE RISK FOR FIREFIGHTERS

Not every fire involving an electronic device is automatically a battery fire. However, not even professional fire fighters can tell whether a lithium-ion battery poses an acute danger or not. Spectacular accidents during attempts to extinguish electric boats therefore unfortunately occur again and again. Units that have a large lithium-ion battery should therefore always be handled with appropriate caution in the event of a fire. Ideally, tenders or toys with electric drives should be marked as such and arriving firefighters should be informed of this.

Caution: Even extinguished lithium-ion batteries can spontaneously re-ignite at any time. To counter this danger, there are storage boxes made of aluminium, galvanised steel or stainless steel that have been specially developed for the storage and transport of defective lithium batteries and are usually filled with special granulate or liquid extinguishing agents. These aids have long been standard on land and should not be missing on any yacht that uses battery-powered toys.

MOTOR YACHT KANGA

In 2018, a fire on board the motor yacht Kanga, which was off the coast of Dubrovnik at the time, resulted in a total loss. Scan the QR code for a video of the incident and more information.



Sanctions and Seizures

IMPLICATIONS FOR SUPERYACHTS

These are two terms that have become commonplace in the superyacht industry in recent months. But, do you know their meaning and how these two different scenarios can affect people connected with the day-to-day operation of a superyacht?

WHAT HAPPENS WHEN AN INDIVIDUAL IS SANCTIONED?

When an individual is sanctioned, and in this instance we're talking about economic sanctions, it typically means that a country has placed a ban on the trade of, or trading with, an individual or corporate entity.

When an individual is sanctioned, no other individual or company can do business with them on any level. Other than a few small exclusions, all financial transactions are stopped.

ASSETS OF A SANCTIONED INDIVIDUAL

If someone has been sanctioned, companies providing services to an owned asset, such as a superyacht, are legally prevented from continuing to supply their services. This will apply to companies such as the insurance provider, yacht manager, and provisioning company, among others.

With regard to insurance specifically, most insurance policies will have a sanction clause, which specifies that either cover is automatically terminated from the date addition to a sanction list, or that notice will be given to cancel where there is exposure to sanctions. It may also be that cover is suspended, or even voided, and therefore no benefit can be provided or any claims paid. It is important to read your policy terms and conditions in this respect and contact your insurance provider for advice.

This may also have an effect on the Loan Agreement if the vessel has been purchased on finance – a condition of which will be that the vessel must be insured at all times.

For anyone who ignores the trade limitations imposed by sanctions, there is a risk of criminal prosecution.

WHAT HAPPENS WHEN A YACHT IS SEIZED?

The word 'seizure' is somewhat open to interpretation and, in our experience, different countries and jurisdictions take different views on the word's meaning. The term is applied and used differently around the world, which often only adds to the confusion surrounding its implications.

The seizure of a yacht is a different circumstance to an individual being sanctioned or their assets being frozen. It may well be that both a sanction and a seizure happen concurrently, or the two events could be completely independent of each other. In most jurisdictions where a yacht has been seized, no duty of care is owed to the owner of the yacht by the seizing government and, if the situation remains unresolved, port authorities may be left with little option but to sell the yacht.

If you find yourself in a 'seizure' situation, contact your management company and insurance provider in the first instance.

WHO ENFORCES A SEIZURE?

Again, this can vary from country to country and there are differences between a seizure

and an asset freeze. In the USA, a seizure is likely to be enforced the Federal Government. In Italy, it could be the local Port Authority if a Court Order has been obtained. In the UK, it is usually the National Crime Agency.

It will remain the responsibility of the yacht owner, however, to maintain the yacht and keep it running whilst being held in port, which can prove difficult if supplies and funds are not easily available.

WILL THE CREW STILL BE PAID?

The answer to this question varies, depending on the employer for the crew. For example, if crew are contracted and paid through a crew employer rather than by the yacht directly, circumstances are a little easier. But, anyone found to be in breach of the terms imposed by the sanction could face extreme penalties, including imprisonment.

IS THE YACHT STILL INSURED?

If a yacht has been seized but the owner has not been sanctioned then, technically, the insurance cover will remain in place. However, a seized yacht will not be allowed to move, and maintenance periods and essential surveys may be missed or prevented from taking place, which all has an effect on the yacht long-term; this could affect things like operational compliance and market value, elements that could in-turn affect any insurance claim.

WHERE CAN AFFECTED CREWS GET ADVICE?

There are various organisations that provide dedicated help for seafarers, such as ISWAN and Nautilus International. The P&I Clubs also have various publications and guidance, which can be shared by your insurance provider.

Crew who find themselves in this situation can contact these organisations for help and advice, but in the first instance, crew should raise their concerns with the yacht owner, crew employer, management company and insurance provider.

*With thanks to Elliot Bishop at Shoosmiths

STAFF PORTRAIT



KIRSTEN HARMSTORF-SCHÖNWITZ

Kirsten joined the Pantaenius superyacht team in January 2022, drawn to the company's family values and active role in marine industry, particularly with regard to sailing.

After graduating high school, Kirsten joined an apprenticeship programme with a shipping company and became an insurance broker for seagoing vessels in 2001.

Kirsten has had an exciting sailing career to date, with 25 years' experience as the skipper of several women's teams. Kirsten was both skipper and project manager of the Mühlenberger Sailing Club's offshore racing team, and competed in Kiel Week, the German Championships, European and World Championships. More recently, Kirsten led the 15 all-female crew of the Tutima sailing team, racing the 14m DK46 in both national and international regattas. In this role, Kirsten and her crew were the first German female crew to take part in the iconic Fastnet Race.

"Sailing has been my passion since childhood, and to turn this into a profession is incredibly exciting for me. The atmosphere in the Pantaenius offices and the camaraderie between the team, is similar to that found on the water when you are sailing; we help each other, we rely on each other, and we work together to achieve great things."

This year, Kirsten received the Lifetime Award from the German Owner's Offshore Association – a high accolade indeed, in recognition of her dedication and success in the world of sailing.

When not at work, you'll find Kirsten sailing with her husband and their dog aboard her X-362 Sport boat.

There's a saying that "shipping never stands still" and for Kirsten, it's a sentiment that applies to her work as well. Embracing the diversity of her day-to-day role and overcoming challenges with capable confidence, Kirsten is a fantastic addition to the Hamburg superyacht sales team.



OLIVIER DE ROFFIGNAC

Pantaenius' Monaco team are led by joint Managing Director Olivier de Roffignac, who first joined Pantaenius in 2006.

On the water from a young age and working as a dinghy sailing instructor in his teenage years, Olivier went on to compete in a single-handed transatlantic race aboard a 6.5m boat – a boat that was insured by Pantaenius. From that race onwards, Olivier realised the importance of good insurance cover.

It was while working as a project manager in a refit yard near Monaco that Olivier had his first experience of Pantaenius' dedicated customer service. A Swan 57 had fallen from its cradle, and Olivier was managing the repairs. The yacht was insured with Pantaenius and Olivier's diligence caught the eye of Michael Kurtz, manager of Pantaenius Monaco.

"On completion of the repairs, I was offered a job in Pantaenius' Monaco office. So when joined Pantaenius, one of my first tasks was to

sort out the claim on this lovely swan – quite unusual to have done the repairs and to then change company, only to find myself settling the bill that I had generated!"

Olivier's role with Pantaenius began in the claims department, where he managed customer relationships, investigations, negotiations and settlements. Olivier's background as a project manager, production manager, and offshore skipper, has helped him build varied and valuable experience. In complement to this, Olivier also holds a Master Diploma in Naval Architecture.

"I love that I can apply my skills as a professional charter skipper and sailor to my daily work in risk analysis, commercial responsibilities and claims management."

While work and family life prevents Olivier from sailing as much as he'd like to in recent years, he still takes to the water at every opportunity.

Who we are

INNOVATION FROM TRADITION

For over 50 years now, the names Pantaenius and Baum have been inextricably linked with insurance. The traditional family business was taken over by Harald Baum in 1970, who revolutionised yacht insurance with the introduction of Agreed Fixed Value. In the following years, Pantaenius quickly became the market leader. Today, Pantaenius has 11 offices around the world providing 24-hour support in eight languages for more than 100,000 customers.

The Pantaenius Yacht Insurance and Pantaenius Corporate Insurance businesses are managed by Harald's three children Anna, Martin and Daniel, who continue to use their father's formula for success and work with a global network of experts. As the demands of customers steadily increase and markets become more complex, Pantaenius remains a forward thinking company, setting the industry standard.

We are a team of insurance experts, sailors, motor yacht enthusiasts, naval engineers, marine lawyers and many more professions. We insure more than 100,000 yachts worldwide and manage more than 6,000 claims per year with our in-house claims department. We know that our clients entrust us with their most valuable asset: time. Should the worst come to the worst, we pride ourselves on helping owners get back on the water as quickly as possible.

- Comprehensive insurance packages
- Concierge level service model
- Personal Superyacht Account Manager
- Individual risk assessment
- Full service – all from a one-stop-shop
- An unparalleled international claims network of 35,000 contacts

DISCOVER THE DIFFERENCE

- Strong financial security by using underwriters with an S&P rating of A or better
- 24/7 in-house claims service
- No exclusion for loss or damages to parts as a direct result of wear and tear, only the worn out part is excluded
- Bespoke All Risks wording specifically designed for superyachts with no hidden warranties
- 24/7 and MLC compliant crew insurances with no pre-existing condition exclusion



Throughout the year

REGATTAS & EVENTS

For the latest news and a list of events where you'll find the Pantaenius team, please visit our website:

www.pantaenius.com/superyacht-events



Pantaenius Race Day

THE SUPERYACHT CUP PALMA 2022





Caribbean Regatta Season

ST. BARTHS BUCKET REGATTA 2022



Our promise

INSURANCE PROGRAMME

Most people are not interested in the finer points of insurance; however, everybody is interested in protecting their assets. With Pantaenius you can rest assured that your yacht will be covered for an Agreed Fixed Value and that the finer points will be considered on your behalf by our international team.

HULL INSURANCE

Points to consider when creating your individual yacht insurance cover:

- Agreed Fixed Value
- Cruising area
- Machinery cover
- Personal effects/ship's cash
- Fine arts and antiques
- Tenders and other watersport toys
- Salvage and wreck removal costs
- Sea transportation
- Charter
- Loss of charter income
- Motorcycles and mopeds
- Helicopter
- Increased value cover
- War, strike and confiscation
- Use of tenders and other watersport toys
- Towing of water-skiers and parasailers
- Diving (for licensed divers)
- Charter

CREW INSURANCE

- Accident
- Medical

BUILDER'S RISK

- New builds and major refits

LIABILITY INSURANCE

- Protection and Indemnity (P&I cover)
- Owners' liability to paid crew
- Environmental/water pollution



AVIATION INSURANCE

Discretion, independence and reliability: private jets and helicopters are becoming increasingly popular, and not just since the pandemic. The growing number of yachts with their own helicopter landing pads proves that aviation and yachting naturally complement each other. With Pantaenius, insurance solutions for both asset types are now available from a single source.

Aircraft and helicopters, just like yachts, require an individual risk assessment in order to put together the right insurance package. To optimally cover private owners, companies or pilots, Pantaenius works together with long-standing aviation experts who have designed a top-class aviation insurance programme. In addition to liability insurance for owners and passengers and hull insurance for the aircraft itself, this also includes special technical insurance products for electronics or engines and seat accident insurance.

Unlike in the yachting world, liability insurance is compulsory in aviation. The principle of strict liability applies. Some countries also have special national catalogues of requirements for the type of liability insurance. We will be

happy to advise you on all matters relating to insurance and compliance.

THE MOST IMPORTANT INSURANCE SOLUTIONS AT A GLANCE:

Owner`s Liability Insurance: Aviation Liability Insurance provides protection in the event of claims for damages by third parties on the ground, which are made on the basis of statutory provisions.

Passenger's Liability Insurance: Passenger's Liability Insurance covers the legal liability of passengers and baggage on board aircraft towards the passengers being transported.

CSL Insurance: As an alternative to owner's liability insurance and passenger liability insurance, a combined liability insurance can also be taken out. It includes the air carrier`s legal liability arising from the use and the air carrier`s legal liability arising from the carriage of passengers and baggage as well as cargo on board aircraft.

Hull Insurance: Aviation Hull Insurance provides cover in the event of loss or damage to

an aircraft. This insurance conditionally covers all risks to which the insured aircraft is exposed up to the amount of the sum insured. Risks during flight operations and on the ground are insured.

Hull War Insurance: The War Hull Insurance supplements an existing aircraft hull insurance by including risks in connection with war or warlike conditions as well as political unrest in the insurance cover.

Landing Site Liability Insurance: Landing Site Liability Insurance and Aerodrome Liability Insurance cover the legal liability arising from the ownership, maintenance and operation of landing sites or aerodromes for aircraft weighing up to 5,700 kg.

Seat Accident Insurance: Any person who is an authorised user of an aircraft can take out seat accident insurance on the basis of a sum insured to be agreed in advance for the event of disability and/or death. This can be pilots, crew members, flight students, passengers or passengers.

Hangar Insurance: Here you can insure aircraft in the hangar against damage caused by burglary, fire, tap water and storm.

BEWARE OF UNDERINSURANCE

Global supply shortages, increased demand and rising inflation mean that many newer jets and helicopters are experiencing significant increases in value even after they have entered service. Hull insurance policies for such aircraft should therefore be reviewed regularly to avoid so-called underinsurance. The responsibility for this lies with the policyholder. Experts or even sources such as the Aircraft Blue Book are a good indicator of the current value of aircraft.

GET IN TOUCH

If you are an owner's representative, pilot or yacht manager and need to discuss the possibilities of a jet or helicopter charter, we are always happy to be of assistance. Together, we will determine your specific needs and submit a non-binding and transparent quotation. You benefit from the Pantaenius Group's trusted connections to capable carriers as well as our access to a wide range of special solutions via the international insurance market Lloyds of London.



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