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BUILDING PINK GIN VI * SUPERYACHT CUP * MONACO YACHT SHOW PREVIEW


PINK GIN VI
A POTENT COCKTAIL
TO BUILD THE BIGGEST CARBON FIBRE SLOOP IN THE WORLD, BALTIC YACHTS HAD TO BE DISRUPTIVE IN ITS THINKING. DAVID GLENN REPORTS

In its 44-year history Baltic Yachts has built almost 600 yachts, arguably none more significant than its latest launching, the 175ft/53.34m carbon composite sloop *Pink Gin VI*.

Although the headline writers have gravitated towards her billing as the world's biggest carbon fibre sloop, her remote electronic steering and two large topsides balconies are among her more technically interesting features and demonstrate Baltic's intention to intensify its quest for new ideas.

Production yachts formed the core of the company's output in the early years, but since the turn of the century the multi-role, custom supersailing yacht has become Baltic Yachts's forte, offering clients not only the advantages of lightweight, stiff, carbon composite construction, but also a standard of engineering and finish second to none.

The roll call of top yachts to emerge from the Finnish company more recently, is impressive. The constantly updated 147ft/45m *Visione*, designed by Reichel/Pugh and launched way back in 2002 for SAP chairman Hasso Plattner, is still winning regattas and is regarded as a yacht way ahead of her time; the 218ft/66.5m ketch *Hetairos* is the biggest they have launched and a string of yachts just over 100ft/30.48m in length have secured Baltic's reputation.

The Baltic 107 *Inukshuk*, 108 *WinWin*, 112 *Nilaya*, 115 *Nikata* and last year's 130 *My Song* are just some of the well-known carbon composite custom yachts built by Baltic.

The Baltic 175 is a showcase for the Finnish company, which has a very healthy order book

Professor Hans Georg Näder is the owner of *Pink Gin VI* and majority shareholder at Baltic Yachts

Almost all these yachts are award-winners and those that take to the racecourse routinely demolish the opposition. They also reflect a market energised by rapid advances in superyacht design, driven partly by the appeal of a burgeoning regatta scene. For owners pursuing podium finishes and a luxurious cruising experience within the same hull, carbon composites have become the materials of choice.

Pink Gin VI is unlikely to venture onto the race course regularly, but she is already a standout yacht by virtue of the fact she's owned by Professor Hans Georg Näder, whose admiration for Baltic Yachts was so great that he bought a majority shareholding in 2013 when the company asked for help following the financial crisis.

Näder has had a string of yachts built by Baltic, among them three *Pink Gins*, the 43ft/13.0m *Ice* and *Bionic Elk*, a canting keeled 56-footer/17m packed with innovative design. He also commissioned Baltic to completely re-build the 1989 wooden 83ft/25.3m fast motor cruiser *Sunny Day*, which his family used for many years in the Mediterranean.

His long experience with Baltic has engendered deep respect for the company's dedication to quality and problem solving, so when he decided to build a new *Pink Gin* there was no doubt who would get the job. The early stages of the project coincided with Näder's decision to inject money and stability in Baltic Yachts.

He also wanted the yacht to reflect the innovative thinking for which Baltic are justly well known and to take this to another level. The yacht is full of ingenious ideas and is, in effect, a showcase for Baltic's capability.

THE MAN FROM OTTO BOCK

Näder, a stocky, cigar-smoking, 56-year-old German whose motto could be 'let's have fun', is the President of Otto Bock Holding, the world's biggest orthopaedic technology company turning over €100 million and employing more than 8,000 people in 57 countries. Many Paralympians use Otto Bock's prosthetics, or other specialist equipment and benefit from their comprehensive support and service operations.

Professor Näder took over the running of Otto Bock from his father when he was 27. It was a shock to the system and an experience which has led to him often appointing relatively young talent to positions of considerable responsibility.

One of his first moves after his acquisition of Baltic was to install his long-term *Pink Gin V* skipper, Henry Hawkins, then 39, as CEO. Some saw this as a surprising move, but it created a vital and knowledgeable link between the geographically remote Finnish company and the hot spots of superyachting around the world where decisions about buying new yachts are made.

Judging by Baltic's current order book the strategy appears to have paid off handsomely. Contracts for four new sailing boats have recently been secured, bucking the industry trend. A new Farr-designed 142-footer/43m will be fitted with a Dynamic Stability System foil, a bold move but one which will delight Professor Näder's thirst for pushing the boundaries.

There's also a Malcolm McKeon-designed 112-footer/34m for experienced yachtsman Tony Todd, an 85-footer/26m by Bill Dixon and the first of the new Baltic 67 Performance Cruisers for a repeat client.

Näder recently appointed 25-year-old Spaniard Oscar Vallejo to run *Pink Gin VI*, entrusting him to Hawkins and the Baltic team to nurture during the build process. Vallejo and his

The balcony is a luxurious touch and was a design and engineering challenge

noticeably youthful, eight-strong crew have just embarked on their maiden voyage and when they left the dock at Jakobstad, Finland, aboard their gleaming sloop they were brimming with confidence.

With carbon fibre prosthetics and human bionics at the heart of Otto Bock's business, Professor Näder thrives on innovation and growth through what is now called disruptive thinking. In old money it's thinking outside the box to crack the seemingly impossible.

He enjoys dismantling the status quo to look for answers and, crucially, he's not afraid to make mistakes, arguing that in doing so solutions are often forthcoming. He sees yacht building as a prime target for innovation and in *Pink Gin VI* he's made a statement.

At a symposium organised recently by Baltic Yachts to examine what the next generation of superyachts might look like, Professor Näder talked about nurturing innovation and also revealed his personal thoughts about building *Pink Gin*.

"If you are asked, do you really need another boat, the answer is, of course, no. But..." He went on to describe how he grew up sailing Optimists and over years of family boating holidays recognised that sailing could bring together the three most important things in life – "Family, friends and love!"

This mantra has clearly driven Näder to build a remarkable series of yachts. The difference now is that he wants to harness Baltic's ability, link it with innovation and disruptive thinking to make sailing yachts even better. The synergy between Baltic and Otto Bock is clear in terms of their use of carbon and specialised engineering and has the potential to benefit both.

TACKLING A BIGGER PINK GIN

In ten years' time, says Näder, he might tackle *Pink Gin VII* at 220ft/67m and he also wants to fulfil a dream to build *Shadow Boat*, a mothership capable of carrying a foiling sailing yacht, a helicopter, fast tenders and specialist RIBs.

He singled out the Malcolm McKeon-designed 164ft/50m multihull *BlackCat* project as one to watch at Baltic (still a proposal) and predicted that there will be foiling 100ft sailing yachts capable of sailing between St Tropez and Nice in 30 minutes which, it has to be said, is going some over 44 miles. He's also excited about applying the Baltic skill-set to custom motor yachts. If what has been achieved with *Pink Gin VI* is anything to go by you can bet on most of Professor Näder's ideas coming to fruition.

Pink Gin VI brought together the same team which designed and built *Pink Gin V*, Judel/Vrolijk & Co for the naval architecture, Mark Tucker's Design Unlimited for the styling and interior and Baltic for the build. Other key players include Gurit for structural engineering, APM the specialist keel builders, Rondal for spars, Carbo-Link for rigging and North Sails for sails.

The brief was to incorporate what had been learned from the successful 152ft/46.3m *Pink Gin V* and to inject some radical new ideas. For example, there are two large openings in the topsides providing fold-out platforms or balconies – one for the owner's suite forward and another on the port side leading into a lobby, which in turn leads to the main saloon forward and the galley and crew accommodation aft.

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The justification for incorporating the port-side opening wasn't simply one of providing a balcony; in a yacht of this size, side entry through the hull makes a lot of sense for other reasons. As Rolf Vrolijk says: "Why transfer everything up onto the deck and then down through a hatch when you can go straight in through the side?"

The opening in the owner's suite forward literally adds another dimension, flooding the area with light and providing a private balcony and swimming platform. Glass safety doors provide intriguing views of the teak laid platform and the opening mechanism when they are in the closed position.

Large hull apertures like these are normally the preserve of motor yachts where rig and keel loads don't figure, so getting the engineering right to cope with such abnormalities needed some serious input from Gurit Composite Engineering in Hamble, UK. Perhaps one could call it disruptive thinking.

Simon Everest, senior design engineer at Gurit, who is also working on the numbers for the DSS equipped Baltic 142 with Farr, said they not only had to work out the engineering, but also gain class approval through what is now DNV GL.

The classification society originally insisted that the doors should not be structural, which would have meant enormous and possibly unviable reinforcement to meet the 'global' or overall load requirements for the yacht. Eventually they found a way of making the doors part of the structure, capable of dealing with bending and shear in any sailing situation. The solution involved the hinge and locking systems transferring loads into the closed door panel itself.

EXTRAORDINARY RIG LOADS

To get to this point it's worth bearing in mind Baltic, Vrolijk and Gurit were dealing with forestay breaking loads of 142 tonnes and mast compression figures of 300 tonnes at the bury of the 68m tall rig. The engineering had to take into account immense keel loads involving a 71-tonne fin and bulb and all the extra weight of the lifting and locking mechanisms.

One of the key aims was to maintain hull stiffness so that rig loads and the sailplan could remain stable. Over the length of this 18-tonne carbon/Corecell structure, deflection is just 76mm.

An associated conundrum was how to ensure total accuracy in the pre-preg carbon/Corecell hull. Baltic concluded that the hull should be moulded in three parts, the bottom and the two topsides, enabling far easier access and

Pink Gin VI is designed to sail at 12 to 15 knots in optimum conditions. One of the side openings can be seen clearly in this picture

MAIN DIMENSIONS

LOA	53.90m/175ft
LWL	45.27m/148ft
BEAM	9.55m/31ft 4in
DRAUGHT	4.50m/5.65m/7.00m 14ft 9in/18ft 6in/23ft
LIGHT DISPLACEMENT	250 tonnes/551,155lb
BALLAST	75 tonnes/165,346lb

By using an electronic wand to read the three-part hull structure, a 3D image was created to ensure pinpoint accuracy when it came to assembly

better accuracy. By using an electronic wand to read the three-part hull structure, a 3D image was created to ensure pinpoint accuracy when it came to assembly. In the final analysis it was a perfect fit. This method of building also allowed systems to be installed more efficiently and at an earlier stage, thus reducing build time.

SWISS STEERING

Another first for *Pink Gin* involves her unique steering system, a type of fly-by-wire design called the Force Feedback Steering System, which not only entirely does away with rods, cables and chains, but also mimics the loads and movement caused by side force and waves to provide the helmsman with a realistic sensation of sailing. Hydraulic systems are notorious for being lifeless, but the intention is really to give the helmsman that all-important feel on the wheel.

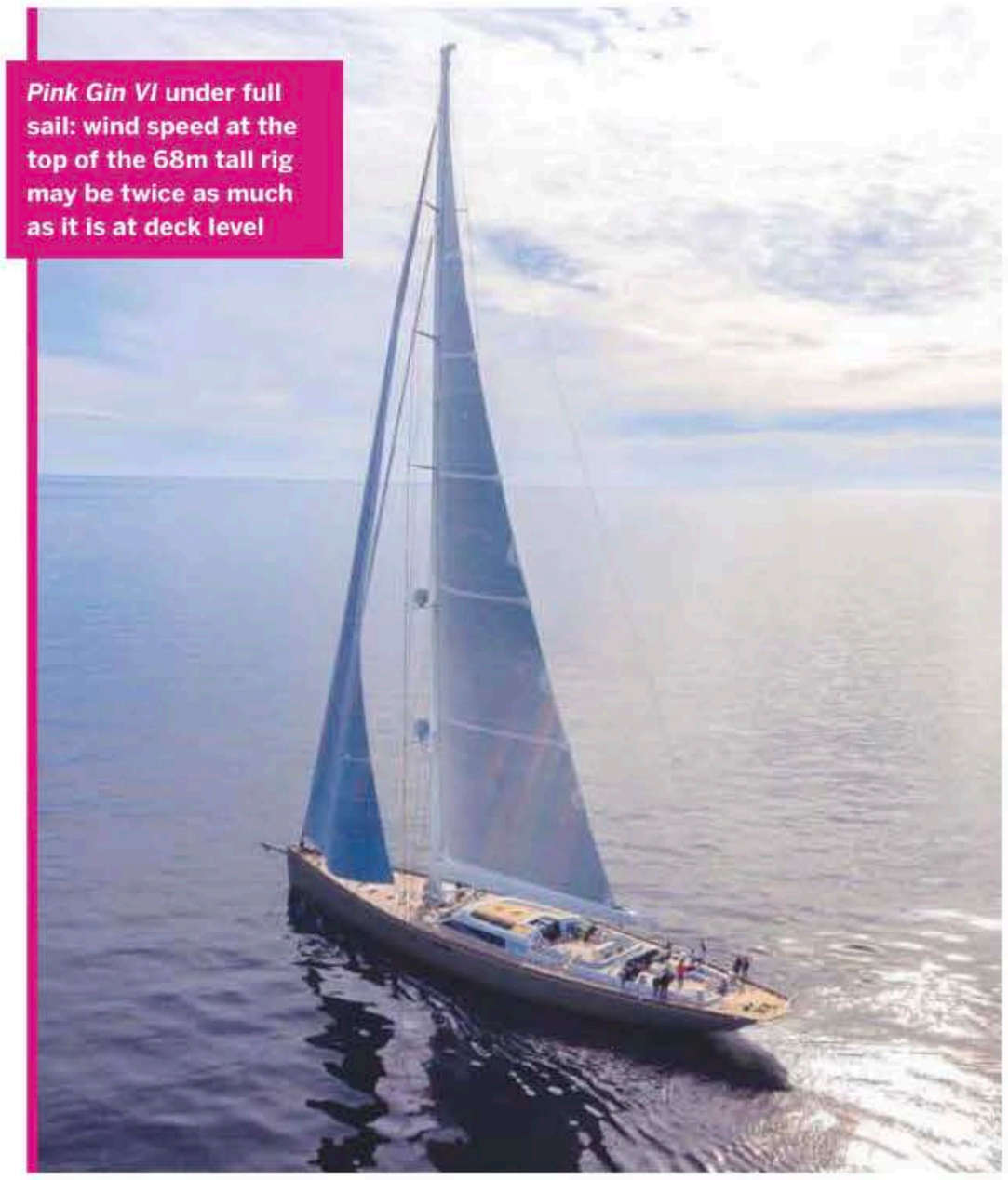
Traditionally hydraulics have been used for power steering, essential to shift the vast rudder, but this electronic system is lighter, cleaner, more accurate and saves space. The man behind the design is Swiss automotive expert Peter Kägi, who first designed an electric car in 1989. His technology was rejected, but 30 years later Tesla is using almost identical ideas for its new electric cars.

Professor Näder first encountered Kägi when he was looking for an amphibious car which he could carry aboard *Pink Gin V*. Not only that, he was keen to take on Richard Branson's record for crossing the English Channel in an amphibious car. In 2008 the attempt was made successfully aboard *Tonic* beating Branson's time by more than 25 minutes, an achievement Professor Näder puts down to superior technical innovation.

Kägi, through the Swiss prototyping company Esoro, has helped Baltic develop a number of ideas. The Force Feedback Steering System uses twin electric rams connected to the rudder quadrant, which receive steering instructions from a control unit at the wheel.

In return, the system replicates the side forces on the rudder and sends this information back to the helmsman. Among a variety of settings is one which records and recognises your steering habits, which you can retrieve when you return for another trick at the wheel. There's another mode, which by introducing vibration into the wheel, warns the helmsman that he is not steering to optimum efficiency. Scary stuff!

There are several levels of redundancy and if one ram fails it can be disconnected allowing the other to take over. In the



Pink Gin VI under full sail: wind speed at the top of the 68m tall rig may be twice as much as it is at deck level

unlikely event of total failure the rudder can be turned using a hand drill to drive the mechanism – even an emergency tiller can be attached.

When we visited *Pink Gin VI* shortly before her naming ceremony and departure from her builders, finishing touches were being applied to the deck detailing and accommodation. Professor Näder is keen to unveil the accommodation at the Monaco Yacht Show in September so we have been asked not to comment on it. Suffice to say there are some spectacular and highly unusual features below decks.

On deck one can detect a slight family likeness with the previous *Pink Gin* in the line of the superstructure.

The ergonomics of the three-cockpit layout were driven by the owner, Design Unlimited and Judel/Vrolijk & Co. The sunbathing and relaxing area forms a large after cockpit abaft the end of the boom. It is completely separate from the steering and control position. Further forward is a bar area with a central box-style island finished with an unusual pewter worktop. Moving forward again there's a dining area with direct access to the deck saloon.

COPING WITH THE GIANT RIG

Our day out sailing was hampered by light winds, but as there were 40 or so people aboard this was probably a blessing in disguise. Mate Alex Worley, who was looking after the main with a large remote control box strung around his neck, said they'd had the yacht out in 20 to 25 knots of true wind on trials and with the equivalent of two reefs in the in-boom furling main and a working jib set, she was fast and powerful. This yacht is designed to sail at an average speed of between 12 and 15 knots in optimum conditions.

They had also managed to deploy the vast pink asymmetric stowed on a large fore and aft mounted carbon

YOUNG GUN TAKES THE HELM

How a young Spaniard landed one of the top jobs in yachting

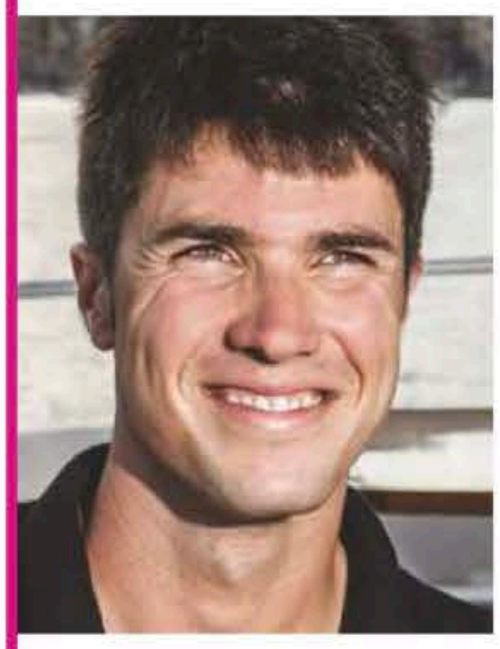
Oscar Vallejo, who was born and brought up in Mallorca, joined the industry by accident. Working as an instructor in a dive centre in Palma, he was asked to carry out a small underwater repair on the 35m classic Sangermani schooner *Seljm*, which at the time was being skippered by the experienced American Steve Ray.

Vallejo duly completed the task, but refused to be paid saying he was glad to be of assistance. Ray offered to show him round *Seljm* instead. Vallejo accepted and before long he had a job as deckhand for the upcoming transatlantic passage to Antigua.

But just before they were due to leave he suffered a deep wound to his knee in a motorcycle accident. Despite the severity of the injury Ray backed him for the crossing.

Vallejo couldn't speak a word of English when he joined *Seljm* so extraordinarily set about teaching himself by watching the same English film with subtitles more than 200 times. "It was more effective than school," he said.

By then a competent, highly valued deck hand, Vallejo remained with *Seljm* on visits to northern Europe and the Mediterranean where he eventually met *Pink Gin V*'s previous skipper and now yacht manager and Baltic Yachts CEO Henry Hawkins. Keen to progress in the industry, Vallejo took the *Pink Gin* mate's position and immediately sailed to Uruguay for Christmas.



During a subsequent passage to Miami he was awestruck by *Pink Gin*'s performance. "It was incredible, we were sailing at 18.5 knots for two and a half days," he said. With visits to the Brazil World Cup, Cuba, for which *Pink Gin V*'s owner Hans Georg Näder has a particular penchant, and other Caribbean islands, Vallejo quickly built his experience. But what happened next proved an acid test of his leadership skills.

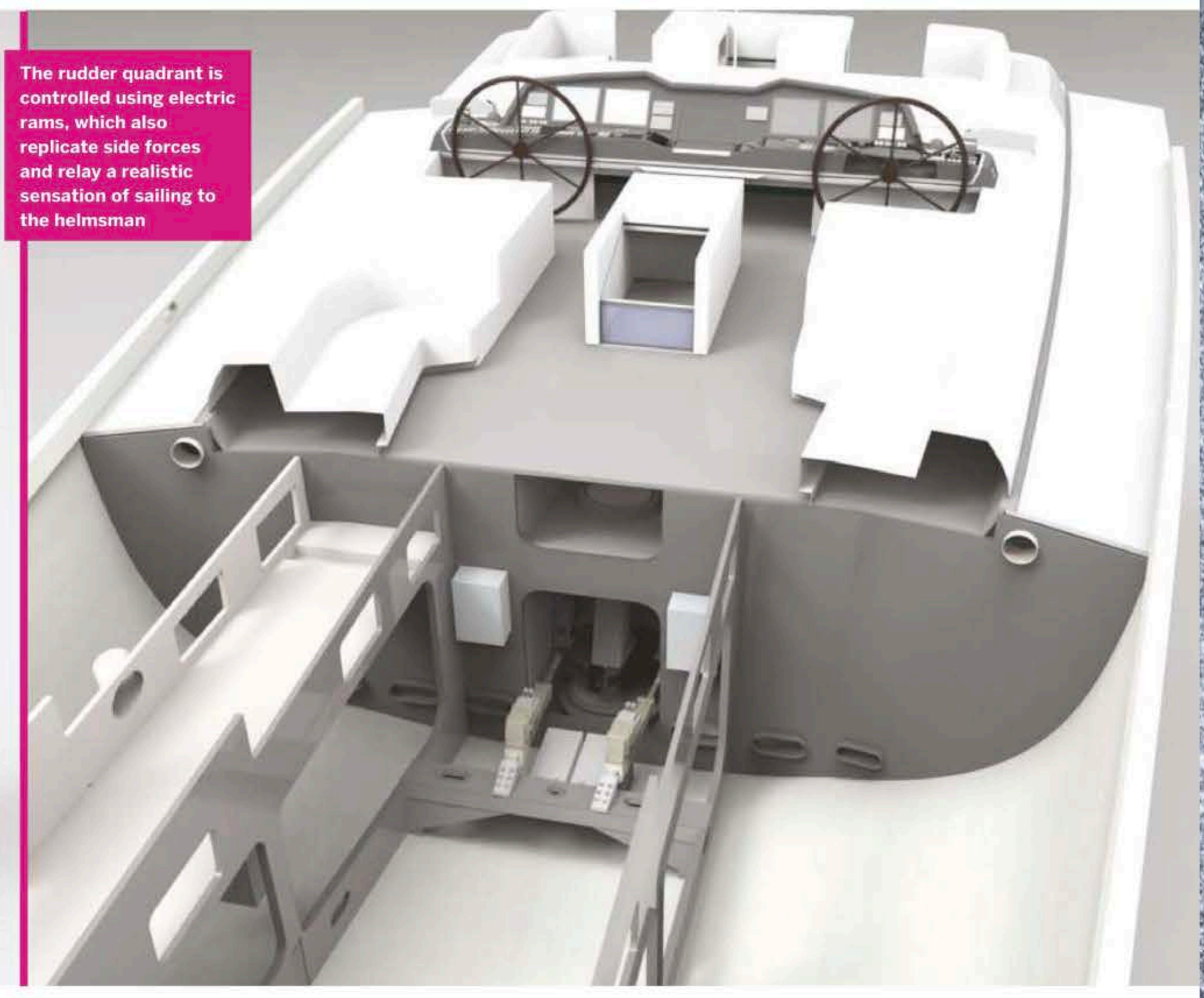
Aboard *Pink Gin V* as mate, with skipper, crew and three additional delivery crew, Vallejo suddenly found himself in command of the yacht a week into an Atlantic crossing. One morning he found the captain in his cabin in excruciating pain, totally incapacitated. With St Martin, Bermuda and the Azores almost equidistant and at least three days away, Vallejo, now in command, had to make a decision. Checking with weather routers, doctors and rescue services he decided to head for Bermuda. He explained to a bemused crew what had happened and, more to the point, what was going to happen next.

He duly brought *Pink Gin V* safely into Bermuda where the skipper was immediately taken to hospital and successfully treated for a golf-ball sized kidney stone.

This feat and the young Vallejo's ability and willingness to get on with the job impressed Professor Näder.

"When I said no to taking the *Pink Gin VI* job he just laughed!" said Vallejo. "He said that when he was my age he took over the family business, so why not?" Eventually he relented.

As a dry run Professor Näder asked Vallejo to skipper his 25m motor yacht *Sunny Day* last summer in the Mediterranean. Having passed that test he moved to Finland to be involved with *Pink Gin VI*'s build. At the time of writing he's en route to the Mediterranean with his new command.



The rudder quadrant is controlled using electric rams, which also replicate side forces and relay a realistic sensation of sailing to the helmsman

The system uses twin electric rams connected to the rudder quadrant, which receive steering instructions from a control unit at the wheel

fibre storage drum located in the forepeak. The sail can be hauled to the bowsprit end, hoisted and unfurled then doused and re-stowed using a handheld remote without a single crew person touching it.

Something Worley had to watch carefully with the rig was vertical wind shear, or the difference in wind speed between the top of the 223ft/68m tall mast (52ft/16m taller than a J Class yacht's mast) and at deck level. While the windspeed might be 20 knots at the truck, at deck level it could be half that. Sailing with a reef in this quite heavily roached main won't be unusual.

How did Judel/Vrolijk & Co approach the design of the new yacht? Rolf Vrolijk, who also designed *Pink Gin V*, said: "With *Pink Gin VI* we were looking for more hull stability. Compared to *Pink Gin V* the more U-shaped hull produces more stability for her size.

"We work on a maximum heel angle of between 20° and 22° for comfort and efficiency (race boats are designed to be efficient with up to 27° of heel). With 75 tonnes of ballast she is stiff, but the bulb can be lifted to reduce draught to just under 5m, which is critical for accessing favourite anchorages.

"Her optimum sailing conditions will be in 14 to 16 knots of true breeze. In over 16 knots of true, sail area will be reduced sailing upwind. She is equipped with a light to medium airs genoa, a slightly high cut blade which would be her normal upwind headsail, and can set a small heavy weather jib on an inner stay."

Pink Gin VI is now in the Mediterranean and will be a key exhibit at the Monaco Yacht Show (27-30 September). She will then undertake a programme of long term cruising, which is likely to see her circle the globe.

Wherever she goes this yacht will turn heads, much like her predecessor, *Pink Gin V*, whose exploits enjoyed online media celebrity status through yachtingworld.com. There's little doubt that the new one will put in an equally accomplished performance.