



HETAIROS

INNOVATIVE IN HER IDEAS, ELABORATE IN HER BUILD, THIS ASTONISHING, CUTTING-EDGE CARBON KETCH FROM BALTIC YACHTS HAS FINALLY TAKEN FLIGHT, AFTER EIGHT YEARS IN THE MAKING.

TEXT BY **TIM THOMAS** PHOTOGRAPHY BY **PETER NEUMANN**

When Hetairos crossed the finish line in Virgin Gorda, British Virgin Islands, on November 30 to take line honors in the Transatlantic Superyacht Regatta & Maxi Yacht Cup 2011, it didn't just mark the end of a 3,000-mile crossing, but rather the end of a journey that began in 2003, one that pushed every boundary of design and innovation along the way. Her passage time of eight days, 10 hours, 58 minutes and 30 seconds meant that she had averaged 15.12 knots—an impressive figure for a 219-foot yacht undertaking her first serious voyage.

"The top speed we recorded was 25.7 knots," enthuses her captain, Vincent Fauquenoy. "This was with around twenty to twenty-five knots of breeze at a true angle of one hundred-forty degrees. *Hetairos* always sails faster than the wind in all wind conditions, no matter what the angle. The biggest day's run was four-hundred-and-twenty-five miles.

"The steering had been one of my main worries before the yacht was launched," he continues. "It is usually the drawback of such a large yacht as they tend not to involve you at the helm and are, therefore, quite boring to steer—most of the time you revert to the autopilot. But from the first sail trial, my worries evaporated. *Hetairos* uses direct cable steering and unlike power-assisted systems, you get great feedback and sensation through the helm. Her hull, being quite flat underwater, rotates around the narrow keel very easily making her extremely responsive. She feels and reacts like a much smaller yacht."

It is a sentiment echoed by Erik Wassen, who joined *Hetairos* as crew for the transatlantic. "She wants to reach," he says. "She is happiest at a true angle of one hundred twenty-five to one hundred thirty-five degrees, which is her optimum downwind angle. The apparent angle on this point of sail is around seventy degrees, so you are power reaching." Wassen is in a good position to know—as naval architect with Dykstra Naval Architects, he is responsible for her lines, styling, sail and deck plan, sail handling systems, deck gear development and weight budget, as well as developing innovations to improve the existing technology the design required. He has been involved with the project since its genesis in November 2003.

"The initial brief from the owner," he says, "was to have a yacht that could make the longer crossings and race as fast as possible, yet still be capable of transiting the Panama Canal. That limits your mast height, so we started with a maximum rig plan as a ketch with a 62.5-meter [205-foot] air draft and made several sketches around it. Pretty soon we came to the pilot cutter lines as this gives you the longest waterline length and the highest speed potential."

It would take a while for her owner to get used to the idea. His first *Hetairos* carries traditional overhangs with a clipper bow. The pilot cutter does come with proven heritage; in earlier times they were known to sail well and to be capable of cutting through water and waves. The owner was keen to retain a historical link with his new build and to keep the classic look. But more than that, he placed a particular set of criteria at the heart of the project that would prove a considerable challenge to meet.



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North Sails utilized its new 3Di sail material to meet the owner's demands for performance and technology. 3Di features a composite structure of interleaved spread filament tapes that hold their shape, allowing upwind sails to approach the performance of a rigid foil.



"He wanted to have a winning boat," says Wassen. "Or rather, to get the maximum speed potential from this air draft, to extract everything possible and to leave no stone unturned in trying to reach it. It was all about trying to save weight in every aspect, even when it would mean an unconventional solution. The owner's technical understanding goes deep. He's a very smart man, and he's capable of shooting holes in your theories when you don't do your job well!"

So began the process of creating a remarkable superyacht. From 2003 to 2006, several studies were made looking at every aspect of design, from beam variations to construction materials. To make it more complicated, the owner's brief also required a yacht capable of cruising and entering shallow bays and anchorages.

"I started with a deep draft," Wassen says. "All owners, when you suggest a certain draft, ask if it can be reduced due to where they want to go. This owner was the first client who asked if we could increase it. We knew that with a nine-meter [30-foot] draft a lifting keel would be required, and the owner wanted a minimum draft of 3.5 meters [11-and-a-half feet]. At that time we did not know how to do it, we just knew we would find a solution."

By 2006, having worked up a number of designs in consultation with composites specialist Gurit, and with the hull shape fine-tuned by Reichel/Pugh, the lines were set and the owner gave the green light. Baltic Yachts in Finland was chosen for the build, and Jens Cornelisen and his team were brought in to project manage it. Nothing would be standard. Ocean Yacht Systems developed the twin retractable thrusters that form the heart of the propulsion system, enabling the yacht to retain a clean, flush underwater shape when the drives are not being used. APM in Italy created the lifting mechanism for the keel and rudder. Reckmann developed three custom under-deck furlers for the yacht. Even the glass for the deckhouses was specially made for the project by Tilse

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The white deckheads are painted with visible brushstrokes while the walnut planking on the sole was pre-stressed to give the impression of an old refitted vessel.



Industrie. In fact, according to Captain Fauquenoy, the only standard item on *Hetairos* is the light in the engine room.

"The challenge for us," says Jens Christensen of sailmaker North Sails Europe, "was not the size of the sails but the exceptional performance and technology demanded for a yacht of this size. It was decided to make all the upwind sails in our new 3Di material, particularly because it exhibits even greater dimensional stability than 3DL. It was a completely new experience to find that the flat jib forward of the spanker, which was supposed to create better airflow over the spanker, in fact, brought a one-and-a-half-knot increase in upwind speed."

The job of creating her interior fell to Rhoades Young Design. "I worked on the previous *Hetairos* and also on the owner's house, so we knew each other quite well," recalls Dick Young. "He didn't want the yacht to be just another classic boat. He is a very detail-orientated man."

The biggest challenge in creating the interior was the strict weight requirements dictated by the no-compromise approach to the project. "With a carbon build the interior is so integrated that you can't just waft in with your decorative head on—you have got to have a technical approach," Young says. "A good twenty-five to thirty percent of our time was spent proposing alternative structural details. The carbon structure is doing everything it can to stop the interior [from] being interesting."

The result, though, is spectacular. "We dreamt up a story to hang the interior styling on," Young explains. "The story is that she was



A WEIGHTY ISSUE

"We knew from the start that weight would be critical," says Dick Young from interior design firm Rhoades Young Design.

"The challenge was to balance entirely contrary objectives: The requirement for strict lightweight design was opposed by the desire for the ambiance and the ultimate convenience of a luxury yacht," says Timo Hartmüller of the interior fittings manufacturer Oldenburger.

"This project was unique in the extent

of the technical design effort spent on the interior. Extremely light materials were required which would still offer the necessary strength to persist on a yacht sailing close to the wind," says Hartmüller.

"We met with various people from the aircraft industry, but when we looked at weight, it was going to be too heavy!" says Young. "Through detailed research, we then dreamt up a monocoque structure for the furniture. Carbon was just adding weight, so we used

E-Glass on foam panels. On top of that, we added foam and cardboard with the veneer, and from the car industry we found a very high-density plastic that can be milled and cut like medium-density fiberboard. Once we had built the monocoque we spent a lot of time on the other elements. We get equally involved not only in the aesthetic side but also the practical engineering side; there are some amazing materials out there that do amazing things that no one in the yachting industry

has heard of. Once we had the ideas, we sent them to Oldenburger and Baltic for testing."

Oldenburger's construction department developed a vast range of lightweight materials for *Hetairos*. "Numerous manufacturing processes had to be rethought and adapted due to the connection of traditional and advanced materials, requiring a high level of creativity from our craftsmen," says Hartmüller.

While there are many tricks and illusions employed to keep the weight down—such as

the GRP bathtub sprayed with metal powder and epoxy resin to look like metal, and the stone and vases that are really painted foam—some elements were kept real. "The door handles are metal, but milled hollow," Young explains. "Plastic is not cold to the touch, and it's all about tactile feedback. Once you start sowing seeds that everything is real, people are happy to believe, so when you touch a cold metal door handle or the taps, you believe that all the other fittings are metal as well."

formerly a commercial boat, bought and fitted out as a yacht—but in stages. So in the interior you can see the old wooden structure and floor. We've got some weird structural stuff going on like you would expect to see on an old cargo boat where no one cared about the finish. The idea then is that she's been through a refit while going through the Orient, so you have three distinct layers—the old commercial coaster, the yacht fitted out in Colonial styling drawn from Raffles Hotel and French Caribbean detailing and the decorative Oriental touches.”



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– ERIK WASSEN, NAVAL ARCHITECT

on her. “I have signed up for the whole year as race crew,” says Wassen with a smile. “In the early sail trials, I felt we were going to struggle to control this monster, but after the training days and the crossing, with several experienced crew aboard, you suddenly see things start to come together. We only reached perhaps eighty to eighty-five percent of her potential on the crossing,” he concludes. “So we have yet to push her to the limit...”

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As if the interior has grown with the boat's supposed history, the furniture detailing and use of wood varies from one space to another, from stained cherry in some areas to teak and limed ash in others. Furthermore, all the elements were specifically designed and aged to mimic what they might have looked like if the yacht really had been built 100 years ago. The stained walnut floor planks are not cut quite straight and include faux repairs and butterfly joints. Grit was mixed in with epoxy between the planks to suggest a century of accu-

mulated dirt. Furniture was designed to look pre-dinged and the cherry wood, for example, is not only stained but also carries an added patina.

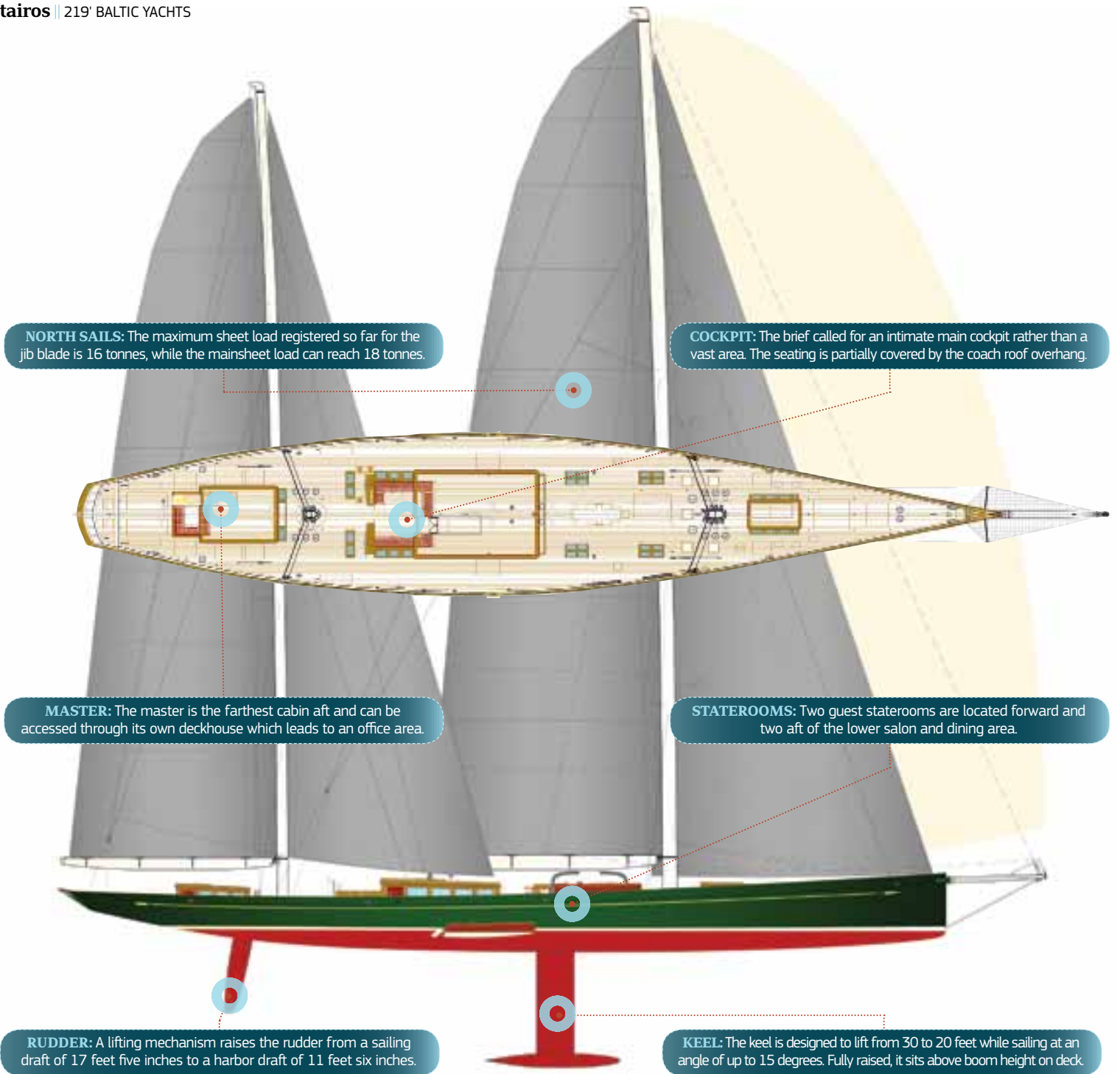
“It was a challenge for interior company Oldenburger,” says Young, “to throw stuff at it, hit it with chains and rub dirt into it before varnishing; if it was all beautifully sprayed and painted, the interior wouldn't have felt soft.” Likewise, the white paint on the deckhead was deliberately applied over a slightly darker undercoat “with a rubbish brush” to create distinct rough brushstrokes and create the impression of a surface that had been painted over many times.

The effect is extraordinary—this is not what some might term “shabby chic,” but rather an emotive and genuinely believable recreation of a century-old coaster-cum-luxury yacht.

The disbelief continues for those fortunate enough to sail



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The master stateroom (main image) has a separate entrance and deckhouse at the rear. The mizzen mast, which runs through the center of the suite, features a ring of skylights that give a spectacular view up the spar. Hetairos's pilot cutter lines are accentuated by relatively low freeboard, yet she remains dry on deck, apart from a fine spray created by the bow wave collapsing on the hull.



NORTH SAILS: The maximum sheet load registered so far for the jib blade is 16 tonnes, while the mainsheet load can reach 18 tonnes.

COCKPIT: The brief called for an intimate main cockpit rather than a vast area. The seating is partially covered by the coach roof overhang.

MASTER: The master is the farthest cabin aft and can be accessed through its own deckhouse which leads to an office area.

STATEROOMS: Two guest staterooms are located forward and two aft of the lower salon and dining area.

RUDDER: A lifting mechanism raises the rudder from a sailing draft of 17 feet five inches to a harbor draft of 11 feet six inches.

KEEL: The keel is designed to lift from 30 to 20 feet while sailing at an angle of up to 15 degrees. Fully raised, it sits above boom height on deck.

Specifications:

BUILDER: Baltic Yachts
Jakobstad, Finland
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Email: info@balticyachts.com
www.balticyachts.com

LOA: 218' 10" (66.7m)
LOD: 196' 6" (59.9m)
DWL: 163' 3" (49.8m)
BEAM: 34' 7" (10.5m)
DRAFT: 29' 6" (9m) / 19' 8" (6m) / 11' 6" (3.5m)
DISPLACEMENT: 230 tonnes
ENGINES/GENERATORS: 4 x VW Marine TDI 350-8
PROPULSION THRUSTERS: 2 x OYS BTMH-42-SR retractable hydraulic

SAILS: North Sails 3Di
SPARS AND RIGGING: Southern Spars/Future Fibres
FURLING SYSTEM: Reckmann
BOWTHRUSTER: 128kW Hundested, retractable
FUEL CAPACITY: 6,076 gallons
WATER CAPACITY: 2,848 gallons
GUESTS/CREW: 10/10
CONSTRUCTION: Pre-preg carbon with Corecell and Nomex cores

KEEL MECHANISM: APM srl
COMPOSITE ENGINEERING: Gurit Ltd.
CLASSIFICATION: Det Norske Veritas (DNV)
PROJECT MANAGEMENT: Jens Cornelsen GmbH
NAVAL ARCHITECTURE: Dykstra & Partners Naval Architects / Reichel/Pugh Yacht Design
INTERIOR DESIGN: Rhoades Young Design