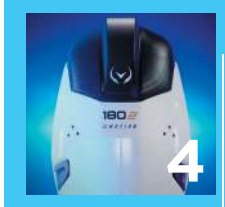
FREE

MARINE INDUSTRYNEWS

FOR THE MARINE TRADE | FEBRUARY 2022 | ISSUE 03

IN THIS ISSUE



marineindustrynews.co.uk

Editorial – MIN daily news, website and print edition
Editor – Chantal Borciani
Deputy Editor – Susannah Hart
Managing Editor – Zella Compton
info@marineindustrynews.co.uk

Advertising
Commercial Manager – Lyndsay hall
lyndsay@marineindustrynews.co.uk
Database Marketing and Sales Executive – Jake Young
Designed by Steve Davies
www.marineindustrynews.co.uk
Units SF1-2
Endeavour Quay
Mumby Road
Gosport
PO12 1AH UK

Printed by Stanbury Chameleon on Carbon Balanced Paper, endorsed by the World Land Trust

marineindustrynews.co.uk

As restrictions ease (hopefully for the long term), the surge in recreational boating activity looks set to continue. Order books are brimming, existing owners are filling refit yards across the globe, and the secondhand market has experienced demand like never before.

A significant – and growing – chunk of our buoyant boating market includes those new to boating and, in an era where eco is everything, end users increasingly want to know their brand, their boat, and their technology is environmentally sound.

We take stock of the huge investments making waves in the electric propulsion market on p4 and get the lowdown on how UK-based sailing manufacturer Rooster made the switch to a more sustainable production process on p15.

Below the waterline, advances in antifoul technologies could provide cost, performance and ecological benefits – we look at some new and existing options on p12. And out on the water, safety equipment is still as vital as ever – will virtual reality prove beneficial for maintenance and training in the future? Find out on p18.

In our new connected world, where your fridge will remind you to pick up a bottle of milk and you can check a video stream of your front door from anywhere in the world, marine businesses are also finding ways to use data to make their products more efficient, more customer focussed and provide the connectivity end users have come to expect. Find out how big data is being used by boatbuilders, manufacturers and marinas to change the boating world for the better on p7.

While the marine industry has had its fair share of challenges and stop-starts over the past two years, there is the appetite, an influx of new, younger boaters and reams of innovative products now making it to market.

Speaking on p12 about the potential dividends to be gained from paint manufacturers collaborating with marinas and cleaning companies, Phil Horton, environment and sustainability manager at the RYA says: "I have no doubt that we are on the cusp of a more elegant, more engineered, more carefully considered approach that takes proper account of environmental concerns as well as performance." It strikes me that this could ring true for the industry as a whole – exciting times indeed.

Chantal

|| In this connected world where your fridge reminds you to pick up a bottle of milk, marine businesses are using big data to make their products more efficient ||

Charging *ahead*

The surest way to assess the growth of a technology is to look at the money and talent it's attracting – which leaves little doubt that electric propulsion is on a trajectory set to change life on the water for good

X Shore Eelex 8000. Credit: Pontus Johansson

Words: Jeff Butler

A quick tally of recent investments demonstrates just how fast the electric boat market is growing – General Motors acquired a $150 million stake in electric outboard company Pure Watercraft, Candela and its electric hydrofoiling speedboats secured funding of $27 million, ePropulsion received significant investment in November 2021, worth 'tens of millions of dollars', and Arc Boats of California successfully completed a $30 million Series B funding from high profile Silicon Valley investors.

Over the past 12 months Canada's Vision Marine Technologies also launched on the NASDAQ exchange with a $27.5 million initial public offering (IPO), electric jet ski maker Taiga Motors received $85 million in a special purpose acquisition company (SPAC) deal and X Shore landed $17 million in new capital.

So why is money pouring into electric boats? And why now? One major reason is that investors see the sales and profits growing in the electric vehicle arena and expect the marine market to follow suit. Beyond that, there are different reasons for different companies.

Mikael Mahlberg, PR and communications director of Candela, says there are three things that led to the success of the company's December 2021 multimillion funding round, led by EQT Ventures. Firstly, Candela's hydrofoiling system is now proven. As one might imagine, there were some doubters when founder Gustav Hasselskog first started talking about an electric flying boat in 2016. Secondly, Candela's electric flying boat has now racked up over 100 orders (and climbing) since the launch of its C8 in August 2021.

"The third thing is Candela's commercial and public transport hydrofoils" says Mahlberg. "That is a second revenue stream, and a much bigger market – in the order of tens of billions of dollars worldwide. The hydrofoil and computer system we developed for recreational speedboats brings immediate benefits and quick payback in a commercial application and our plans and projections are to sell 700 of the P-30 vessels in the next five years."

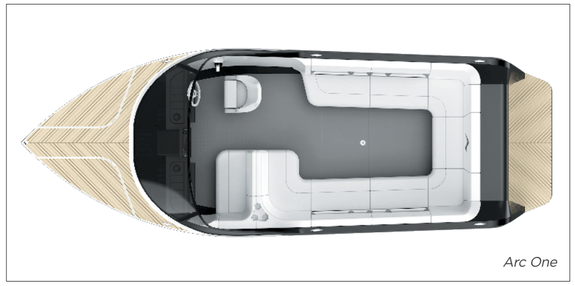
Like Candela, many of the electric boat companies hitting the headlines have spent years of research and work to become these 'overnight success stories'.

Vision Marine Technologies began life as the Canadian Electric Boat Company in 1995 and rebranded in December 2019 with its $27.5 million IPO on the NASDAQ exchange.

For many years, it manufactured and marketed both lightly powered cruising boats and high-performance electric speedboats. The big attraction for investors in the stock offering, though, is the new E-Motion 180E electric powertrain package, a complete 180hp plug-and-play electric outboard system. The E-Motion 180E will be sold to traditional boat companies and provides them with a way to easily offer electric propulsion.

Scaling is the key to maximising revenues, says Vision Marine Technologies' CEO Alex Mongeon, and the IPO is helping the company move from prototypes and demos to mass production. "We've proven the capabilities of and demand for our technology, and received Letters of Intent and orders from OEMs throughout the USA. Our new manufacturing agreement (with one of North America's largest autopart suppliers) gives us the ability to scale production to deliver thousands of electric outboard systems."

Arc Boats had early support from Silicon Valley heavyweights



Arc One

E-Motion 180E

Credit: Mira & Thilda Berglind

Outside of product developments, sustainability itself is a growth industry that is supremely attractive for modern investors. Gabriella Richardson is the founder of Yachting Ventures, which helps guide new boating start-ups of all kinds. Richardson comments that "the pitch decks we send out to investors are increasingly coming back with comments like 'our investment focus is moving more to sustainable technologies'."

Jenny Keisu, CEO of Swedish electric boat manufacturer X Shore, not only knows about the rise of investor focus on sustainability – she helped start it. Before moving to X Shore, Keisu was a founding partner of Summa Equity, one of the first venture capital firms to specialise in funding companies that advance the UN's sustainability goals.

In March 2018 Keisu moved to X Shore because she "could clearly see a path to building a successful company out of [founder Konrad Bergström's] amazing vision." Three years and a $17 million funding round later, a new factory is set to open in Sweden, which can produce over 400 all-electric Eelex 8000s per year.

In addition to aligning with sustainable and green initiatives, investors are also attracted by the innovation. X Shore and other electric boat companies incorporate software including over-the-air monitoring and advanced telemetrics – couple sustainability with that kind of next generation technology and it fast becomes a compelling investment proposition.

A case in point is Arc Boats, which launched in February 2021 with early support from some of Silicon Valley's heavyweight venture capital firms including Andreessen Horowitz – an early backer of Twitter, Airbnb and Skype. Arc was founded by Mitch Lee, a successful software entrepreneur himself, and Ryan Cook, a Space X engineer who brought to the team some other rocket building alumni to engineer the company's high speed, high power all-electric watersport and wakeboard boats.

Lee says: "The most successful products seamlessly pair hardware and software. We've attracted a lot of investor excitement because of our expertise across both disciplines, combined with our first principles approach to engineering and rapid pace of development."

It certainly impressed the capital funds of actor Will Smith, NBA basketball star Kevin Durant and media mogul Sean 'Diddy' Combs, all of whom invested in Arc in late 2021. They were joined a few weeks later in a round of $30 million led by Eclipse Ventures partner Greg Reichow – who was executive leader of global manufacturing, factory/automation engineering and supply chain at Tesla from 2011 to 2016. Lessons will be taken from the successful roadmap of the electric vehicle (EV) market, and the big players in automotive are, of course, keen to be part of any electric revolution in the marine sector.

General Motors (GM) acquired a 25 per cent stake in Pure Watercraft and in January 2022 the companies opened pre-orders for the first product – an all-electric pontoon boat – to result from the partnership. GM has committed billions of dollars to battery plants and a programme to install up to 40,000 EV chargers across North America – some of which will presumably be in marinas.

Pure Watercraft's founder and CEO Andy Rebele says to think of the arrangement in terms of the value chain. "We access GM powertrain components at its internal transfer price and use GM support to access validated components at much lower cost than electric boat competitors. We get the most performance per kWh, because of Pure Watercraft's industry-leading propulsion efficiency, and manufacture with the direct assistance of a world-class manufacturer."

Beyond headline-grabbing stories such as GM's investments, tens of millions of dollars of investment have also been funnelled through government programmes and research grants.

Internal investments have also showed a significant shift, with big names pivoting to ensure they are not behind the curve.

Deutz purchased Torqeedo in 2017, Transfluid purchased Bellmarine in 2018, Yamaha unveiled its Harmo all-electric system in 2021, Mercury is launching its electric outboard range in 2022, wakeboard powerhouse Nautique already has an all-electric model, Beneteau's Delphia will relaunch in 2022 as an electric mobility brand, VW is partnering with Silent Yachts... the list goes on. Proof that in the electric boat world there are definitely more developments, and money, to come. ■

Jeff Butler is editor/publisher of Plugboats.com, the journal for everything electric boats and boating.

Pure Watercraft outboard

The rise of big data

From finance to security services, the term 'big data' has become almost ubiquitous. And if it sounds like the sort of thing that people go to sea to avoid, then take note: even the yachting sector is flirting with the concept.

Credit: Hanse

Words: Sam Fortescue

The phrase 'big data' was coined in the 1990s to describe novel ways of mining large quantities of information for useful trends. But it wasn't until the digital age that data really became big – accompanied by a new generation of statistical tools, software and hardware capable of making sense of it all.

Companies have been understandably cautious to dig into these opportunities, which have spurred real controversy about privacy. The automotive sector has led the way. Tesla owners are willing to pay £10 per month to stream video, music and real-time mapping to their cars. But whether you pay or not, the car will send video it has recorded while driving as well as a host of other data back to Tesla's servers for analysis.

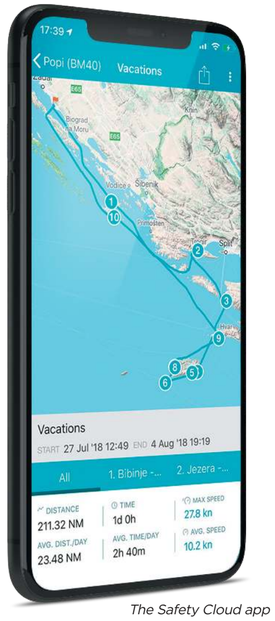
It is helping the company to develop artificial intelligence potentially capable of driving our cars safely, and McKinsey estimates that such data could be worth well over $250bn by the end of the decade – a staggering sum.

Boat ownership is much narrower than that of cars so, of course, the pool of data is smaller. But with the advanced electronics now routinely fitted to modern boats – from sophisticated navigation kit to audiovisual and remote monitoring – the scope is just as great.

Some industry players have already realised it; Groupe Beneteau has recently introduced a tool it has branded Seanapps, which allows users to remotely monitor the status of their boats. The basic black box can be retrofitted for €1,319 and there is a €219 annual subscription charge. While the boat owner is checking the battery levels, GPS position and air temperature on board, Beneteau can also garner anonymous data. The system won't align specific information with a specific boat, unless owners have agreed to let it, but at the very least the data feeds into an anonymised database.

While the boat owner is checking the battery levels, GPS position and air temperature on board, Beneteau can also garner anonymous data.

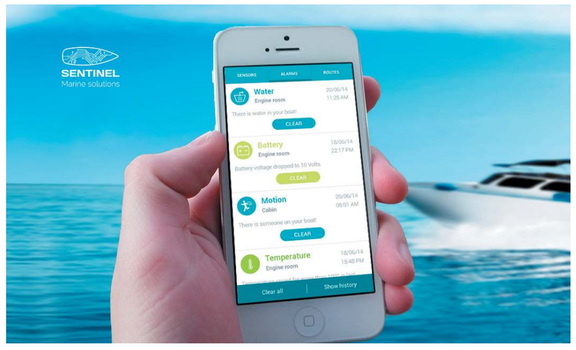
"Our goal is to help all the Groupe Beneteau brands improve the customer journey," explains Luc Joessel, communication project manager at Beneteau. "With a



The Safety Cloud app

better knowledge of our customers and the way they use our boats we will make sure our products and innovations are matching their expectations."

Many of the company's sailing boats have been built Seanapps-ready since August 2021, and this is being extended to cover every



brand by autumn 2022. It is based on technology from Sentinel Marine, which also supplies the world's number two yacht builder, Hanse Yachts AG.

For two years, Hanse's new boats have contained the wiring and hardware necessary for connectivity at no extra cost to the owner, with the first two years of subscription to the My Safety Cloud app also free. There are undoubtedly major benefits to the boat owner, but it also allows Hanse to read engine parameters, such as rpm and run time.

"From that we can initiate engine servicing plans," says Hanse project manager Johannes Schlieben.

"We have plans in the next six to 12 months where we want to compare boat performance with weather data. We can sense wind conditions on a sailboat and how fast the boat was going. So, we could get more insights about performance parameters of the boat."

Schlieben believes the business has invested north of €1 million in the project over the last three years, with annual costs of at least €250,000. He says that no-one is quite sure how to use the data yet – not least because of strict EU rules on what can be collected, and for what purposes. "We are currently trying to understand what is legally possible, and where the benefits would be," he adds. "Automotive people have found a set-up so they can use these things."

Of course, boatbuilders are not the only ones looking to use data gleaned from on board. Marine electronics brands from Raymarine to B&G are gathering data about how owners use their kit online and offline, with a view to improving the interface and building more compelling products.

Engine manufacturers could also benefit from more data use. Volvo Penta's larger marine diesels from the 110hp D3 upwards are electronically controlled and already interface with NMEA 2000 instrument networks, while its smaller engines can be connected up using an extra adapter. The aim, according to Johan Inden, president of Volvo Penta, is to develop a network of connected vessels.

"Across the Volvo Group, we have over a million connected vehicles operating across the world," he says. "What we have learned, based on more than 20 years of connected products, is that you have to link it very, very closely to the experience and customer value you'd want to establish. How do we really make sure we enrich the experience and don't just end up shuffling data with little value?"

Realising this value is something that kept MDL Marinas sales and marketing director Tim Mayer busy for about nine months during the first lockdown in the UK. He brought in the Tunisian firm Acteol to help set up a system that would collate customer data from across the business into a single customer view. That's over 7,000 berth holders in 20 different marinas.

MDL's Ocean Village Marina

Marine electronics brands from Raymarine to B&G are gathering data about how owners use their kit online and offline, with a view to improving the interface and building more compelling products.

"The data sits at the core of everything we do," Mayer explains. "It gives you a much more rounded vision of what that customer looks like and the value to the business. Based on their behaviour, it allows you to plan future strategies."

Aggregating data from multiple sources is the same sort of thing that Google or Facebook do. With that overview of how often berth holders visit their boats, and for how long, whether they prefer the on-site bar or the restaurant, and how much they're spending on refit and maintenance work, MDL can fine-tune its messaging. "It means we can pull the correct target audience for any message at any time. You can build much more detail," Mayer adds.

And the bottom line? While he won't talk cold, hard cash, Mayer does say advertising aimed at specific customer groups by the new system has produced an uplift in spending. In July, customers who were not targeted by the system visited their boats on average 2.6 times, while those who had received a promotional message came 3.11 times. In December the difference is even starker: 1.75 visits versus 2.6 in the month.

"It's a fairly big investment," Mayer admits, "but it's a commercial decision. We haven't spent elsewhere. The amount of time we would have spent pulling various bits of info – it's paid for itself." ■

TMS TECHNICAL MARINE SUPPLIES

Specialist Marine Trade Distributors

www.technicalmarinesupplies.co.uk
sales@technicalmarinesupplies.co.uk
01752 600454

SELDÉN

Ratchet blocks, R60

This is the second generation of manual ratchet blocks from Seldén and the focus has been to improve the grip and the switch.
Ratchet blocks are mainly used for dynamic applications such as sheets on dinghies and keelboats. When the ratchet is activated it locks the sheave in one direction and allows the sailor to relax a bit without cleating the line. The new single block versions are available either with a composite sheave or an aluminium sheave. The latter version makes for more grip and the ability to cope with relative thin lines.

Marlow®

The BLUE OCEAN DOCKLINE, made from 100% recycled plastic bottles!

A first in the industry, this premium dockline is made from rPET (recycled polyester yarn). The unique construction offers the same popular attributes as Marlow's regular Dockline, including good abrasion resistance and shock absorption with soft and supple flexibility and zero strength loss or shrinkage.

This eco-conscious Dockline is made from recycled yarn, whilst also being recyclable at the end of its life. Available unspliced on reels and pre-spliced in 12-16mm diameters in lengths from 6m to 12m.

hamma®

Stainless Steel Fittings & Wire

The HAMMA Regatta range of conventional and compact stainless steel wire strand has up to a 30% higher minimum breaking strength (MBS) than the competition... so the challenge was to engineer a range of rigging hardware that could match the increased performance of the wire. Made from the highest quality materials, and manufactured using the latest cutting edge technology, a complete range of turnbuckles and terminals are now available from stock.
When extreme performance, corrosion resistance and durability count, the regatta range has been engineered to provide the ultimate standing rigging solution.

MARINE MAGIC™

All Purpose Boat Cleaner

Available in 5L containers or 1L bottles

High Performance Cleaning Solution.

Marine Magic is a brand-new product which has been developed as an all-purpose, biodegradable antibacterial solution, providing high-performance cleaning with antibacterial properties for all types of craft.
The bleach and fragrance-free cleaning solution, whilst being a product created specifically to compliment EVA foam decking, will also enable the wiping away of bacteria, fungi, grease, dirt and algae stains from all manner of surfaces.

Formulated to remove those most stubborn deposits which accumulate when a vessel has been kept afloat over the winter months. *"It's a really practical product if you're looking for a true allrounder? One that's tough on stains but also cares for the environment,"* says, Sean Roebuck, founder of Marine Magic. *"We are proud of the fact our product possesses no harsh ingredients that might damage our precious ecology and marine life."* **For further information see: www.technicalmarinesupplies.co.uk**

TMS TECHNICAL MARINE SUPPLIES

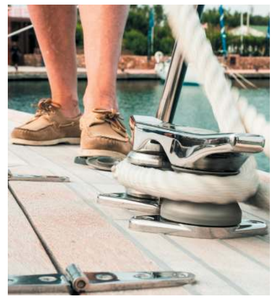
SIMARINE

PICO Battery Monitor

PICO is SIMARINE's advanced battery monitor and the Real-Time Battery HealthTM algorithm allows for precise battery health measurements. It sets new standards for marine battery monitors in fields of design, functionality, connectivity and ease of use.
Its expandable architecture allows adding up to 20 SIMARINE shunts and modules to monitor all kinds of boats, yachts and caravans – from the smallest vessel to a superyacht.

bonomi earth and sea innovations

JOY The Self Tailing Cleat

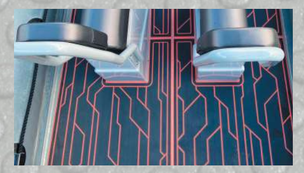


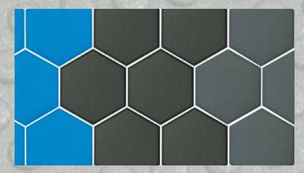
A DAME Category Winner in 2021 the innovative Bonomi Self Tailing Cleat is a revolutionary cleat to allow fast and effortless practical mooring.
Built to transform a strenuous manoeuvre into a much more comfortable one.
The Joy cleat system integrates on one side a freely rotating roller to take up the mooring tension and on the other side a motorised self-tailing rope gypsy.
In bringing together in a single piece of hardware all the functions needed whilst docking, the Joy cleat allows easy yet safe docking without having to utilise capstans.

watt&sea

POD 600 Hydrogenerator

An innovative solution for sailing boats unable to fasten a hydro generator on the transom for either technical, mechanical or aesthetic reasons.
Rigorously tested since 2014 by a few privileged sailors, the POD600 has been able to demonstrate its unique attributes.
Delivered as standard with a 240mm diameter propeller (10 amps at 5.6 knots), the POD600 accepts a range of 4 propellers for speed range from 3 to 20 knots.
The output power increases in an exponential way over 6 knots, offering up to an incredible 45 amps, meeting the demands of a current blue water cruising vessel.





What lies **beneath**

SeaDrone Pro (built and supplied by California-based Orobotix) as part of a collaboration with AkzoNobel

Words: Alex Smith

The antifoul game is changing – from biocide-free solutions to UV panels and robotics – new innovations are placing a renewed focus on an economical and ecological boating future

Marine coatings, particularly those used below the waterline, have an extremely important job to do. With around 4,000 potential fouling organisms in the world's oceans, from algae and anemones to barnacles and mussels, effective antifoul practices are vital. Antifouling does not just maintain hull efficiency and minimise costs but can also help prevent the spread of non-native species to other regions.

Given that a heavily fouled hull can increase drag by around 40 per cent, the environmental impact in terms of emissions is also critical. According to Chris Birkert, marine segment manager at AkzoNobel, a heavily fouled container ship could potentially "increase its CO_2 emissions in a single year by up to 16,000 tonnes for a 10 per cent speed reduction and up to 64,000 tonnes if you want to retain its original speed".

Effective coatings are vital to sustainable boating, both from a financial and an ecological perspective. And while, in the past, the relative absence of legislation regarding toxic content in antifoul has made that job easier, the game has changed. With public attitudes, political intent and international legislation now broadly aligned in their commitment to cleaner seas, both commercial shipping and recreational boating is searching for biocide-free solutions that are as 'friendly' as they are effective.

Stay slippy

Silicone-based foul-release coatings have been garnering plenty of attention and with good reason.

Rather than releasing harmful biocides into the environment, silicone-based coatings are designed to create a slippery surface, thereby preventing the attachment of organisms and helping hulls self-clean underway.

With around two decades of effective use behind them, Propspeed's biocide-free, silicone-based coatings are now available for transducers, as well as props, running gear and subsurface metals. Hempel's Silic One is another biocide-free fouling release system, which is based on a combination of silicone and hydrogel. While

Given that a heavily fouled hull can increase drag by around 40 per cent, the environmental impact in terms of emissions is also critical.

Propspeed

longevity is not generally as strong as other techniques, most mainstream silicone foul-release coatings exhibit an effective service life of between 12 and 24 months.

Metal frame

Coppercoat uses a combination of a solvent-free water based epoxy resin and high purity (99 per cent) copper. Each litre of resin is impregnated with two kilos of ultra fine copper – the maximum allowed by law. On immersion, sea water attacks the exposed pure copper powder, causing the formation of cuprous oxide. This antifouling agent deters growth until the surface degrades further to become cupric hydrochloride. This final copper form is highly unstable, and is washed away by the movement of the yacht, thereby removing any accumulating silt or slime underway.

Let there be light

Ultraviolet (UVC) light is a promising technology in the field, particularly in the form of flexible light-emitting panels. AkzoNobel has been involved with Philips in the development of its RunWell panels. Testing on commercial vessels has shown that UV light emitted from a hull's surface can present an effective deterrent to biofouling in a range of locations, in a range of conditions, whether a hull is in motion or not.

Birkert explains: "What we're looking at is embedding UVC LEDs into a highly mobile, highly fluid material that you can stick onto pretty much any shape. Power requirements are very minimal, and these things could potentially last ten years without replacement." With trials expected in the leisure industry within the next five years, it's hoped that UV light could play a major part in the removal of biocides from the antifoul equation.

Second skin

Biomimetic technologies attempt to make a boat hull 'invisible' to fouling organisms by mimicking a variety of natural foul-resistant surfaces, whether that involves coral tentacles or the skin of a whale or dolphin.

Shark skin, with its overlapping plates and parallel ridges, has garnered particular attention – and as 3D printing and laminate technologies continue to develop, new materials and application techniques are likely to make biomimetic solutions a possibility.

Sound travels

Ultrasonic antifouling systems use transducers to emit simultaneous bursts of ultrasonic sound waves in multiple frequencies. The theory is that the alternating positive and negative pressures create microscopic bubbles that implode against the surface, destroying the very microorganisms that form the building blocks for bio fouling.

Though concerns over the long-term impact of ultrasound on key mammalian species including whales and dolphins have been raised, studies have drawn no conclusive evidence to support those concerns and ultrasonic systems remain in use both on steel-built commercial vessels and as standalone and supplementary systems on recreational craft.

A new age of integration

Gone are the days when paint manufacturers confined themselves solely to coatings. A more dynamic 360 approach is also coming into play. According to Stein Kjølberg, global category director, hull performance, at Jotun Performance Coatings, the change in how users are approaching their fouling problem in itself is a critical innovation.

"In the commercial world, the onset of fouling is always discovered too late, leading to inflated fuel costs for an average of six months before remedial action is taken. So it makes sense that effective antifouling systems need to involve a combination of the products we supply, the advice we give and the cleaning techniques we use," Kjølberg says.

Jotun's industry-first 'hull skating' antifoul robot could bring extra flexibility to fouling response protocols. Its integrated Hull Keeper

Jotun's 'hull skating' robot

Biomimetic technologies attempt to make a boat hull 'invisible' to fouling organisms by mimicking a variety of natural foul-resistant surfaces, whether that involves coral tentacles or the skin of a whale or dolphin.

system takes full advantage of the improvements in 'big data' to go even deeper. According to Jotun, it assesses the data in relation to a vessel's type, route and activities, enabling ship owners to take early action against fouling and to remain properly informed about where to clean and where to sit idle, so they can minimise the severity of the fouling challenge.

This data-driven approach is strongly endorsed by other industry players too – not least, AkzoNobel, which states that its integrated Intertrac Hullcare system can achieve "step-change reductions in CO_2 emissions of up to 34,000 tonnes and fuel savings of €4.6million" for a ship owner over a ten-year period.

Robotic range

The advent of the integrated service package looks likely to make a major impact on the leisure market as well. After all, if an owner wants a clean, fast and efficient hull for five years, then rather than buying a standalone antifoul coating, it makes sense to invest in a subscription-based service that spreads the cost and improves consistency.

According to Phil Horton, environment and sustainability manager at the RYA, such a service already exists in the Baltic states, where boats with silicone coatings are able to clean their hulls in marinas simply by driving through robotic car wash-style in-water jet systems.

Horton notes the sheer scale of the business opportunities available to paint manufacturers who are willing to cooperate more closely with marina operators and cleaning companies. "With sustainability now providing such a strong driving force, innovation is really starting to happen, not just in relation to the antifoul coatings themselves but also in relation to the way people think about maintaining their hulls.

"There are still strides to be made in terms of independent testing so that businesses and consumers are able to assess how well each new technology works but with everyone now moving in the same direction, I have no doubt that we are on the cusp of a more elegant, more engineered, more carefully considered approach that takes proper account of environmental concerns as well as performance," says Horton. ■

DESIGNS for LIFE

What are the realities of switching to a sustainable manufacturing model and how can you ensure your eco labels ring true? *Marine Industry News* talks to a UK brand that's made the change.

Last year was a good year for Rooster, the Fareham-based company which makes sailing clothes (wet and dry) and dinghy kit. Under the sustainability, design and development leadership of Kate Morrison, the company launched new neoprene products. She says it was a 'big jump'.

"We changed factories to do it, payment terms were a lot harder. The cost of product was substantially more than we were paying before," she says. But it's a strategy which has worked.

The updated Supertherm and Thermaflex ranges are made with water-based glue, dope dyed yarns, limestone neoprene, and recycled polyester. "The process and the new factory are so much more sustainable," says Morrison, "which took us to the next level in design."

The sustainable-led design improvements included improved true-to-size fitting (with pre-shaping specifically designed for use on the water), which has its own environmental impact of minimising the number of returns.

Morrison studies all facets of each product's life cycle prior to development, understanding its sustainable impact from manufacture, through distribution, to end-use and re-use.

"You can have a really sustainable process but source really unsustainable materials. It has to balance throughout," she says.

Morrison thinks while it's possible that most of the top neoprene suppliers are now using limestone-based neoprene instead of petroleum, and that "most companies are now pushing for environmental design, especially in a sport that uses the environment", there are still plenty of challenges over and above balancing the component/process equation.

One of those is helping consumers understand a product's whole life cycle credentials.

"You get some people who complain about plastic packaging – they demand recycled paper. But they don't have any facts behind their demands," says Morrison. "Some of our products might be in transport or in a warehouse for up to two to four years and that gets very hot and very cold temperatures. We have to consider the product's life, so we don't put our products into unsuitable packaging – like compostable bags (whose life span may only be one and a half to two years) – for the sake of saying its recyclable."

She notes that what is eco-friendly in some people's eyes may wear down in a week... and it's her role to design the best product, made to last for years, which is as sustainable as possible. Sometimes that means taking a pragmatic approach.

"You can have a really sustainable process but source really unsustainable materials. It has to balance throughout..."

Kate Morrison discusses product developments with the Far East team

That's why Rooster still uses protective plastic bags. They're made from recycled plastic, which can be recycled again. As Morrison says, the bags have a constant life cycle.

"Plastic bags also have a reduced weight, which is better for us for shipping in containers."

Extending good practice

Rooster sources and manufactures the majority of its products in the Far East where eco friendly practices are developing.

"The Far East is changing," says Morrison, "but the mindset is still a couple of years behind us. Getting 'normal' fabric straight off the market is easy, but to get recycled fabric we still have to order it specifically. It is changing though, even compared to a couple of years ago, we are now seeing more factories offering recycled and eco friendly fabrics."

The active understanding and marketing of sustainable practices is widening.

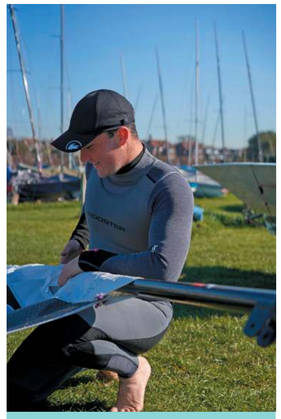
"Neoprene factories are helping in driving the industry forward," she says. "The leaders use water-based glue, dope dyed yarns and eco friendly practises, and are pushing forward. Others are starting to follow. Yes, everything is more expensive but people are going for the best."

"What is eco friendly in some people's eyes may wear down in a week... and it's her role to design the best product, made to last for years, which is as sustainable as possible."

Morrison's entire focus is now to make the product as good and as environmentally sound as possible.

"The first thing we ask suppliers is about their eco goals, and where they are trying to get to," she says, "you need a lot of people to push to make a big change. It's already happening, and the more people that push, the more it'll happen."

"While some companies are very stuck in driving to make the highest profit – at all costs – at Rooster we've got a young team with a fresh mindset, wanting environmentally sound outcomes. ■



Morrison's tips for sustainable development

SAVE SAMPLE ROUNDS: Take design specifications back to critical concepts. Make specs as detailed as possible, including what is wanted from manufacturing technologies. Vagueness leads to wasted samples, wasted manufacturing time, wasted shipping time etc.

ALWAYS PUSH: Ask for sustainable fabrics and certificates. It's easy for factories to say they can't do it, or to say those fabrics need really high order volumes. There's always a loophole to get to a better fabric, like a surcharge to order less. 'Lots more money' warnings might actually equate to 10p on each product.

WASTE NOT: Rooster's pandemic face masks used offcuts from jackets which were being made for a Chinese market, using fabric which would have ended up in landfill.

Rooster's new Thermaflex range

Checking the product line in the factory

Top Gear

Antibacterial solution for high-performance cleaning

Marine Magic is an all-purpose, 100 per cent biodegradable, antibacterial solution suitable for all marine crafts. Designed specifically to compliment EVA foam decking, the cleaning solution means bacteria, fungi, grease, dirt, and algae stains can be wiped away from the surface of any vessel.

"It's great if you're looking for something that's an all-rounder, that's tough on stains but cares for the environment," says Sean Roebuck, founder of Marine Magic. Marine Magic is suitable for use on Hypalon and PVC, and is free from chlorine bleach and fragrances – meaning it "won't leave your boat smelling like chemicals".

marinemagic@procastuk.com

Ocean Art makes bold paint advances

Ocean Art, manufacturer of showstopping mainsail and spinnaker branding, has partnered with Marine Shield New Zealand to bring its UV paint system to the UK marine industry. With a claimed 99 per cent UV protection, Marine Shield protects the sail material, seams and stitching. A two or three-layer application provides the material with 99 per cent UV protection and the added benefit of algae and fungi inhibitors, good chafing resistance, a high rate of flexibility, stain resistance and sail longevity.

Depending on wear and tear, it will have an estimated full UV protection lifespan of four or five years in the northern hemisphere. Marine Shield can tailor make almost any colour desired.

info@oceanart.co.uk

Flex-and-protect tube shield

Marine Shield Ultraflex paint provides high-quality UV protection for RIB tubes.

The product reduces the penetration of UV rays through to the substrate, resulting in increased longevity, cleaner looking fabric and a marked reduction in colour fading.

Chemical and oil stain resistant, Ultraflex is hydrophobic, has a high rate of flexibility – with up to 35 per cent expansion and elasticity in the coating – and is chafing and scuff resistant.

Ocean Art is the UK approved applicator of Ultraflex.

info@oceanflexiblecoatings.co.uk

SAFETY FIRST

sMRT Shield


Studio 8ight

For offshore sailors, often far away from land and rescue services, staying with the boat has always been the number one survival rule. The wearing of lifejackets is thankfully commonplace and personal locator beacons (PLBs) fitted inside a lifejacket cover are increasingly the norm.

Marketing specialist Lauren Mead investigates the future of marine safety equipment, from PLB advances to route software and virtual reality training.

In Category 1 and 2 offshore races, PLBs are becoming mandated safety equipment and, as their use becomes more widespread, developments follow. While many in the marine industry would call any locator beacon a 'PLB', these units have historically worked on two different systems. Either the PLB was a manually activated 406MHz unit that transmitted its location via satellite to rescue services on land, or alternatively it was an 'MSLB' (maritime survivor locator beacon) unit that was fitted with a short-range transmitter, which worked via AIS, VHF DSC or 121.5MHz. This transmitter could be automatically activated by immersion in water and would then relay its location to vessels in the local area which were monitoring those systems.

Both options come with pros and cons – the 406MHz could connect the man overboard (MOB) directly to rescue services with far greater rescue capabilities than the average yacht or ship, however if they were far from shore the rescue services could take precious time to reach the person in need. To prevent accidental scrambling of emergency services, industry regulations require the units to be manually activated – all very logical until you have an unconscious casualty in the water. MSLB units are water activated so have previously been marketed as more user friendly. They can only relay your position to vessels in the immediate vicinity so you are relying primarily on your crew for rescue - which could be difficult for short-handed sailors or anyone sailing in heavy weather.

In 2018 the EU-funded Helios Project grant programme was launched to further develop the capabilities of personal emergency locator beacons to operate on the new Galileo satellite system – a network of 26 medium orbit satellites that can relay information and locations more quickly and accurately than other satellites.

It was as part of this programme that British business MRT spotted an opportunity. "We realised that by combining both systems into one unit we could offer greater rescue coverage", says Courtney Tarbotton, sales manager of the Yorkshire-based manufacturing business. "The sMRT Shield will be available in spring 2022 and is the first locator beacon to be granted approvals to carry both transmitters in one device."

Advancements in battery technology means that it is now possible to have a battery powerful enough to run both systems. "Before batteries were too big – the overall unit would have been massive and too large for practical use. Now they are smaller it opens up opportunities to create a single beacon that allows the user to have both rescue coverage options," explains Tarbotton.

"We realised that by combining both systems into one unit we could offer greater rescue coverage..."

MRT's unit will also feature the new Return Link Service, which is activated by rescue services and pings a light on the unit to signal that help is on its way.

Route fixes

Safety advances are also forging ahead in terms of mapping and passage planning software. PredictWind, the NZ-based wind forecasting service, has now upgraded its routing package to include a new depth avoidance feature.

In a step that the company claims is a world first, the depth avoidance feature applies 2m, 5m, 10m, 20m and 30m depth contours to the chart (with coverage available for the entire world), which allows sailors to navigate around shallows by selecting to exclude particular depth areas from their optimal route. This will be particularly useful for those sailing in coastal areas, and even for those planning open-ocean passages – the Vestas incident in the 2014 edition of the Volvo Ocean Race springs to mind, where depth avoidance at the point of routing could have alerted the team to the presence of the Cargados Carajos Shoals to the north east of Mauritius.

Depth avoidance seems to be such a no-brainer upgrade that it is hard not to imagine this becoming a staple tool in all future navigation software available to mariners.

In the UK, the organisers of Cowes Week are also looking at ways to employ technology to enhance crew safety procedures. Seeking to have a live tally of sailors on the water at any time, race director Laurence Mead says: "Having developed a world first for regatta organisers, the Cowes Week competitor app is available to everybody crewing on all the boats racing. We are currently testing a new app feature, which will allow sailors to easily identify their status as on or off the water. This toggle-feature will enable the Cowes Week team to monitor numbers on the water during the race day and quickly identify any crew who have not returned to the dock within a defined period after the first finisher of their class."

Virtual reality on board

In the maritime training and education arenas, virtual reality (VR) and simulation is also making inroads. With VR effectively employed in other industries and the costs of implementation falling, VR for training yachtsmen, captains and engineers could prove extremely effective in the marine sector.

Increasingly superyachts are turning to VR and looking at gamification processes for training programs. The benefits of being able to 'dry run' or train for emergency situations, learn maintenance run-throughs or train for a vessel's particular equipment set-up virtually before being 'on board' are numerous.

Studio 8ight, founded by former superyacht ETO Jimmy Rahaman, has fielded enquiries from superyachts looking for ways to educate their engineers before they join a yacht. "'See, learn and do' is how we believe people will learn in the future" says Rahaman. "By physically doing something we learn a process better than by watching someone else do it, or by reading about it in a document. It's about building up muscle memory."

Using VR, Studio 8ight plans to offer packages that build a 3D model of a specific superyacht engineroom, which can then be used as a teaching aid, allowing engineers in training to 'walk' over to the right area of the engineroom and carry out essential safety checks.

Rahaman also anticipates that VR will be used for guests in the future, including interactive safety briefings on board about what to do in an emergency.

"The advantage of VR is that we can provide the training remotely – so before someone even joins a boat they can have training in safety processes for that vessel," says Rahaman.

With the average age of boat ownership in the UK coming down to 46 years (from 53 years of age in 2013) it is easy to see how a younger generation will be comfortable using VR training to get ahead when it comes to education and staying up to date with safety certification.

As technology becomes an integral part of marine equipment the key for future products will be for designers to create safety products that are intuitive, simple to use and take advantage of the hyper connected world we now live in. ■


Credit: Unsplash

ASAP™
Supplies

Meet the ASAP Supplies team & enjoy exclusive boat show discounts!

Visit us on Stand E42 for expert advice

JABSCO · HELLA · Parker Racor · JOTUN · vetus · MPM Oil Company · CANSB Marine Plastics · MAESTRINI · Whale · R&D Marine Ltd. · McDUFF · victron energy Blue Power · DOMETIC · Sierra Marine Engine and Drive Parts

Free UK & Ireland Delivery
orders over £100 ex vat

Same Day Dispatch
order by 3.30pm

Click & Collect
Beccles & Hamble

+ 44 (0) 1502 716993 · www.asap-supplies.com · info@asap-supplies.com