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Sector has weathered the storm

Order books for top-end boats and racing sailing vessels look healthy but mid-market sales remain becalmed, writes *Richard Donkin*

s the luxury yachting world descends on Port Hercules today for the annual Monaco yacht show, well-heeled owners and industry brokers will be reflecting on another tough year for the mid-market against improving orders and sales in large high-quality superyachts.

It is a buyers' market for second-hand vessels, so would-be sellers – faced with the growing expense of mooring, crewing and maintaining their assets – have been forced to lower asking prices and cut their losses if they want to step up to something better.

At the rarefied billionaire-owner end, where some yachts have begun to take on the dimensions of floating mansions, orders continue to materialise. Specialists in custom-built big yachts, such as Germany's Lürssen and the Dutch Feadship, report healthy order books.

The tightening of building slots at the quality end is beginning to have a knock-on benefit for other yards.

Another boost to competition among north European yards has been the widening of canal locks used by the Feadship builders, Royal van Lent and Royal de Vries, which means more of their yards can build yachts longer than 100m.

Across the broader superyacht sector,



Motoring on: the 86m Lürssen yacht Quattroelle, one of the stars of last year's International Monaco Yacht Show, has already been sold on by its first owner - AFP/Getty

production is nowhere near pre-2008 levels when there was barely enough capacity to meet demand. The past year has seen some superyacht deliveries but fewer of the eye-popping launches of previous years.

Azzam, the world's largest yacht at 180m, is moored outside Lürssen's yard, where it was built, a year after its formal delivery to Sheikh Khalifa bin Zayed al-Nahyan, ruler of Abu Dhabi (*see page 2*). The yacht is fully crewed but, other than sailing trials, it has yet to be used by the sheikh who suffered a stroke in January.

Another Lürssen yacht, the 86m Quattroelle, one of the stars of last year's Monaco show, has already been sold on by its first owner, Canadian billionaire, Michael Lee-Chin, apparently at a small profit. "It seems someone made the owner an offer he couldn't refuse," says an executive close to the deal.

The sale is encouraging for yacht builders and brokers, since it demonstrates that new yachts at the very top of the market can hold their value.

Nicholas Edmiston, chairman of Edmiston, a luxury yacht broker, says:

"We've had a 20 per cent increase in superyacht sales since this time last year but prices are still low. They should improve at the quality end, as there's a shortage of good stuff on the market." second-hand yachts may force the most

pressed owners - or repossessing banks -

to consider scrappage as an option.

Solent Refit based in Hythe in the UK,

says he was asked by a bank to scrap a

58m yacht, Lady K II, in the south of

France. Instead, he found a client inter-

ested in a restoration and has brought it

to maintain. The question is whether

a boat is beyond economic repair. It

"This one was costing £2m a year

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to the UK for an 18-month refit.

Allan Foot, managing director of

Barry Gilmour, executive chairman of Royale Oceanic, a luxury yacht services business, says the market has stabilised, "but it's nowhere near as robust as it was in 2007 and 2008 and life is still pretty hard in the sub-50m sector. Part of the problem is that it's difficult for people to find finance for their yachts."

A logjam in sales among less attractive

Inside

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The Cornish yard draws on the expertise and skills of former tin miners

'There is a squid on your head...'

Victor Mallet on the benefits - and perils - of wildlife tourism



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Ever bigger boats keep yards busy

Germany Success is due to a willingness to adapt in a fickle global market, writes *Richard Donkin*

n plutocrats' seemingly endless pursuit of ever bigger yachts, the shipyards of northern Europe have established a lead over their Mediterranean competitors.

While the best Dutch yards have few peers in the quality of their manufacture, the top German yards have begun to dominate the market for megayachts, those longer than 70m.

Of the world's 10 largest superyachts in private use, seven were built in German yards and most came out of the Lürssen shipyard in Bremen. While many yards restructured or sat empty after the 2008 recession, Lürssen continued to show solid order books for some years ahead.

Six years on, the order books are just as robust, but Michael Breman, Lürssen's sales director, says the yard cannot be complacent. "With two or three launches a year, we're talking about small numbers and just a few potential customers for these kinds of yachts."

The yard has three launches scheduled this year: Quantum Blue, a 104m yacht already on the water, a 66m yacht Ester III, and a 95m yacht, Kismet.

Beyond these builds, inside the yard's biggest shed is a goliath of a yacht under construction and due for completion in 2016. But this yacht will be shorter than the 180m Azzam, the yard's biggest project and world's longest superyacht, built for Sheikh Khalifa bin Zayed al-Nahyan, ruler of Abu Dhabi.

Like most of the German yards, Lürssen boasts a strong naval heritage, having produced fast torpedo boats during

the second world war and beyond. It still makes naval vessels today.

Blohm+Voss, another big German yard, is proud of its naval connections and its offices display pictures of its most famous ship, the Bismarck, that was launched from its Hamburg yard.

Blohm+Voss has a reputation for large projects, having built the 162m Eclipse for the Chelsea football club owner, Roman Abramovich. Eclipse had been the biggest yacht on the water until Azzam.

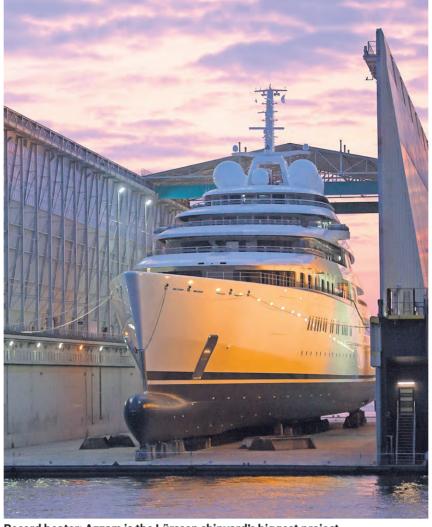
With its radical styling, the Philippe Starck-designed A, owned by the Russian businessman, Andrey Melnichenko, also divides both designers and owners.

At a gathering of builders and designers in London this year organised by Superyachts.com, Blohm+Voss was seeking to distinguish itself as a builder of a new generation of designer-led yachts under what it called Project Jazz.

The project, with proposals for five distinctive superyachts, was inspired by futuristic designs commissioned from Zaha Hadid, the British-based Iraqiborn architect. The designs have yet to attract interest from buyers, however. In the meantime, the yard completed an 82m yacht, Graceful, in the spring.

In contrast to yards that try to lead through avant-garde design, Lürssen prefers to be guided by the demands of its customers, sitting down with established yacht designers such as Espen Øino and Tim Heywood.

Mr Breman says: "Everything we do is different and exhilarating for us. We



Record beater: Azzam is the Lürssen shipyard's biggest project

listen to what the customer wants, we see the designs, and we input the solid engineering skills of our staff. The challenge is always to keep 1,800 employees busy each year."

Most of the German yards compete on friendly terms, sometimes collaborating on projects, sometimes benefiting from a knock-on order when one yard has more work than it can handle.

Just over the river from Lürssen is Abeking & Rasmussen, another old established yard. And in Rendsburg on the Kiel Canal, the Nobiskrug yard is building a sailing ship, the White Pearl.

The key to survival for these yards has been an ability to adapt in a fickle global market.

A whole generation in Bremen grew up relying on commercial shipping from the former Bremer Vulkan company that once employed 22,000 people before the rise of South Korean shipbuilding.

When Bremer Vulkan closed in 1997, Lürssen acquired some of its facilities and as leisure yacht-building grew in scale, the German superyacht yards were able to call on a wealth of skills. Most of Lürssen's employees today are engineers, while much of the interior fitting out of its vessels is outsourced to teams of preferred suppliers.

"I don't think many people understand the economic benefit to an area and the families who live there from the building of these yachts," says Mr Breman. "Some 4,500 man-years went into the building of Azzam. People take real pride in the work they do. We say, tongue-in-cheek, that we're like a modern-day Robin Hood.

"Ship building is cyclical. In 2008, the industry worldwide had reached unprecedented levels of output, but that fell away and now we're operating at what I would call normal levels."

Will there be yachts bigger than Azzam in future? "That's to be expected," says Mr Breman. "There are various ideas out there, but you can't talk about a trend when you deliver three yachts a year. For now, our order book is healthy and that's good."

Industry has weathered the storm as top end improves

 $continued from \, page \, 1$

probably was, if the work had been done in France, but we can do it here more cost-effectively."

Talk of scrapping superyachts paints a gloomier picture than the overall sector deserves, particularly within sailing as a sport. Technical innovations and improved event organisation have pushed competitive sailing into a new era, led by a growing enthusiasm for multihull racing.

The 35th America's Cup to be held in 2017 will build on the success of the foiling AC72 catamarans that in 2013 delivered one of the tightest match series in the history of the competition. Multihull competition has come of age and research into "flying" yacht systems has been stepped up, after Australian Paul Larsen smashed the sailing speed world record at the end of 2012 with a run averaging 65.45 knots over 500m.

The Larsen team is now working on an ocean-going sailing vessel that, Mr Larsen says, will be capable of outpacing the fastest motor-powered boats.

A few wealthy yacht buyers have begun to show interest in catamarans that offer both speed and comfort. "I'm just back from delivering a catamaran where we were sailing across Biscay at 29 knots with no trouble at all. It was calm below," says Mr Larsen.

The yacht was the 24m performance catamaran, Allegra, designed by Nigel Irens and built by Green Marine in the

For now, ocean racing is still dominated by single-hulled yachts. Next month, seven yachts will be lining up off Alicante for the Volvo Ocean Race, calling at 11 ports and covering 38,739 nautical miles.

If competitions such as the Volvo and Vendée Globe are at the vanguard of sailing as a sport, the structure of yachting is supported by thousands of events and suppliers catering for all ages and tastes.

For traditionalists, events such as the Panerai Classic series attract new and old designs. The UK Panerai event includes a class for modern classics such

America's Cup will build on the success of AC72s

as Spirit Yachts made in the UK. Spirit has broken into the superyacht market with the 31m Gaia. The company now has plans for a 40m yacht and wants to build a wooden yacht for J-Class competition.

While big sailing yachts tend to attract experienced owners, many brokers advise chartering as a first step to ownership. "It makes sense to try before you buy," says Chris Cecil-Wright who runs a boutique yacht brokerage.

Expanding the superyacht-owning market is proving the greatest challenge. In the past few years, the top of the market has profited from strong interest among wealthy Russians and Arabs, but the Ukraine crisis has led to nervousness among the Russian business elite and some have postponed purchases.

Beyond Russia, the market is struggling to identify the next growth area. In the meantime, builders are relying on mature markets. Sunseeker says its strongest sales stream has been in the US.

"We have seen record sales in 2013-14, driven by the returning North American buyers, but also from Mexico and Brazil," says Sean Robertson, sales director of Sunseeker International.

Kurt Fraser, sales and marketing director of Camper & Nicholsons Marina Investments, points to a need for better yachting infrastructure, including high-quality marinas. His company has launched the 1782 Club to brand marinas in the same way some hotel groups aim to impose a standard quality in worldwide chains.

Individual jurisdictions also need to streamline their chartering and tax arrangements if they are to enjoy a slice of the superyacht market.

Spain has revised tax arrangements that deterred big boat chartering, but the move has yet to have a significant impact on the Spanish charter market.

"In yacht sales, those that are sensibly priced are selling," says Charlie Birkett, cofounder of Y.CO, yacht brokers. "Brokerage margins have been hit too. The whole market has had to face up to a new sense of realism."

Yacht owners' lust for speed drives fever for hydrofoils

Technology

Outside the America's Cup, the lust for speed is fuelling interest in yacht design, says *Richard Donkin*

Ever since Larry Ellison's multihull AC72, Oracle, achieved one of the greatest comebacks of all time to win the 34th America's Cup in 2013, the sailing world has been gripped by foiling fever.

For those outside sailing, the America's Cup was seen as a war of personalities and the skills of helmsmen and tacticians. While no one would seek to diminish the input of sailing's superstars, subsequent conversations within the sport have concentrated on technical features, specifically the merits of foilsbladelike attachments that raise the hulls and allow the boats to move with minimum surface contact.

For generations, racing designers have experimented with hull-profiles, materials and strong sails.

The announcement that the 35th America's Cup will be contested by 62ft foiling catamarans has led to heightened interest in the technology.

Hydros is a team of young scientists based at the Swiss Federal Institute of Technology in Lausanne and backed by the private Swiss bank, Lombard Odier. Away from their computer screens, they can often be found speeding down Lake Geneva at 30 knots on a 20ft trimaran.

Back in the laboratory, the focus is on the physics of foiling, particularly turbulence at high speeds. Cavitation causes the water to boil, so the foil loses its ability to lift the hull clear of the surface. "Much of current research is focused on overcoming these problems," says Jérémie Lagarrigue, Hydros project manager, whose team was one of the first to pioneer thin-ply technology as a construction material in multihull design.

World sailing speed record holder, Paul Larsen, has demonstrated that foil design, coupled with other hydrodynamics can overcome the cavitation barrier. In 2012, he took the speed record from 55 knots to 65 knots in his yacht Vestas Sailrocket 2. He is working with his UK-based team on a project to design a high-speed ocean-going yacht.

"We know we can utilise the strengths of planing, foiling and flying to build a sailing boat that could beat the power boat record for an Atlantic crossing at a 10th of the cost of an America's Cup campaign," says Mr Larsen.

Paul Larsen In 2012, he took the speed record from 55 knots to 65 knots in his yacht Vestas Sailrocket 2



Another UK-based team, C-Fly, is also concentrating on ocean-going capabilities, having built a foiling catamaran that can sail comfortably over two-metre-high waves. "We have the engineering worked out," says Philip Kenchington, C-Fly operations manager. "We just need someone to invest in this proven technology," he says.

In the meantime, a new generation of foiling racing yachts is emerging.

Last winter, the Great Cup 32 catamarans, that began competing in 2013, were modified with foils. Laurent Lenne, founder of The Great Cup, says: "When we started the project, the America's

Cup boys were only talking about foiling. But as soon as their boats were flying, it was our duty to close the gap, so now our boats fly too."

The GC modifications came out of the Franck Cammas-led design team that produced Groupama C, the catamaran that won the 2013 International C-Class Catamaran Championship, sometimes called the "little America's Cup".

Inside a year, foiling has become fully integrated from the top of the sport to more affordable levels of competition. Now some of the big names in sailing are acquiring their own foiling yachts.

Ian Williams, the World match Racing champion and part of the GAC Pindar team, has bought a foiling Phantom 18 catamaran, a product of the Cammas design team and Martin Fischer, designer of the GC32. "Getting a foiling catamaran seems to make sense if we're to become familiar with these boats. It's an exciting design and the speed is phenomenal," says Mr Williams.

So will other catamaran competition series such as the Extreme 40s take the plunge into foiling? It is not a simple decision, says Andrew Pindar, team principal of GAC Pindar.

"Many Extreme 40 venues are in confined spaces to make things more of a spectacle for stadium audiences. Foiling yachts need more space. Besides, part of the fun for audiences is watching these catamarans tip on to one hull, sometimes turning over if they lose control."

Mr Pindar points to yet another series beginning to make waves, the M-32 Cup. "These are smaller but lighter cats," he says. "The multihull field is becoming rather like circuit motor racing that has Formula 1, Formula Ford and Formula 4,000. There is space for all."

Contributors

Richard DonkinFreelance journalist

Don Hoyt GormanBusiness and features editor,
The Superyacht Group

Rose Jacobs Freelance journalist

Victor Mallet South Asia bureau chief **Leyla Boulton, Hugo Greenhalgh** Commissioning editors

Steven BirdDesigner

Andy Mears Picture editor

For advertising details, contact: **Victoria Roberts**, +44 207 873 3226 and victoria.roberts@ft.com, or your usual FT representative.

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Centres vie to parade their wares

Boat shows The sector's business and marketing calendar revolves around these events but do they generate sales, asks *Don Hoyt Gorman*

ike tribal gatherings, boat shows provide their participants - yacht builders, brokers, service providers and buyers - with the opportunity to see and be seen, to meet and catch up with the latest news.

Who has built the latest jaw-dropping creation? What new materials and technology are working? It is a chance to gather market intelligence.

They are expensive, high-energy affairs that tend to cost more than they make back in new business. And yet, they are indispensable. For the uninitiated, they are awe-inspiring displays of wealth; for industry veterans, they are the main events around which the business and marketing calendar revolves.

Monaco Yacht Show, September 24-27 If a large yacht broker can take his or her client to only one show, Monaco is the one. The show takes place in the heart of the Riviera and is timed to coincide with the end of the summer yachting season in the Mediterranean. Any company that is seriously in the market is there to assess the latest yachts and the various products and services on offer.

But questions remain over whether it generates significant new business. Some brokers admit off the record that little in the way of sales results. This raises the question of whether the event is more of an industry junket than a commercial fair – although that might be asking too much, given the lengthy duration of most yacht contract negotiations (six months is common, some take years).

Fort Lauderdale International Boat Show, October 30 - November 3 FLIBS is the biggest and most important



On display: the Singapore Yacht Show has emerged as the leading event in Asia - Bloomberg

show in the Americas. The setting, on the Florida coast just north of Miami, is the heart of yachting in the US and the main service centre for chartering in the Bahamas and Caribbean. The region has a huge yacht and boating economy.

The show reflects this, and is both enormous in size and broad in scope: everything from weekend fishing boats to superyachts.

The leading yards are all here, showcasing their latest offerings.

Brokers tend to report that, unlike Monaco, FLIBS offers more new clients, many of whom will fly in for a quick look around and then leave. But while new business potential is perhaps higher here, clients tend to be looking more at the middle of the market, rather than the very top end as in Monaco.

Singapore Yacht Show, April 23-26
This has emerged as the leading show

This has emerged as the leading show in Asia, and for the majority of western exhibitors it is very much about market making. The show has yet to offer

anywhere near the level of in-water inventory as even the second-tier shows in the US or Europe, although some notable superyachts have attended in the past three years.

Asia remains a new market, with pass-holders walking the docks more with a sense of curiosity than an itch to buy.

But the show is ripe for development. Singapore is rightly seen as "the Switzerland of the east", with the added

benefit of a tropical, coastal setting. Exhibitors and clients soak in luxurylifestyle offerings amid the efficiency, safety and familiarity of Singapore's relatively westernised culture.

While the regional market may need five or even 10 more years to mature, this show has established itself as the leading contender to be the Monaco of Asia.

Second-tier shows

There are dozens more yacht and boat shows around the world, some of which

appear and disappear within the span of a single year, while others have been running for decades.

Prominent among these are the Southampton Boat Show and the London Boat Show, which support Britain's wider yachting market and extend into the casual boating sphere.

In the Americas, Palm Beach, Miami and Rio de Janeiro each mount smaller shows that generate charter or sales queries while catering to their local markets.

The Middle East has the Dubai Boat Show, which while visited by a high concentration of the wealthiest clients on earth, has yet to persuade more than a bare minimum of large yachts to make the trip to the region.

Asia has been the scene of vigorous competition despite the lack of highend inventory and a slack market. In China, Hainan, Shanghai and Dalian are experimenting with formats, but none has achieved the consistent growth of the show in Singapore.

Technology exposes owners to new risks

Insurance and security

Innovation has opened the door to modern dangers, including blackmail and piracy, writes *Rose Jacobs*

What ended in blackmail began innocently enough. A man was spending the summer holidays on his yacht with his daughter. Pulling into one marina, they decided to switch over to the cheaper, faster local WiFi rather than use the boat's satellite connection.

Unfortunately, the wireless network had also been identified by criminals as a route into the computers and gadgets of a wealthy set of potential victims: yacht owners and their guests. The first the daughter knew that she had been hacked was when she got a request for money in exchange for a compromising video copied from her laptop.

Rory Innes, head of cyber security at the Salamanca Group, which offers maritime and cyber risk-mitigation services, says: "A lot of people will pay €300 to keep a photo or document private. When you're targeting high-net-worth individuals, the asking price is a lot higher. And marinas are pretty dependable place to find those individuals."

Nor is it just thieves or blackmailers who recognise that targets drop their guard while on holiday; hackers include foreign intelligence and journalists.

If pirates dominated the worries of the yachting set over the past few years, the risks associated with cyber crime are growing in importance – though not fast enough that the right defences are yet in place, says Mr Innes.

Company executives are accustomed to having their home offices and vacation homes set up for confidential work, so the yacht is the next step. "But this rarely occurs to people who are wealthy but not attached to a company."

Nor is everyone fully aware of the dangers of social media. Mr Innes has seen security breaches by way of the photos on a teenager's Facebook page - photos

that show in the background information about, say, access to a boat.

On the other hand, says Mark Feltham of the insurance broker Willis, internet technology can alleviate some safety concerns at sea. Medical emergencies, for example, can be attended to by a physician on land via a Skype connection. These are the sorts of jams he is more accustomed to sorting out.

"I've only heard of one incident with piracy and superyachts because of the speed they can go and the protection they carry," says Mr Feltham, head of a practice that covers a third of the world's 100 biggest yachts.

Most yachts travelling through the Gulf of Aden, for example, are doing so without their owners on board and few will make the trip without kidnap insurance and armed security guards.

The newest sorts of risks that Mr Feltham has encountered have to do with unusual routes. As experienced yacht owners tire of Cannes and the Caribbean, some are seeking adventure in the likes of Alaska, Argentina or the Northwest Passage.

'The thing about yachts is that they're run by IT. Someone could hack into the yacht itself'

"They want to go and see polar bears. Ice has become a potential issue for us for the first time," he says. And if something goes wrong, it can take time for help to arrive because of the distance.

That is all very physical compared with the world of cyber crime. But Mr Innes says the two realms of risk can converge in worrying ways. "The thing about yachts is that they're run by IT. One of the dangers is that someone could hack into the yacht itself, its systems, and start to change navigation and start to change electronic charts," he says.

"If I can control where you go and where you think you are, that becomes a very interesting kidnap/ransom risk based on a cyber security entry point."

Pendennis focus on refits proves a winning formula

Entrepreneur profile

Henk Wiekens

The joint managing director of the Cornish yard talks to *Richard Donkin*

This summer, 11 of the world's finest sailing yachts graced the waters between the Roseland Peninsula and Falmouth in Cornwall during the Pendennis Cup, a celebration of a rare success story for British manufacturing.

The cup is a twice-yearly event established by Falmouth-based Pendennis, the UK's only superyacht and refit specialist. Henk Wiekens, joint managing director, points to the Fender Stratocaster on the wall of the company's board room. The guitar was presented to the company by Eric Clapton after his yacht had been refitted in the yard.

"The people who buy and own these boats don't need one, they want one, and they want to have fun during the whole process, even including the build or refit. Those can be an ordeal, so we try to ensure that their experience is something they will enjoy," he says.

The Pendennis Cup is just such an experience, including this year a display by the Red Arrows and a gala lunch at the yard with a talk on car design by Marek Reichman, design director at Aston Martin. Brand association is a strong feature of the superyacht industry.

While other UK-based yacht builders, such as Sunseeker and Princess - both now active in the superyacht market - are focusing on the motor yacht market, Pendennis has concentrated its efforts on the refit and custom-build sector where it enjoys a growing reputation. Its rivals include some of the biggest yards in northern Europe.

As many superyacht builders contracted and consolidated their capacity after the recession of 2008, Pendennis invested in a £24m phased expansion with three new sheds, increasing capacity for new-build and refit contracts for 30m-100m superyachts.

A further phase of development will

A further phase of development will see an enclosed yacht basin open in the spring.

The Pendennis yard emerged during the late 1980s and 1990s, from proposals developed initially by Peter de Savary and various partners, who sought to



Teamwork: Pendennis has more than 360 skilled tradespeople at its yard

capitalise on the growing interest in luxury yachting.

In 1994, it was bought by its management, which has gradually built up the yard's skill base, often drawing on the expertise of those coming out of declining industries such as Cornish tin min-

"The electricians who worked in the tin mines had skills that were useful to us, because they were familiar with working in damp environments and the need to ensure electricals were free from moisture. That's essential in boat building," says Mr Wiekens.

It was its specialist boatbuilding skills

'The people who buy and own these boats don't need one, they want one'

that led to one of the yard's most unusual projects, a collaboration with the Dutch fabricator, Centraalstaal, to build the futuristic-looking media centre at Lord's Cricket Ground in 1999. Unlike some of its European competitors who felt the full effects of the 2008 recession when orders for luxury vessels fell away, Pendennis protected itself by concentrating on refit work in the past few years.

Refitting has proved a popular option for owners who cannot sell their yachts and for buyers of second-hand yachts who want to put their stamp on a boat by having it fitted out to their specifica-

ons. To do this, the yard has built up a base

of skilled permanent employees. With more than 360 skilled tradespeople working on its 6.5 acre site, it has become one of Cornwall's most important employers. Up to a fifth of the workforce came up through the apprenticeship scheme.

"With about 70 per cent of our work in the refit business, our employees are gaining a lot of experience on different types of yacht. We've worked on a lot of Feadships [Dutch superyachts] over the past 10 or 15 years, so we're used to dealing with quality," says Mr Wiekens.

"We think we have one of the best refit facilities in the world because it never gets as cold as it does in some of the more northerly yards and that means our heating costs are lower."

The refit business, he says, has led to challenges for management. "Customers want their boats ready for the summer season, so much of our refit work covers the winter months. The newbuild projects can absorb our employees in the summer months, but all of this has to be carefully managed," he says.

The yard is currently refitting one of the world's biggest sailing yachts, the 65-metre three-masted schooner, Adix.

In another shed is Malahne, a 54-metre classic motor yacht built by Camper & Nicholsons in 1937. The restoration is being project-managed by GL Watson, the Liverpool-based studio that has been designing yachts since 1873.

"This is the first time we've collaborated with Pendennis. It's a big project for us and so far it's gone extremely well," says William Collier, managing director of GL Watson.

Younger owners want more adventurous toys

Gadgets Innovation is adding excitement to sailors' leisure, says *Rose Jacobs*

raham Hawkes would like to democratise underwater exploration. You should not have to don scuba gear, he says, to experience the thrill of a shark passing above you in the sea, its ominous shape outlined by sunlight. You ought not to have to endure weeks of lessons to take the controls of a craft heading towards the ocean floor.

But he acknowledges that his interim offering is far from democratic: "At present, our stuff is for the wildly wealthy."

That stuff is submarines. And his submarines are of a new generation. Rather than ballast sinking it to a certain depth, the DeepFlight Dragon uses its engine to descend, giving it two advantages over its forebears: it is much lighter, and it tends to bob back up when the motor is off.

"If you're down there and you're uncomfortable or feel you've lost control, you just switch off and it'll glide back up to the surface," he explains. Submarines are an increasingly popular part of the toys found on superyachts.

That, says Josh Richardson, managing director of Superyacht Tenders & Toys, is down in part to a younger set of owners - the 30-something dotcom millionaires kitting out their first 70-footers. He recalls one client who wanted a submarine in order to go down to 800 metres to investigate a previously unexplored trench in the Pacific. "Because the owners are getting younger and younger, they're also getting more adventurous."

Other toys popular with this set are Seabobs, small, handheld jet skis that go below the surface of the water as well as along it, and motor-powered surfboards and jet packs that will propel you a dozen metres into the air.

The power toys are handier than wind-driven gear, given that many yachts find themselves in calm waters; the sea and weather conditions that make for a pleasant time sleeping and sunning for some can prove boring for others.

But technological advances are also boosting power devices' appeal. Five years ago, Seabobs weighed about 70kg; today, it is more like 30kg thanks to smaller batteries. And whereas riders of jet-powered surfboards currently have to contend with noisy engines, the Radinn motorised surfboard, for example, relies on an electric motor. The first deliveries are due in December.

It is not all power and thrust. Given that younger yacht owners often have young families in tow, tamer toys have also become must-haves.

It is the rare superyacht these days that does not boast a sea pool, which keeps jellyfish out and children in. (It is also one of the cheaper items, with prices as low as €3,500 compared with €27,000 for a back-mounted jet pack.) Slides can be great fun, too, says Mr Richardson -

have gone a significant way to adding to products' allure - namely, developments in inflatable materials. Dropstitch fabrics can be stored compactly

Asked which toy he would choose

Down anchor: Seabobs are small. handheld jet skis that go below the surface of the water as well as along it

would spend the money on "more crew to look after me".

Mr Hawkes hopes his products will help to make submarines a sort of halfway point between adventure and family time.

Because of the reduced risk associated with lighter, power-down submarines, "I'd have no hesitation about taking my 13-year-old down. You never would have done that with the old submersibles."

He wants the experience to be like that of stepping on to a Lear Jet: luxury and comfort wrapped into the thrill of "flying. There's been this dream forever of a flying car and, if you look at the Dragon, that is what this is."

Indeed, even before the Dragon's launch this week, yacht owners have been buying submarines with hospitality in mind.

Emile Bilterijst, managing director of Moonen Yachts, recalls a client who knew from the start he wanted space on his yacht for a two-person submarine.

However, he later decided it would be nicer to have three seats - for two passengers plus the sub's pilot - and soon the Moonen team were scrambling to make room for a 4.5 tonne craft rather than the 3 tonne model they had planned for.

"He liked diving himself," says Mr Bilterijst. "But he wanted to show the water wonder world to his guests."

'There is a squid on your head ... '

Amateur naturalist

Holidaying on a boat can offer surprising experiences of the natural world around us that money cannot buy, reports Victor Mallet

It takes a lot to arouse the interest of an American-educated teenager overexposed to lurid videos on social media. especially at 2am on a tiring night-watch aboard a small sailing yacht on the open sea north of the Aeolian islands.

But the real-life visuals were unbeata-

To starboard, Stromboli's volcano known since ancient times as a Mediterranean lighthouse - was spurting red lava into the sky; on each side of the boat, mysterious blue-green bioluminescent blobs, revealed in the light of a torch as menacing jellyfish, swept past in their thousands; and dolphins sped, spun and leapt around the boat to leave glowing trails of phosphorescence in the dark

"Dad, this is pretty cool," conceded 14year-old Genevieve - the ultimate accolade for a parent on a family holiday.

The seas and oceans really do teem with the sort of wildlife pictured in David Attenborough's BBC television series The Blue Planet. Yet the images captured after years of research and underwater filming can easily elude those enjoying a few days of cruising on the surface.

Most of us, for much of the time, are only dimly aware of the exotic beasts that fly overhead, swim beneath our keels and wriggle inconveniently into our sea toilet plumbing.

But inspired by television and aided by our ability to fly in a matter of hours to remote locations, urban humanity is rediscovering the richness of the natural world, spawning a niche market for marine wildlife safaris based on yachts, classic tall ships and cruisers.

"You can reach wilderness areas by boat with everything you need," says Ralph Pannell, co-founder of Cornwallbased Aqua-Firma, which specialises in waterborne wildlife tours, from polar regions to tropical seas.

A boat with an expert skipper and wildlife guide is ideal for seeing everything from penguins and whales in the south to the unique fauna of the Galápagos near the equator and walruses and polar bears in the north.

"It's a great platform. You couldn't easily get there otherwise," says Mr Pannell. Holidaymakers on a current trip have just seen a blue whale, the largest animal on earth, pass by their boat.

His own favourite experience, says Mr Pannell, is sailing or kayaking in extreme latitudes - "sailing in the middle of the ice and spotting wildlife in among that is tremendous" - although some prefer yachting and scuba-diving in the warmer waters of the Seychelles.

This leisure sector is growing, he says, as people realise they can have the experience of a lifetime within the period of a normal vacation. "More and more people are opening their minds, and saying: 'Gosh, we could do that'."

If the aim is to see exotic wildlife, then there can be no substitute for a journey with a guide. But most of those who live, work or take their holidays on motor or sailing yachts know the value of keeping a lookout for chance encounters.

Sometime they are unmissable. "There's a squid on your head," my wife Michele told our friend Alex during a passage from Cadiz to the Canaries on his Ohlson 38. He did not believe her, but it was true. A small cephalopod had fallen out of one of the trade-wind waves pushing us towards our destination.

Flying fish are always a delight - in mid-glide, they lower their tails into the water like an outboard motor and thrash them to keep aloft - and are reportedly good to eat as well.

Turtles seem rarer than they once were, but are sometimes encountered drifting lazily with the ocean currents. This year, we saw a loggerhead turtle using its beak to tear off and devour the young mussels attached to a harbour wall on the Greek island of Cephalonia.

Then another, smaller turtle suddenly attacked the first, sending them whirling in a frenzy of reptilian antagonism right in front of us.

And then there are the seabirds. Far from land, when there are no other signs of animal life, you will usually come across petrels (supposedly named after St Peter, because they appear to walk on water) and the elegant shearwaters that skim the wave tops in the deep ocean.

Even land birds make an occasional appearance, dropping in on the boat to rest when migrating or driven off course by a storm. If a bedraggled swallow perches on your boom on a drizzly day in the English Channel, it is good to remember that you, the teenagers and the other animals that enrich our lives at sea are all in this together.

US east coast, ideal for watching sperm-whales and other cetaceans. You can book expeditions to swim with dolphins or watch from the islands' hilltops as they hunt for fish in the ocean currents below.

Similans, Thailand: popular spot for divers and snorkellers in the rich and colourful coral reefs in the tropical waters of the Andaman Sea. If you are lucky, you will see a whale shark, the world's largest fish.

Antarctica: mammals, birds and stark scenery in an icy wilderness. Fin, right and minke whales, leopard, Ross, Weddell and crabeater seals are common. Seabirds are abundant and include the albatross as well as gentoo, chinstrap and Adelie penguins.



'very, very hard", according to Mr Richardson. That means sea pools with wide edges for sunbathing and walking can

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Four of the best destinations

Galápagos, Ecuador: favoured for the unique land and sea wildlife on and around isolated islands west of South America and associations with Charles Darwin: everything from giant tortoises and Darwin's finches to seahorses and flightless cormorants.

Azores, Portugal: temperate Atlantic islands, fairly close to Europe and the