Baltic Yachts

AUTUMN 2020

THE BALTIC LOG

LIGHTER, STIFFER, FASTER, GREENER – TOGETHER

CONTENTS

COVERS

BALTIC 142 CANOVA

PRODUCTION

Editor: Elisabet Holm

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Print: Waasa Graphics

INNOVATION +

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ON WATCH

Dedication and innovation driving our success

With our business remaining fully operational during what has been a difficult year for many, and work on three yachts continuing without interruption, it's a good opportunity to reflect on the loyalty and dedication of our workforce.

Morale remains extremely positive among our 220 employees and we believe it is their enthusiasm and hunger to deliver the highest quality yachts, recognised for their innovation and style, which persuade clients to turn to – and return to - Baltic Yachts. Our staff are hugely committed and have excelled during this crisis – they are completely dedicated to delivering custom yachts that genuinely match their owner's dreams.

With a remarkably low staff turnover rate of just 2.7% over the last ten years and almost 40% of employees remaining with the company for 20 years or more, this high degree of loyalty is fundamental to our success and inextricably linked to a desire to innovate and keep our product at the leading edge of the superyacht industry.

Client demand for comfortable, spacious, easy to use performance yachts continues to gather pace. What is unique about us is that we have delivered all this in increasingly sustainable guises. We have met these, sometimes conflicting, demands with major advances in electric propulsion and hydrogeneration which dramatically reduce dependence on fossil fuel and we are reducing our carbon footprint by using alternative building materials like flax. Our successful world first, using a DSS foil in a superyacht in Baltic 142 Canova, has created interest and many are keen to examine the foiling option which offers increased comfort and performance.

During the pandemic we have seen an increase in traffic in terms of enquiries with potential clients finding more time in their calendars. It has also provided an unexpected opportunity for service, with Baltic 175 Pink Gin and Baltic 112 Liara both returning to our facility in Jakobstad and plenty of activity at our in-demand service and refit base in Palma, Mallorca.

We wish you all a safe and healthy future and look forward to a time when we can meet again – out on the water or at other yachting related venues.

Anders Kurtén - CEO

Henry Hawkins - Executive Vice President

TECHNICAL	
L.O.A.	44.60 m
L.W.L.	41.80 m
BEAM	9.35 m
DRAFT	5.9/3.4 m
LIGHT DISPLACEMENT	167.0 tons
BALLAST	37.6 tons

DESIGN	
Naval Architect	judel/vrolijk & co
Exterior & Interior Design	judel/vrolijk & co
Owner's Project Manager	Sebastian Allebrodt, A2B Maritime
Project Management Baltic Yachts	Patric Brännbacka, Mikael Nyberg

The single level deck saloon/guest cockpit provides an excellent inside/outside living area with the cockpit protected by a long, open-sided, hardtop bimini

BALTIC 146 CUSTOM

Powerful deck saloon cruiser due for May 2021 launch

Amidships location for a larger owners' suite is an increasingly popular option

With her final coat of dramatic grey topsides' paint due to be applied this autumn, the hull and deck of the third largest yacht Baltic Yachts has ever built by volume, are close to completion.

Built in advanced composites, this powerful, 167-ton sloop features a lifting keel with a 37.6-ton bulb, twin rudders, rotating propeller leg and stunning accommodation for eight guests plus an owners' amidships suite. There's a four-cabin lay-out aft for eight crew, including the captain.

Commissioned for an experienced owner who has already completed a circumnavigation, his new judel/vrolijk-designed yacht is not only intended for extensive bluewater cruising but also forays into trans-ocean racing. "We have listened carefully to our client, an experienced yachtsman who has been instrumental in driving this design," said Baltic Yachts executive vice president Henry Hawkins. "We have worked towards a layout and a level of functionality that will perfectly meet the demands of his sailing plans," he added.

The focal point of the accommodation will be a deck saloon/main cockpit combination on the same level, providing a perfect platform for al fresco living at rest or underway.

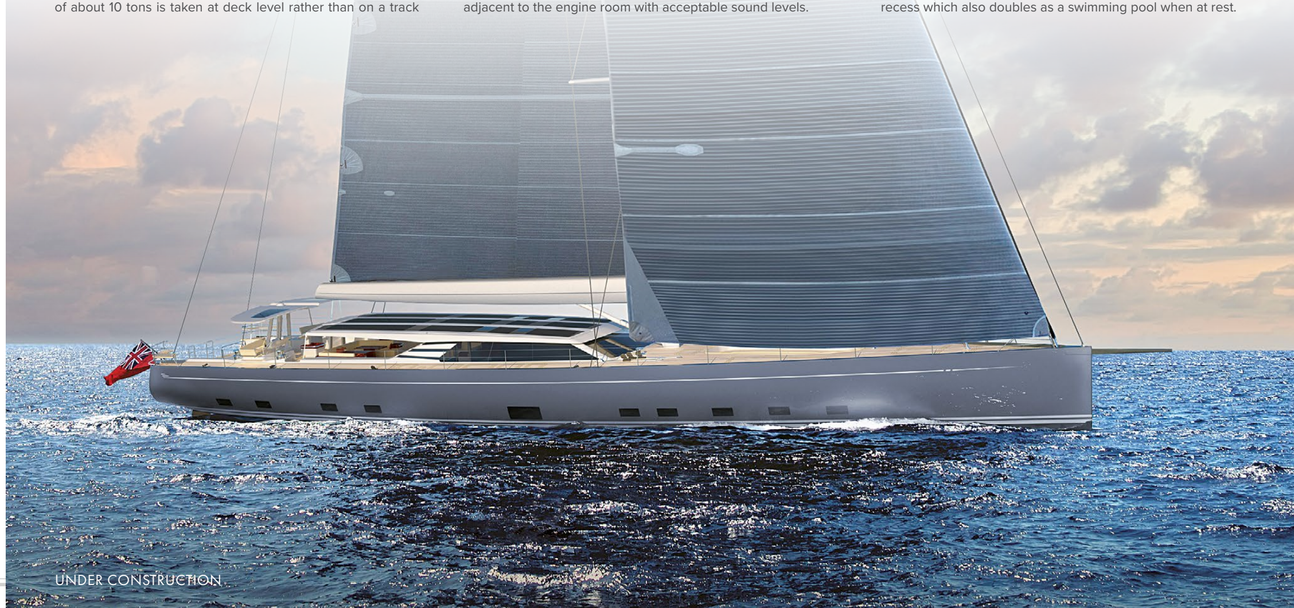
The expansive main cockpit provides an unusually large area in which to relax and is protected by an open-sided hard-top bimini extending from the deck saloon aft bulkhead. Mesh side screens can be deployed for additional sun and weather protection when required.

The extended bimini bears some resemblance to that seen aboard Baltic 142 Canova, but on this yacht the mainsheet load of about 10 tons is taken at deck level rather than on a track mounted on the bimini roof, thus avoiding complex engineering in the superstructure. Instead a twin-pillar 'gantry' at the aft end of the cockpit provides conduits leading the hydraulically-controlled mainsheet up one side and down the other. It also provides complete protection for guests and crew.

An increasingly popular option being examined by clients is the location of the owners' accommodation amidships where maximum beam can be exploited and where motion is at its least in a seaway. Advanced sound deadening materials and anti-vibration techniques used in and around the machinery space also mean the owners' accommodation can be positioned adjacent to the engine room with acceptable sound levels.

The location of the owners' accommodation allows a suite of cabins to be installed including a lounge area adjacent to the sleeping cabin, an upper lounge with a video wall and a bathroom fitted with a full-size carbon fibre bath. Voice control for lighting and blinds has been fitted in the owners' suite and project manager Patric Brännbacka also reports that the air conditioning systems have been considerably 'beefed up' with additional compressors.

Key features on deck include two tenders, one an 8hp Torqeedo electric outboard powered RIB stowed in the stern garage and a 6.5m twin-engined Ribeye located in a foredeck recess which also doubles as a swimming pool when at rest.



UNDER CONSTRUCTION

BALTIC 117 CUSTOM

Tradition combines with advanced technology

With her multi-part deck moulding now in place and her topsides being prepared for a spectacular metallic bronze finish, this Custom Classic is benefiting from some smart thinking to simplify and improve systems which rarely see the light of day

The elegant lines of this modern Custom Classic are about to be enhanced by the addition of two deck saloons and a forward 'doghouse', which will define the traditional look of the yacht's superstructure.

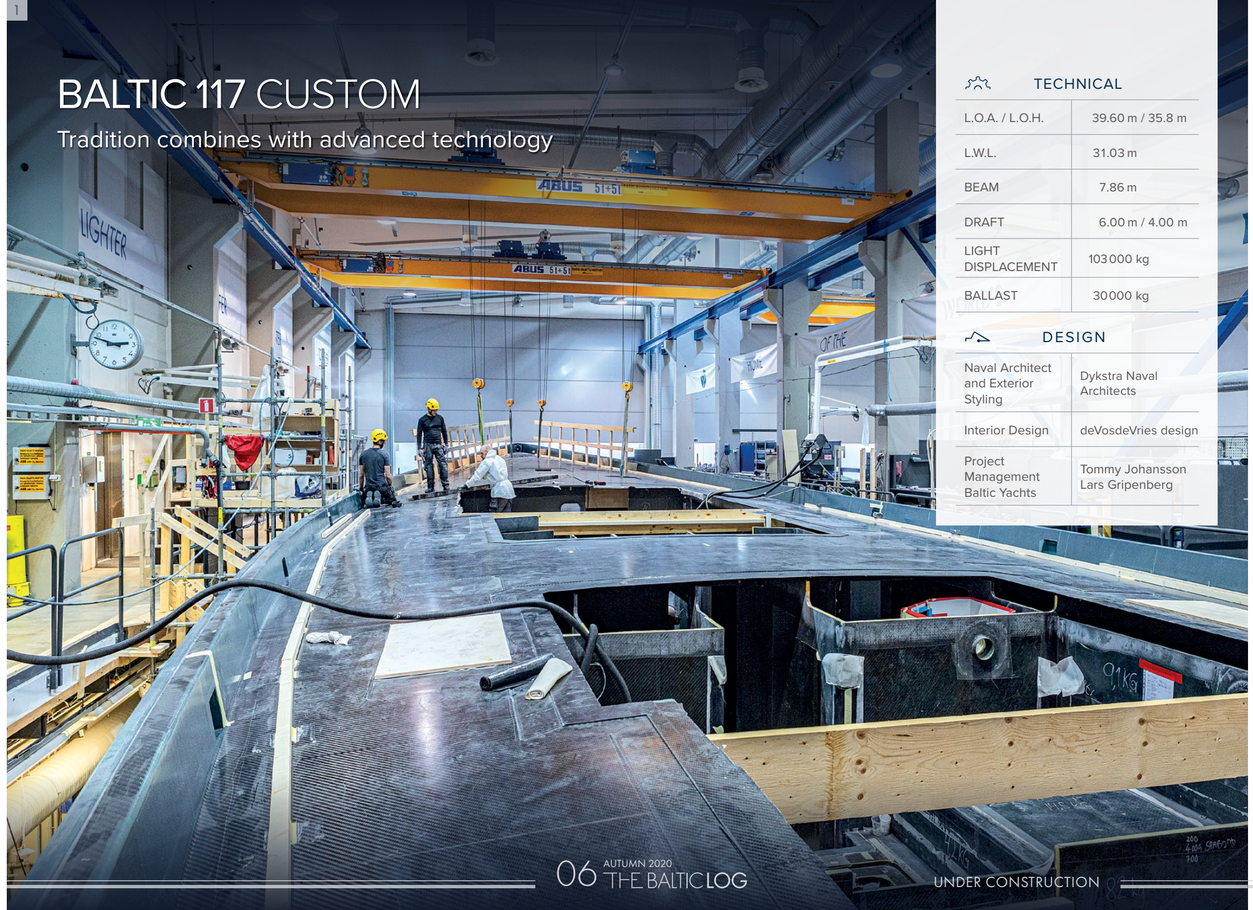
With the main section of the advanced composite deck now in place, more evidence of the yacht's style can be identified in the form of a 30cm deep composite bulwark extending the whole length of the yacht. It will be painted white on its inboard face and combined with a teak cap-rail, teak clad deckhouses and teak decks it should provide a highly practical and attractive feature.

Key items on deck include a manually-assembled side boarding ladder, custom-built by Baltic Yachts, which stows behind a hydraulically opening hull door. At its foot is a substantial boarding and bathing platform, fitted with a shower, doubling as an alongside fuelling station for the main Williams diesel inboard tender. Two fixed davits will be fitted over the transom for the Williams.

Work is currently underway engineering and fitting a carbon fibre hard top bimini, raised and lowered on four telescopic pillars set in the corners of the main cockpit. In the lowered position it will sit flush at coaming level to provide a sunbathing area. The bimini top has been ingeniously designed as a stowage for the yacht's manually-assembled aft boarding pasarelle, saving valuable space in the lazarette area.

The Baltic 117 Custom will be fitted with an impressively compact 280kW Danfoss electric propulsion unit which is also designed for hydrogeneration via a controllable pitch propeller (CPP) automatically adjusted to maintain the most efficient balance of charging and drag.

1



TECHNICAL

L.O.A. / L.O.H.	39.60 m / 35.8 m
L.W.L.	31.03 m
BEAM	7.86 m
DRAFT	6.00 m / 4.00 m
LIGHT DISPLACEMENT	103 000 kg
BALLAST	30 000 kg

DESIGN

Naval Architect and Exterior Styling	Dykstra Naval Architects
Interior Design	deVosdeVries design
Project Management Baltic Yachts	Tommy Johansson Lars Gripenberg

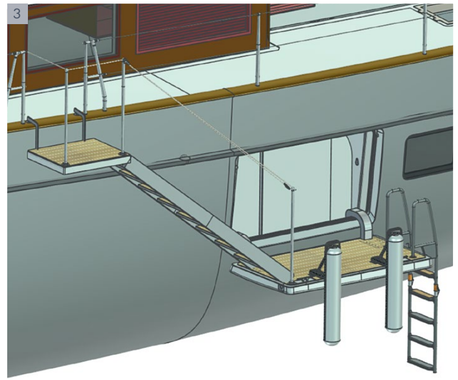
Considerable design time has been invested in tankage and water-cooling systems with the aim of reducing the number of seawater pumps. Specialist expertise in this field has been used to save space, weight and reduce the number of spare parts.

All the yacht's main tanks are built into the composite structure of the yacht which, compared to prefabricated, stainless steel tanks, saves space and weight and increases tank volume. Each tank is internally coated to suit its content. Baltic 117 Custom can carry 5,800 lit of diesel fuel, 3,000 lit of water and 1,900 lit of blackwater and sludge.

Many systems require sea water cooling, including air conditioning compressors, inverters, sewage treatment and water making machinery, the main shaft bearing and electric motors including the main engine. Normally, each is served by a dedicated pump but in this yacht just one pump, with another fitted for redundancy, meets the entire raw water demand. It saves weight and space and reduces spare parts and maintenance requirements.

2

3



This type of technical refinement typifies Baltic Yachts' quest for improvement and is testament to the work of our research and development teams.

1. The main deck in place showing the deep bulwarks running the length of the yacht and apertures for two of the deck saloon superstructures and cockpits. There will be a separate companionway forward for access to guest accommodation. The deckhouses will be clad in teak.

2. Baltic 117 Custom's advanced composite hull will eventually be finished in metallic bronze. This shows her straight stem and bowsprit fitting, an aperture for the bow thruster and fairleads set into her deep bulwarks.

3. A computer-generated image of the sideboarding platform arrangement showing the hull side opening in which it stows, a swimming ladder in place and substantial vertical fendering for the yacht's diesel tender which can re-fuel alongside.

BALTIC 68 CAFÉ RACER

Lamination of first flax reinforced hull begins

DIMENSIONS

L.O.A.	20.73 m
L.W.L.	20.73 m
BEAM	5.63 m
DRAFT	4.00 m
DISPLACEMENT	20.60 T
ISP	29.05 m
IG	26.00 m
P	27.00 m
E	8.80 m
BAS	2.04 m
J	8.30 m
SPL	11.62 m

DESIGN

NAVAL ARCHITECT	Javier Jaudenes
INTERIOR DESIGNER	Jens Paulus and Baltic Yachts
PROJECT MANAGEMENT BALTIC YACHTS	Patric Brännbacka
DELIVERY YEAR	2021

Designed to get you sailing quickly and easily this Daysailer with Attitude comes with ground-breaking eco-credentials and a powerful sailplan

Naturally grown flax as an alternative moulding reinforcement, electric motor batteries charged by hydrogeneration and super-efficient micro-turbine generator technology are just some of the components of the eco-package that comes with the Baltic 68 Café Racer, the first hull of which is about to be moulded.

More than 50 per cent of this yacht's hull will feature flax reinforcement using the SPRINT pre-preg lamination technique, significantly reducing the carbon footprint of the yacht. The mould will be released from its plug this autumn and the first hull should be ready for fit out by January 2021.

But her eco-friendly build materials and systems are just part of the story. This yacht is not only genuinely easy to sail with no backstays needed due to her swept-spreader, carbon Marstrom Composite mast, but the use of Doyle Structured Sail Technology will considerably reduce loads and headsail sag to enhance upwind performance. This technology builds load bearing capability into sails themselves, significantly reducing stay loads.

Even though the Café Racer can be sailed with no backstays, mast bend and mainsail shape can be controlled through a high-load luff cunningham enabling her sailplan to be fully trimmed for competitive sailing. Twin running backstays can be fitted if required for additional stability in heavy airs downwind conditions.

The hull mould for the Baltic 68 Café Racer being laminated over the wooden plug. The first hull will be produced in January 2021

With Doyle Structured Sail Technology employed in the sailplan she has a competitive edge which could be demonstrated at Les Voiles de St Tropez in 2021

The Café Racer's sailplan includes a square-top main and a series of Code and asymmetric sails set from the stemhead or off the fixed bowsprit. The yacht is fitted with twin rudders and a fixed bulb keel. With the first yacht due to launch in early summer, we hope the Baltic 68 Café Racer will be able to make an appearance at Les Voiles de St Tropez in 2021, where we expect her to be highly competitive.

The Café Racer's batteries can be charged using shore power so that you simply unplug and step aboard when you want to go sailing, but, in addition, her twin propulsion legs use their free-wheeling propellers to charge the battery bank. This will in turn drive twin 20kW electric motors and in most scenarios there will be enough charge to see you through a day's sailing.

Just in case you need a range extending help home the Baltic 68 Café Racer is fitted with a micro-turbine generator which is a fraction of the size of a conventional unit and uses a fraction of the fuel, which is currently gasoline. Biofuels and hydrogen could eventually be used to fuel micro-turbines.

Javier Jaudenes, who designed the highly successful Baltic 108 WinWin, is responsible for the Baltic 68 Café Racer's naval architecture and exterior style. Jens Paulus is responsible for the interior design of the contemporary loft-style accommodation. In keeping with the eco-theme there is extensive use of natural materials.

BALTIC 142 CANOVA

Space creation through innovation

Baltic 142 Canova is all about enhanced comfort. While her Dynamic Stability System sliding foil reduces heel angle and motion at sea, new technology, engineering and naval architecture by Farr Yacht Design have made possible an amidships owner's suite and a spectacular deck saloon/cockpit combination

TECHNICAL	
L.O.A.	43.30 m
L.W.L.	41.60 m
BEAM	9.00 m
DRAFT, KEEL UP	3.80 m
DRAFT, KEEL DOWN	6.50 m
LIGHT DISPLACEMENT	146.5 tons

DESIGN	
Naval Architect	Farr Yacht Design
Exterior Design	Lucio Micheletti
Interior Design	Baltic Yachts Lucio Micheletti
Composite engineering	Gurit UK
Owner's Project Manager	Mattia Belleri

Owner's suite

Accommodation layout or a yacht's general arrangement has always been influenced by the position of the main engine and keel, but aboard the Baltic 142 Canova, installing a compact electric propulsion motor has freed up space for an unusual and generously-sized amidships owner's suite occupying a remarkable 700ft² (65m²).

Amidships accommodation is regarded as the 'sweet spot' for a sleeping cabin because pitching motion is at its least in a seaway, beam is at its maximum and there are other compelling reasons for not being further forward or aft in any yacht.

The owner of Canova, who intends to live aboard for extended periods of time, is an experienced yachtsman who has tried various cabin locations on different yachts. He's aware that forward accommodation is restricted by ever reducing beam and in a seaway motion and noise levels are exacerbated by increased movement. It's also a long way to the pasarelle when moored stern-to, especially on a superyacht.

Spectacular deck space

His and Hers bathroom

Further aft, noise from the propeller and drive train, stern 'slap' (waves hitting the underside of the transom) and crew traffic are all a potential nuisance.

Although amidships is clearly favoured for sleeping accommodation, it normally has to compete with the engine room, partly due to weight distribution and partly for the space required for normal shaft transmission. Not any longer.

Aboard Canova, her electric motor is much smaller than a conventional diesel engine and can be positioned directly over the drive leg without the need for a long shaft. This has freed up valuable amidships space to the extent that a large owner's suite can be accommodated forward of the machinery room. It also means that the en suite bathrooms and extensive wardrobe space can be built into the restricted areas around the lift keel casing and mast step.

Traditionally, locating the owner's cabin adjacent to the engine room has been problematic because of sound and vibration, but Canova's electric motor is super quiet and combined with Baltic Yachts' advanced sound deadening and vibration insulation, the close proximity of the two areas is no longer an issue. In addition, with the yacht able to operate in quiet mode for long periods using batteries only, it is possible to position sleeping accommodation adjacent to the machinery area.

40ft long entertainment area

Inside/outside living

Owner's treadmill

Well protected dining area

The 26ft 7in (7.5m) wide owner's suite aboard Canova, using the yacht's maximum beam, comprises a king-size double bunk to starboard, a bathroom with his and hers sinks, a carbon fibre bath tub, sauna and a lounge area to port. There's a separate, full length walk-in wardrobe and an additional head, shower and wash basin also to port.

Further forward there's a separate entertainment area which can either remain as part of the extensive owner's suite or be used as a separate cabin with a pullman berth.

Even though the headroom throughout is more than 6ft 6in (2m), there is space for a treadmill, installed beneath the lounge area cabin sole, and a gimballing mechanism for the double bunk. In addition, the cassette for the yacht's DSS athwartships foil runs beneath the double berth and the lounge area settee. Natural light flooding through four large hull ports illuminates the entire suite.

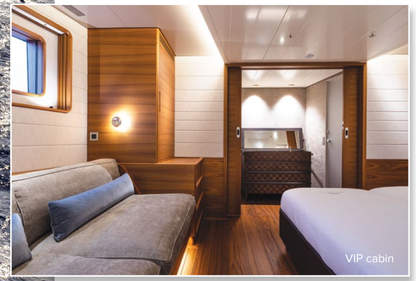
In a yacht of this length, full headroom accommodation over two decks becomes possible with the owner's suite and engine space laid out directly beneath the combined deck saloon sole and main cockpit. Baltic Yachts' advanced composite engineering and design can reduce deck beam scantlings, thus maintaining full headroom on both decks.

The impressive same level deck saloon/main cockpit combination with a full-length fixed, hard-top bimini, providing complete sun and weather protection, is the spectacular focal point of the inside/outside living accommodation on the upper deck. The combined area is an impressive 40ft (12.3m) long making a superb entertainment platform and with sliding windows rendering the cockpit area completely enclosed, this highly versatile space can be temperature controlled by air conditioning in any weather.

Custom-built dining tables in both areas that can be adjusted to form low level coffee tables and dimmable toughened glass which reduces UV penetration and helps air conditioning efficiency are just two features of the deck saloon.

From coffee table to dining table step by step:

Canova can accommodate nine guests in three double guest cabins forward and the amidships owner's suite plus nine crew aft. Styled by Lucio Micheletti, there is a predominance of teak finish


VIP cabin

throughout, working subtly with white bulkhead and deckhead finishes. The effect is sophisticated and luxurious and combined with Canova's unusually spacious and effective lay-out she represents a new way of living afloat.


Nav station

SERVICE & REFIT

Value and sustainability in a well-maintained yacht

A programme of regular service and refit is essential to keep yachts problem-free. We're offering this at our facilities in Palma de Mallorca and Jakobstad

PINK GIN PIT STOP AFTER 69,000 MILES

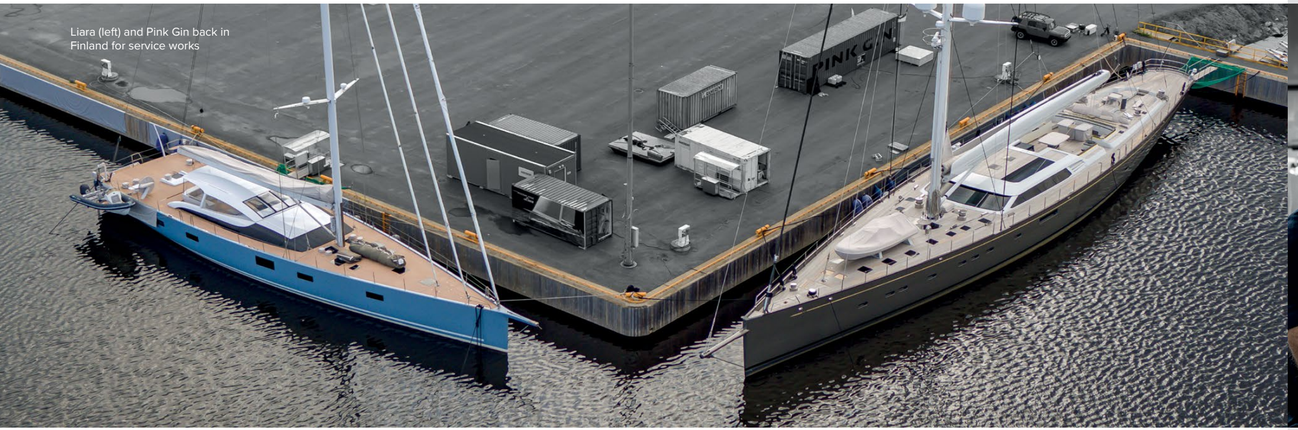
Launched in 2017, Baltic 175 Pink Gin has already sailed almost 69,000 nautical miles including six Atlantic crossings, a number of trips to South America, including Uruguay, and extensive cruising in the Caribbean, including Cuba.

She is currenty back in Finland for some interim refit work ahead of her five-year survey in two years' time. Project manager Patric Brännbacka said the service programme would include re-varnishing bulwarks, paint touch-ups and treating some of her pewter deck fittings.

There are also teak deck repairs to be done and deck hatches and deckhouse windows need attention. On the engineering side, a raw water pump, a heat exchanger and parts of the hydraulic system will be replaced.

Pink Gin's revolutionary hull doors, which form part of the load bearing structure of the hull when closed, were inspected last year and are in perfect working order. The yacht's sail inventory has been sent to North Sails UK for a complete service.

Patric is also working on a minor refit of the Baltic 43 Ice, a judel/vrolijk-designed day sailer. In addition to new standing and running rigging she will have a new suit of sails and a complete overhaul of her systems.



Liara (left) and Pink Gin back in Finland for service works

LIARA HEADS FOR JAKOBSTAD NOT AUCKLAND

The global pandemic has curtailed many sailing plans, not least those of Baltic 112 Liara, whose owner was planning to head across the Pacific this winter to be in Auckland for the America's Cup next year. Instead she returned from cruising and racing in the Caribbean for a 10,000-mile mini-service at our Jakobstad base.

Tommy Johansson, who is managing the work, said Liara, launched in May 2019, is in good condition and that the main tasks involve PLC software updates.

She is also having an Akasol battery system update, sheave boxes and pins will be serviced, and warranty work completed.

Senior Electric Engineer Mikael Johansson and Liara's engineer Daniel Horton working on software upgrades

31-YEAR-OLD BALTIC 38DP 'FOR FUTURE GENERATIONS'

The six-month refit of the Baltic 38DP Favorita was completed in the Spring of this year when the 31-year-old yacht was returned to Erkki Laasonen, who has owned and kept her in south west Finland for 25 years.

Erkki said that Favorita is part of the family' and that he hoped by maintaining the yacht in tip top condition she would remain available for 'future generations to enjoy'.

Work included fitting new decks, replacing pipework, re-varnishing the entire accommodation, painting the boot-top and spars and restoring the topsides.

The Baltic 38DP was one of the company's most successful models with 55 units built which helped to lay the foundations of what Baltic Yachts stands for today. Designed by the late Doug Peterson, the Baltic 38 was heavily influenced by the International Offshore Rule (IOR) for racing, which resulted in fine bows, narrow transoms and an exceptionally good upwind sailing performance.

To maximise accommodation space, Baltic designed angled bulkheads, which typifies the innovative approach the company took then and still does today. Currently there is considerable interest in second-hand series production boats built by Baltic Yachts.

Favorita might be 31 years old, but following her refit at Baltic Yachts she looks as good as new

• Baltic 142 Canova hits her stride off Sardinia

In a powerful display of sailing, in which sustained speeds of at least 20 knots have been reached in the breezy Strait of Bonifacio, the foil-assisted Baltic 142 Canova has recently enjoyed virtually fault-free fine-tuning as her owner and crew put the yacht through her paces in an intense sailing programme.

Comfort at speed

Baltic Yachts' executive vice president Henry Hawkins, who was aboard Canova in Sardinia recently, said: "The boat has been sailing in 30 knots plus out of Porto Cervo and we are all delighted with her performance. With her twin rudders she is as light as a feather on the helm and she's extraordinarily comfortable even at speeds in excess of 20 knots."

Owner input

Canova's experienced owner has had time to use the yacht's DSS foil to good effect. With the 9m sliding appendage extended to leeward, pitching motion is dramatically reduced and the reduction in heel angle has far exceeded expectations, improving all-round comfort. Together with her remarkable accommodation, including an amidships owner's suite (see page 10) Canova is arguably the most comfortable cruising yacht of her type in the world.

NEWS

• Palma de Mallorca Service and Refit in demand

Head of After Sales, Matthew Lester leads a highly skilled, 17-strong team in Palma de Mallorca with a workshop on the STP superyacht premises, administration offices adjacent to STP and a further workshop and storage unit situated on the outskirts of the city. The team is well equipped to work on any size or make of yacht and well-known Baltic names like Nikata, WinWin, Gof and Nilaya are regularly maintained to keep them in top working order for extensive trouble free cruising and competitive sailing.

The Palma base has recently welcomed MY Perfection (formerly Bill and Me) for service and maintenance prior to her first season under new ownership. The Palma base works closely with Jakobstad and inter-changes skilled workers when required.

For more information, contact Matthew Lester:
matthew.lester@balticyachts.fi
+34608797100

• Greener – Together

One of our genuinely next generation achievements is the eco-friendly Baltic 142 Canova launched last autumn. She has just enjoyed her maiden summer season in the Mediterranean. Apart from high profile launches, we have also vigorously pursued our internal sustainability theme through a variety of initiatives. We believe that working towards more sustainable solutions involves unrelenting focus combined with harnessing a multitude of small contributing factors.

As a result of our employee engagement competition launched earlier this year we received almost 100 ideas, mainly related to further developing all aspects of our operations towards more sustainable practices. It is also a source of pride for us that we now offer complimentary electric vehicle (EV) charging for employees and visitors at our waterfront yard in Pietarsaari. Further, staff members have ridden almost 20,000 commuting kilometres on their bicycles this summer, thus saving over 1,300 litres of gasoline and more than 3,300 kg of CO_2 equivalents. Our destiny is in our hands, and the above is testament to our commitment to a more sustainable future, supporting our shared vision to be greener - together.

INNOVATION

The Generation Game-Revolutionising Onboard Power

The quest to become less reliant on fossil fuels and reduce emissions will see the popularity of the combustion engine ebbing away as the fuel cell offers an alternative, say our engineers

For decades the reliability and running costs of the diesel engine have made it the power source of choice aboard yachts, not only for propulsion, but also for driving charging systems. They were fitted exclusively to our numerous series production yachts and even today it is taken for granted that a yacht will be fitted with a diesel internal combustion engine.

Sail Drive legs and conventional shaft driven propellers were standard on yachts and 12V battery systems were charged using, typically, a 100 Amp alternator sometimes backed up with an additional unit if onboard electrical systems demanded it.

Despite enormous improvements in diesel engine power to weight ratios and reductions in emissions, the fact that they run on fossil fuel puts them at a disadvantage. The growing call to clean up and protect our environment and the acceleration of alternative power source technology will completely change how yachts are powered. Charging systems using more efficient batteries, solar power, electric propulsion, hydrogeneration and now fuel cell technology, will all be part of the revolution.

The move to cleaner power has other important advantages. Electric motors are quieter meaning we can rationalise the use of sound deadening material and the increased use of more efficient batteries extends silent periods. They are also smaller with less space hungry transmission gear, which frees up valuable space in key areas of accommodation.

So how far have we come at Baltic Yachts? The Baltic 142 Canova, launched in 2019, attracted attention for her DSS sliding hydrofoil, but her genuine diesel electric propulsion system is equally advanced, using a 400 kW permanent magnet motor, which doubles as a generator driven by the yacht's free-wheeling propeller while sailing. This can develop up to 35 kW to charge a bank of Lithium batteries which can also be topped up by conventional diesel driven generators. The system has exceeded our expectations.

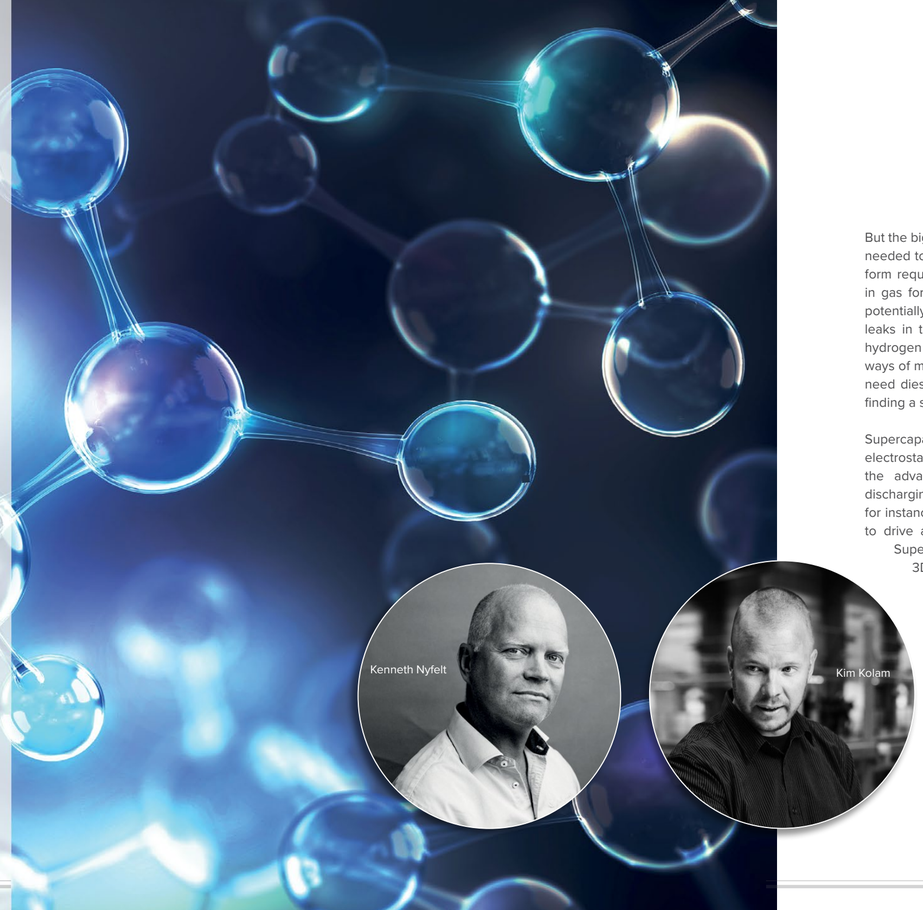
The use of an electric motor aboard Canova has allowed us greater freedom in the accommodation layout with an amidships owner's cabin right next to the engine room, something we couldn't contemplate without greater silent period capability (see page 10).

Both the Baltic 117 Custom and the Baltic 68 Café Racer, currently in build, will be fitted with electric propulsion motors and employ hydrogeneration to charge their battery banks. While the 117 will have conventional generators, the 68 will not.

In fact, the Café Racer will be the first yacht we have built without a conventional fossil fuel burning generator, although a small amount of gasoline vapour will be needed to fuel a micro-turbine designed to charge the onboard batteries and act as a range extender (REX). Micro-turbines are a fraction of the size and weight of diesels and have just one moving part, dramatically reducing maintenance costs. The technology requires a heat source to drive the turbine which in turn drives a generator, the fuel for which could be hydrogen, although, as described later in this article, storage is still an issue. Both boats still rely on relatively large, heavy banks of Lithium-ion batteries.

So how do we reduce the use of fossil fuels and find even more efficient ways of storing electricity? One solution, according to Baltic Yachts' senior electrical engineer Kim Kolam and sales director Kenneth Nyfelt, could lie in the fuel cell used as a generator in conjunction with 3D printed supercapacitors for storing electricity.

Fuel cells convert, typically, hydrogen and oxygen to generate electricity with the only by-products or emissions being water and heat. Kenneth Nyfelt said that the 114 kW hydrogen fuel cell currently being used in the Toyota Mirai electric car is the ideal size for 30m to 40m yachts and is being examined by the Baltic R&D team. On weight alone it's a winner, tipping the scales at just 150 kg as opposed to 1400 kg for a 100 kW diesel equivalent.



But the big drawback for yachts is the lack of infrastructure needed to store and supply hydrogen. Carrying it in liquid form requires too much energy to cool it to -253° C and in gas form it has to be stored under pressure which is potentially dangerous because it is explosive. Potential leaks in the system would be a concern and accessing hydrogen in ports is also a major issue. "We're looking at ways of making hydrogen onboard, but of course you may need diesel as fuel for the reformer," said Kim Kolam, so finding a solution is definitely work in progress.

Supercapacitors are also exciting Kenneth and Kim. Using electrostatics rather than chemistry to store electricity, the advantages include almost instant charging and discharging. The latter could be particularly useful when, for instance, a large amount of electrical power is needed to drive a hydraulic pump during a sailing manoeuvre. Supercapacitors don't use materials like Lithium and 3D printing reduces manufacturing costs and tolerances making them extremely compact.

"Our dream is to have a combination of fuel cells and supercapacitors aboard yachts which would eliminate emissions, reduce weight, save space and be cheaper," said Kim Kolam. It's an exciting prospect which Baltic Yachts is working on.

WORKERS' PORTRAIT

Loyalty breeds excellence

A remarkably low staff turnover rate and the Baltic Family Spirit have been cornerstones for Baltic Yachts' success at the leading edge of superyachting

In keeping with almost five decades of ground breaking, award winning heritage, Baltic Yachts has continued production throughout a globally challenging 2020 on three new yachts, which remain on schedule for their launch dates in 2021.

Keeping the show firmly on the road in adverse times and building to such exacting standards can be attributed to the dedication of our entire staff, in turn driven by a level of loyalty reflected in our historically low employee turnover rate. Even more remarkable is, that over a third of our staff has been with us for two decades – or longer.

The Baltic Family Spirit is unique, existing among employees and customers alike. This spirit manifests itself in the commitment and pride taken in our work, the quality of which is second to none. New employees get the immediate benefit of vast personal experience that they can learn from and repeat customers often find old friends amongst the team making their next dream come true.

"The importance of The Baltic Family and the spirit of loyalty and dedication it creates is our single most valuable asset," said CEO Anders Kurtén, who recognises the value of teamwork internally and the ability to work with external expertise.

"I believe we have a couple of major factors that contribute to long tenures. We tend to both expect and give a lot of personal responsibility to our employees, and this creates trust. Trust and respect I find, beget trust and respect. Also, our value promise: Lighter, Stiffer, Faster, Greener – Together – is built into the foundation of our approach to the product on all levels, becoming a real source of inspiration and drive for employees. They see the yachts we build evolve and, at the same time, develop their own skillsets and competence," he added.

On gender equality, it is worth noting that over the past 30 years Baltic Yachts has appointed a number of female CEOs including Marjo Keiramo and Lisbeth Staffans, who ran the company successfully for 18 years. Women constitute 15% of the total workforce and 20% of the production staff. Three heads of department out of 11 departments are women.

EMPLOYEES:

Total number of employees	Average tenure	Over 20 years	Over 30 years	Employees turnover rate
220	11 years	39%	21%	2.7%

DEMOGRAPHIC SPLIT:

Women in Production	Women within Baltic	Female Heads of Department
20%	15%	27%

STAFF PORTRAITS

Ole Björkström

Ole is one of the longest serving members of staff at Baltic Yachts with 42 years employment to his name. He started his career in June 1978 when he was effectively head hunted while still being trained in house building. Now he is a foreman in the laminating shop in charge of 20 people, but his deep experience across many disciplines makes him a particularly valuable employee. His early work involved building the complete teak decks for production yachts, including the popular Baltic 39. But it was the advent of the custom yacht building era which allowed him to develop his skills. Living just 1km from the yard in Bosund allows Ole to enjoy a great work/life balance. "I like to be at sea aboard my motor boat when I have time off," said Ole. "She's a 7m boat from 1982 and as she's laminated I'm able to look after her!" he added. He also gets help from his two sons both of whom work at Baltic, Samuel, 28, with deck hardware and Mathias, 26, as an electrical engineer.

Rolf Ahlö

Rolf has been working for Baltic just two months longer than Ole Björkström and was also a laminator in his early days. He, too, has a particularly wide range of skills developed over his long career. "What is interesting about Baltic Yachts is that the company has given me the chance to develop," said Rolf whose experience as a joiner with interiors led to him becoming a foreman in this department. When Rolf joined Baltic, series production yachts were the core business and as the custom revolution took place he was able to widen his skills. Favourite yacht? "Visione – she's light, stiff and fast!" said Rolf referring to the evergreen Baltic 147 which was without doubt ahead of her time when she was launched in 2002. Living close to his workplace Rolf can pursue his hobbies of cross-country skiing and cycling. Of his two children, Dick also works for Baltic as an electrical engineer.

Malin Ström

Malin Ström, 28, started working for Baltic Yachts when she was an intern with the Marketing Department while she completed her studies in International Business at Vaasa University. But she was already acquainted with the company having worked as a deckhand aboard Baltic 141 Canica before she went to university. She is part of the After Sales Team at the company's Service and Refit facility in Palma de Mallorca and also works alongside Head of Marketing Elisabet Holm in Jakobstad. "It's a great opportunity to grow and build my experience," said Malin. "What I like about the company is its flat management in which there's no such thing as a stupid question!" Her international experience has given her invaluable insight into how yachts are maintained and managed and while in Mallorca she has been working on her Spanish language. Born in Jakobstad, Malin's family has always enjoyed boating.

Baltic Yachts

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