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COVERS BALTIC 142 CANOVA BALTIC 112 LIARA

PRODUCTION Editor: Elisabet Holm Art direction: COLL'S Design Studio Writer: David Glenn Print: Waasa Graphics

### ON WATCH A great start to 2021

As we emerge from the dark days of a COVID winter we can look forward to a very bright 2021 as we start work on two new projects, the Baltic 111 Custom and Baltic 67PC-03, prepare to launch three new yachts and complete Christopher's major refit.

We are fortunate to have been busy throughout the pandemic and our sales team is confident of more good news to come, reflecting not only the hard work put in by the Baltic Family but also the quality of our product which attracts clients to a company at the leading edge of advanced composite yacht building.

To have kept production running without interruption during the past year is a magnificent feat in these times of adversity and we extend our heartfelt thanks to the entire Baltic Family for showing an exceptional fighting spirit.

As we look forward to our 50th birthday in 2023 it is worth looking back at some of the milestones which have brought us to where we are today. There could be no better way of doing this than talking to Baltic Yachts' founder and guiding light over five decades, Per-Göran 'PG' Johansson. On page 22 'PG' talks candidly about a lifetime in yacht building revealing some of the key moments in a unique career. He's also planning an

As we emerge from the dark days of a COVID winter occasional blog so keep an eye on our social media we can look forward to a very bright 2021 as we start channels for his stories.

Baltic 67PC-03, prepare to launch three new yachts and complete Christopher's major refit. We are fortunate to have been busy throughout the pandemic and our sales team is confident of more good news to come, reflecting not only the hard work put in

> We thrive on innovation and in the Baltic Family we have the knowledge, expertise and drive to keep delivering on this front. Let's look forward to a great summer of launches!



Anders Kurtén - CEO (left) Henry Hawkins - Executive Vice President (right)

### BALTIC 111 CUSTOM Baltic know-how key to super-light yacht

Tasked with building 'one of the most extreme projects Baltic has undertaken' the company is drawing on its vast library of design data to construct one of the lightest and fastest superyachts afloat

Selecting Baltic Yachts to build this super-light 111-footer was due in part to the company's unique ability to minutely examine ways of reducing weight and to calculate, monitor and control it using in-house software.

Designed for fast coastal and offshore sailing, the Baltic 111 Custom will begin building in April using highly sophisticated pre-preg carbon/Kevlar Nomex construction techniques for the hull and deck, resulting in an exceptionally light, stiff structure.

Described by her project manager Sam Evans as 'a milestone project' comparable to Baltic 147 Visione, regarded as technically several years ahead of her time when she was launched in 2002, the new yacht will have a super-luxury finish, but be capable of taking part in offshore events.

Baltic Yachts will be working with a highly skilled team assembled by designer Jarkko Jämsén including naval architecture by in-demand Spanish designers Botin Partners. The new yacht is being described as 'groundbreaking in design with spectacular technical solutions'. Further details are currently being withheld.

Structural engineering will be provided by PURE Design and Engineering in New Zealand and A2B Marine Projects will work alongside Baltic's Project Manager Sam Evans and Project Co-ordinator Mattias Svenlin.

Arguably the biggest challenge for the team at Baltic Yachts will be to meet the displacement figure, but by using unique in-house software programs to accurately predict and maintain weight down to the last few grams, the project team is confident of achieving these goals.

Re-examining everything that goes into the yacht from pipe clips and deck hardware to plumbing and the hull structure itself has been very much part of this project. This combined with attention to detail and discipline on the shop floor are key to a successful project – a team effort from start to finish.

"There have been absolutely no short cuts for a yacht which is designed for a different scope of usage," said Sam Evans, referring to her performance pedigree which goes hand in hand with her easy to manage design and need to meet the highest standards of luxury superyachting.

With the client putting light weight and performance at the top of his design priorities list, the luxury interior, by Finnish designer Jarkko Jämsen, will be minimalist and modern, exploiting the yacht's internal structure both practically and aesthetically.

To help the team with ergonomics and detail design on deck and below, a full-size mock-up has been built. The yacht's accommodation will be equipped with



# CUSTOM

everything from a fully fitted galley to air conditioning, but lightweight structures and the use of fabrics like bamboo and rattan will help keep overall weight in check.

With construction already underway, the Baltic 111 Custom is scheduled to launch in May 2023.

#### CALCULATING AND CONTROLLING WEIGHT

Maintaining a target weight is challenging in a superyacht which will be expected to perform the seemingly incompatible roles of luxury cruiser and pared down race boat. But by first calculating and predicting weight and then controlling it by using our unique in-house software, we are confident that the weight limit for the Baltic 111 Custom, plus her centre of gravity and righting moment values, will be met.

Baltic Yachts' Technical Engineer Daniel Wahlroos explained that by using two unique in-house software programs, clients and projects teams can first be given a quick weight prediction based on the initial specification, then much more detailed figures using constantly updated data from libraries of equipment and previous projects.

For the Baltic 111 Custom a research and development project has been initiated to further develop a system that can monitor weight in real time as everything from the accommodation furniture and hydraulics to deck gear and the main engine are installed. Every item weighing in excess of 200 grams is weighed before it is installed. "This means we can constantly compare the theoretical displacement with the actual weighed weight," said production engineer Valter Asplund.

Project Co-ordinator Mattias Svenlin said that every element of the yacht is being re-evaluated including the stainless-steel clamps and bolts holding pipework in place being replaced using specialist plastics to save more than 180kg.

Re-examining almost every system and structure aboard the yacht aims to 'reduce the design loop', from specifying a carbon keel fin and reducing hull filler to replacing stainless steel with specialist plastic and manufacturing titanium deck fittings out of carbon.

DESIGN	
Concept	Jarkko Jämsén
Naval Architect	Botin Partners
Exterior and Interior design	Jarkko Jämsén
Structural engineering	PURE Design and Engineering
Owner's representative	A2B Marine Projects
Project management Baltic Yachts	Sam Evans and Mattias Svenlin

## BALTIC 67PC-03

Optimised for short-handed sailing



Remote sail and engine controls, solar power and virtual reality design techniques add up to a Baltic innovation special in this exciting new yacht

With lamination of the third Baltic 67PC well underway, this new yacht illustrates the extent to which ideas can be developed around the 67's one-design hull, in this case by optimising superstructure design and introducing a completely new accommodation lay out and style.

Remote control sail trim and engine controls are also important to an owner who wants to sail singlehanded aboard a stylish, fast, well-balanced yacht.

Based on the same hull and appendage options seen in hull number one, including a telescopic lifting keel and twin rudders, Baltic 67PC-03's superstructure design represents a considerable departure from the first two yachts, with a hard-top bimini extending over much of the cockpit.

Project Manager Lars Gripenberg explains how this feature incorporates large solar panels, a sliding tinted skylight and an arch engineered to take the loads of the mainsheet and traveller, an arrangement which keeps the mainsheet out of the cockpit. There is also a removeable soft awning extending aft to the radar arch providing additional sun protection over the twin helm stations.

With its extensive protection, the cockpit almost doubles as a deck saloon, well equipped as it is with comfortable seating and a large dining table.

#### REMOTE-CONTROL SAILING

In addition to good sun and weather protection in the cockpit, the client's key requirement is for a yacht that can be sailed short-handed with remote sail handling and engine controls. The owner will be able to walk around the deck with a handheld wireless device to trim the mainsail remotely, operate all engine controls and activate the electric bow and stern thrusters.

The owner has also been involved in the ergonomics of deck layout and interior design remotely, by using virtual reality headsets enabling a 'walk' through the yacht with the Baltic Yachts' in-house designers to discuss design detail and any changes required.

Being able to use VR with the client to evolve design aboard the virtual yacht is a powerful tool relying on computer-generated digital imagery developed by Baltic Yachts' in-house designers and Design Unlimited.

Details of the accommodation will be released at a later date but the intention is for an open plan arrangement using a modern loft-style design.

#### DIESEL-ELECTRIC BACKUP

With a considerable electrical demand to drive the yacht's press-button operations, which include primary winches, in-boom furling, captive winches for the mainsheet, traveller and halyard plus headsail and Code sail furlers, a belt and braces approach has been taken to charging.

Although the main propulsion unit for the yacht is a conventional diesel engine, it is linked via a clutch to a large 40kW alternator which not only charges a bank of 10 lithium-ion batteries, but can also be used to drive the propeller as an alternative to the main engine.

Charging is also available via hydrogeneration using the free-wheeling propeller when sailing.

Weight has been saved in the extensive electrical system by using a 48-volt configuration which requires smaller gauge wiring. A 48v diesel generator will be installed to provide redundancy and act as a night generator if required.

An extensive array of solar panels will be fitted to the bimini and coachroof which will provide sufficient power to run the yacht's fridge and freezer units and essential electronics.

The rig is all carbon, supported by twin fixed backstays and designed to be sailed without the need for runners. The sailplan features a conventional, pinhead style mainsail, twin headstays and a pad-eye furler for Code sails.

While the deck and superstructure will be built in advanced carbon laminates, the hull is SPRINT E glass with carbon reinforcement in high load areas like chainplates, keel and rudders.

Launch date is scheduled for spring 2022

5~2	TECHNICAL	
L.O.A.	20.52 m	
L.O.A.	19.20 m	
BEAM	5.45 m	
DRAFT	2.50/3.90 m	
LIGHT DISPLACE	MENT 26.6 tonnes	
BALLAST	7.5 tonnes	

#### DESIGN

Naval Architect	judel/vrolijk & co
Styling	Design Unlimited
Project management Baltic Yachts	Lars Gripenberg
Owner's representative	Stephan Semmerling

# BALTIC 68 CAFÉ RACER

Stunning Café Racer comes with style and sustainability

The much-anticipated launch of the first Baltic 68 Café Racer is on schedule for May when her super-stylish looks and sustainability features will be revealed

With her flax-reinforced hull, eco-electric propulsion, easy to use sailplan and stunning interior design options, the first Baltic 68 Café Racer will offer a stylish, sustainable, high performance sailing package when she hits the water in May.

Primarily, the Café Racer gives clients a rewarding, pleasurable sailing experience through ease of use and the latest sail technology. Combined with a reduced carbon footprint using naturally grown building materials and an eco-electric propulsion and hydrogeneration system, the Café Racer continues to lead Baltic into a new era of yacht building.

#### **BUYING INTO A MODERN PACKAGE**

Baltic Yachts EVP Henry Hawkins said: "This is a yacht which meets today's challenges of time and sustainability – she's fun and easy to use offering a genuinely rewarding sailing experience.

"We're confident the Baltic 68 Café Racer offers a modern, attractive package which clients will be keen to buy into."

#### **KEY FEATURES**

- Gets you sailing quickly and easily
- Powerful and genuinely easy to handle sailplan
  No runners or backstays
- Structured Sail Technology reduces rig loads
- Press-button sail handling
- Sustainability package includes:
- Hull made using naturally grown flax
- Cork decks
- Twin electric propulsion motors
- Hydrogeneration
- Eco air-con

- Unplug-and-go lithium battery power
- Twin rudders for control
- Fixed keel for simplicity
- Naval architecture by Javier Jaudenes
- Interior styling options by Javier Jaudenes/ Jens Paulus combination and Design Unlimited

ागगज DIMEN	ISIONS
L.O.A.	20.73 m
L.W.L.	20.73 m
BEAM	5.63 m
DRAFT	4.00 m
DISPLACEMENT	22532 kg
BALLAST	6,5 ton
ISP	29.05 m
IG	26.00 m
Р	27.00 m
E	8.80 m
BAS	2.04 m
J	8.30 m
SPL	11.62 m

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DESIGN

Naval Architecture

Exterior Styling and deck layout

Interior layout and concept

Interior Design

Alternative interior styling

Project Management Baltic Yachts Javier Jaudenes

Javier Jaudenes

Javier Jaudenes Jens Paulus

Jens Paulus

Design Unlimited

Patric Brännbacka





#### STUNNING STYLING ALTERNATIVES

If the Baltic 68 Café Racer's external looks excite you then her interior styling options will blow you away!

Jens Paulus and naval architect Javier Jaudenes offer a contemporary style using a range of eco-material like flax, linen and leather. "It's a contemporary interior embracing the eco-spirit of the Cafe Racer. One of the main ideas behind this interior is to show as much as possible the shape of the hull and intensify that unique feeling of being inside a boat," said Jens Paulus.

Alternatively, Design Unlimited have chosen to capitalise on both the yacht's eco-credentials and Cafe Racer-with-attitude approach with an impressive choice of colour palettes, material choices and overall concepts. Mark Tucker from DU said: "The Café Racer's accommodation offers a comfortable and cosy place to relax after a day's sailing. Our style options provide an appealing welcome and a great place to enjoy a good lunch after some excitement out on the water!"

Following trials in Finland, the first Café Racer will head for the Mediterranean where she plans to be attending events in Sardinia and the Cote d'Azur.

1. Leather upholstery, tubular metal furniture frames and retro motorbike helmets reflect a powerful Café Racer theme in Design Unlimited's rendering for the yacht's main saloon.

2. The client for the first Café Racer hull has chosen a fresher look, using fabric and light timber bulkhead finishes, light oak flooring and leather handrail detailing, again by Design Unlimited.

3. A cool, bright ambience using muted tones for what interior stylist Jens Paulus refers to as a Mediterranean Eco theme. Light coloured timber, fabrics and leather upholstery are key features.



**Classy Classic** Showing off the mirror-finish on her bronze metallic painted topsides, **Baltic 117 Custom** is on schedule for her summer launch date. Her classic hull lines are complemented by traditional-style deck houses and teak work which are nearing completion while the yacht's systems undergo tests. Below decks, most of the interior has been completed with the build team now concentrating on the main saloon. With her electric propulsion and hydrogeneration capability the 117's classic style masks the very latest in Baltic Yachts' technology and innovation.

REVERSO PROJECT\*

Cont in a

### 13 THE BALTIC LOG

MATCH

### BALTIC146 CUSTOM

**Mothership** Finishing touches being applied to the **Baltic 146 Custom** (background!) as she prepares for her launch day in May. Designed for global family cruising the 167-ton sloop will carry two ultralightweight sailing dinghies. The French-built Reverso, pictured here, breaks down into four separate, easy-to-stow sections. They will join an electric outboard powered RIB and a 6.5m Ribeye stowed in a foredeck recess which doubles as a swimming pool. Focal points of the accommodation aboard the mothership will be an impressive, same-level deck saloon/main cockpit combination and a large amidships owner's suite.



Following ten years of extensive bluewater cruising and Bucket-style racing, the 151ft aluminium ketch Christopher has completed a major refit in Finland illustrating our Service and Refit's ability to tackle any yacht of any size in Palma or Jakobstad

The aluminium ketch Christopher has spent this winter undergoing a detailed schedule of work to meet the requirements of her 10-year survey and should be re-launched on time in May, ice conditions in Jakobstad permitting. Project manager Matt Dean from our Palma office, alongside Göran Svenlin our project foreman in Finland, has been overseeing the work using his knowledge of aluminium to handle some of the character traits unique to this method of yacht construction.

A stand-out feature aboard Christopher is the extensive use of teak cladding over the coachroof and deck saloon sides, extending to the coamings for both cockpits. To provide access and complete re-finishing to a high level the teak cladding was removed. This provided unrestricted access to the aluminium deck structure.

To remove the timber to access the aluminium structure, plus porthole and windows frames which also needed servicing, some of the timber was destroyed. With the teak 50mm thick in places, removal was one thing, but replacing it was another.

#### NEW CLADDING SOLUTION

"We wanted to replace it in such a way that when it has to be removed in future for any repair it needn't be damaged," said Göran Svenlin. The new cladding looks identical, but as Göran explained, by using a composite glassfibre and foam laminate with a 3mm teak outer veneer it is not only much lighter, but a new method of attaching it to the refurbished aluminium means it can be removed intact. "It is a good example of the Baltic Way, looking ahead to the next planned maintenance work," said Göran.

#### ENGINE RE-BUILT IN SITU

Other major tasks have been a complete re-build in situ of the Caterpillar 12-cylinder C32 main engine, using local engineering firm Avesco-Caterpillar. Matt Dean said, "Avesco removed, replaced or refurbished just about everything except the block and crankshaft in addition to removing the propeller and pulling the shaft." Both rudders have been removed, the rudder stocks, lip seals and bearings inspected and serviced and the extensive hydraulics system serving both masts has been overhauled replacing seals and pipework.

This spectacular, icy backdrop in Alaska illustrates just one of many cruising adventures Christopher has undertaken since her launch in 2011 Both masts have been pulled, by Marine Results UK, for survey and painting and Christopher's extensive carbon rigging package has been returned to Future Fibres in Valencia, Spain for survey and service.

Down below the galley and crew mess have been completely re-painted and the yacht's 30 glass hatches and deck locker hatches have been removed, refurbished, re-glazed and replaced. Much of this work has been undertaken by the yacht's crew alongside external contractors.

Christopher is due to re-launch on schedule this spring. Her extensive programme of work has benefited from many of Baltic Yachts' service and refit disciplines and has prepared Christopher for many years of global cruising.

We wish her well in her next voyage as she departs Finland.

۲۲۲ TECHI	TECHNICAL	
L.O.A.	46.0 m	
BEAM	9.5 m	
DRAFT	3.8/9.4 m	
LIGHT DISPLACEMENT	285 tons	

#### ✓> DESIGN

Naval Architect	Ron Holland Design
Builder	Pendennis
Project Management Baltic Yachts	Matt Dean Göran Svenlin
Delivery year	2011

# NEŴS

#### Canova is Yacht of the Year

Baltic 142 Canova rounded off her spectacular 2020 by being voted Sailing Yacht of the Year in the hotly contested Boat International World Superyacht Awards which were announced in November. She also won the Best Sailing Yacht category in which Baltic 112 Liara was also a finalist.

Canova's genuinely ground-breaking Dynamic Stability System (DSS) foil, which reduces heel, enhances comfort and improves performance, impressed the judges who concluded: "This is a vessel that should influence the future of sailing yachts. One thing is certain – this yacht is a design leader." They were equally impressed with her zeroemissions electric main propulsion unit and her hydrogeneration system which is now being adopted by a growing number of yachts whose owners are looking for the latest way to reduce dependence on fossil fuels.

Canova's successes add to Liara's Boat International Design and Innovation awards for interior and exterior styling, made earlier in 2020. These achievements follow a plethora of award-winning performances by Baltic Yachts' builds including Pink Gin, My Song, Nikata, WinWin, Inukshuk and Hetairos. In the last 10 years Baltic Yachts has amassed more than 20 awards.

Go to www.balticyachts.fi for details

#### In Hope...

We look forward to meeting you at a number of events this year, COVID-19 restrictions permitting.

#### THEY INCLUDE:

•	Palma Superyacht Show June 3 - 6
•	Palma Superyacht Cup June 23-26
•	Monaco Yacht Show September 22-25
<b>Q</b>	Metstrade November 16-18



# BALTIC YACHTS' CUSTOM HATCHES

New and improved hatches from Baltic

Engineers making adjustments to the hinge mechanism for a new carbon fibre hatch

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Baltic workers' constant quest to improve design and streamline production has recently been directed at deck hatches with every detail of their complex construction being re-examined

The humble deck hatch might not attract much attention when considering the attributes of a superyacht, but its prime task of keeping apertures watertight cannot be underestimated. Its function is fundamental to safety and comfort and here at Baltic Yachts we are aiming to optimise its design and manufacture.

We are now building our own custom-designed deck hatches drawing on almost 50 years of experience and assessing firsthand feedback from superyacht crews, our Service and Refit teams and our own specialist departments, including plumbing, deck and painting teams.

The company is using full-carbon for strength, stiffness and lightness, more reliable gas-spring struts and lighter, customdesigned alloy fittings. The new hatches have already been granted DNV-GL class approval.

This move will optimise production by using a single, adjustable mould for the most common hatch sizes, reduce lead times and standardise many smaller components like hinges and locking devices.

In spite of their high build quality, current hatches can still contribute to water ingress, partly because 'standard' hatches often have to fit apertures in a custom-designed yacht with non-standard dimensions, deck camber and style. Seal tension, blocked gutter drains and issues with the expansion and contraction of teak deck surrounds are among the contributors to a lack of integrity leading to issues which cause enormous inconvenience and expensive repairs.

The custom hatch product joins our Baltic Best Solutions programme which includes our hull mould technology, our custom, lightweight and ultra-lightweight interior construction options, plus a number of other processes which have benefitted from Baltic Yachts' design and engineering knowledge and expertise. "It's all about Baltic detail and depth," said Project Foreman Mattias Svenlin, an expert in lamination technology, who is heading up the Baltic Yachts Custom Hatch team.

The first yachts to benefit from the new hatches are currently under construction at Baltic Yachts and are due for launch in the spring of 2021. The Baltic 146 will be fitted with no fewer than 42 deck hatches in 18 different sizes. The Baltic 117 will be fitted with 34 deck hatches which will be customised with classic styling, and the new Baltic 68 Café Racer will also benefit from the lighter, more reliable custom product.



Mattias Svenlin explained that while material choice has reduced the overall weight of a hatch by around 15%, design changes are also key. For instance, numerous features such as gutter dimensions and access to drains have been examined and improved, making it easier for crew to clean and maintain.

Gas spring integrity, silicone rubber seal performance, remote electronic operation, hinge and locking device design have all been addressed and by using Baltic Yachts' in-house 3D printing facility, the speed of prototype development has been dramatically increased and the cost reduced.

"We can come up with a hinge design, for instance, and within five hours have a working prototype in our hands," said Mattias Svenlin. Once the 3D printed plastic item has been modified to the satisfaction of the development team it can be sent to a local business partner for fabrication in a high grade, lightweight alloy. Many existing hatch fittings, including hinges and locking handles, are made in polished stainless steel, but Baltic Custom Hatches will replace this material with high grade alloy or, in some cases, titanium reducing the weight of some items by more than 50%. One component that is unlikely to change is the 'glass' itself which for more performance orientated yachts is normally made of polycarbonate or for full DNV-GL classed yachts, three plys of laminated toughened glass.



Testing for water ingress – the single most important requirement of a hatch is to remain watertight when closed

With so many hatch sizes, adjustable moulds have been built for manufacturing the larger, advanced composite lid and hatch frames and a number of separate moulds for smaller apertures.

Hatch and lid frames fitted to the Baltic 146 Custom will be finished as white painted carbon, but almost any finish can be applied including clear-coated, unpainted carbon, timber veneers and coloured powder coatings.

"By building our hatches in-house to custom specifications we will be able to better control the supply chain ensuring

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hatches create no hold ups in production," said Mattias Svenlin.

We know Baltic Custom Hatches will help solve the problems which crews currently have to contend with and while the first hatches will be fitted to yachts built by Baltic Yachts, we are hoping to make the product more widely available at a later date. 1. Locking mechanism components are first 3D printed (green) to check design then manufactured in lightweight alloys.

2. The weight of some hatch components has been reduced by almost 50% by using carbon and lightweight alloys.

3. A 3D hinge prototype design was produced in a matter of hours prior to the final metal part being manufactured.

4. Carbon fibre drainage components save weight and can be removed for ease of cleaning.

# PROGRAMMABLE LOGIC CONTROL

### Why choosing Baltic's PLC package makes sense

Selecting a Baltic Yachts' custom PLC to operate and monitor almost any function on your superyacht benefits from an integrated in-house approach throughout the build, making upgrades and problem solving easier

Aboard every modern superyacht, screens displaying systems information, controls and alarms for anything from rig loads to the cinema library depend on PLCs (programmable logic controllers).

As systems for large yachts become more numerous and complex, the need for user-friendly control and the ability to monitor easily and reliably are paramount. PLCs allow a smooth integration between systems and single button operation of complex processes like sail hoisting and reefing.

When it comes to items like fuel tank levels and checking for unwanted bilge water, for example, the reliability of a PLC can become the most important safety feature aboard a yacht.

Baltic Yachts has been developing its own PLC technology for nearly 20 years and has supplied bespoke systems to many of its award-winning superyachts including Canova, My Song, WinWin, Nilaya and Nikata with other smaller yachts fitted with appropriate levels of PLC.

Baltic Yachts has not only amassed a vast amount of technical information through its PLC experience, it has also used valuable feedback from captains and crew to make our systems as user-friendly and problem-free as possible.

Programmable logic control, with up to 500 sensors on some yachts, provides monitoring, alarm and control security to keep a yacht safe and working smoothly. Baltic Yachts' base package of PLC functions typically includes:

- Monitoring and alarm warnings for bilge status
- Levels for fuel, drinking water, grey and black tanks
- Engine data, like oil pressure, temperature and RPM
- Basic electrical data, like battery state of charge
- Hydraulic controls for rig and sail handling

Martin Flink, one of Baltic's specialist PLC engineers, said that advanced systems can be supplied to any yacht.

"Basically, what's available (in terms of monitoring and control) is limitless but includes light control and cabin scene settings, completely automated electricity generation systems, PLC control of audio and video equipment and logging rig loads."





"Because we know exactly what went into the PLC design and we are familiar with the yacht we can normally upgrade and problemsolve extremely quickly, depending on the issue," said Mikael. He went on to explain that a yacht's crew need only contact the after sales department who will assign one of the PLC team. "As a comparatively small company Baltic offers flexibility, a personal service and a thorough understanding of PLCs aboard its yachts," he said.

Demand has led to the company appointing Guillermo Perez as the company's PLC expert in Palma de Mallorca who will not only provide service expertise but also be involved in integrating PLC systems in new builds.

The Baltic Yachts' PLC team keep abreast of the latest developments by working closely with companies like Mitsubishi and Beckhoff, specialists in automation and the latest PLC technology.

When a Baltic Yachts' team of PLC engineers is embedded in a superyacht project, it is involved right from the outset including the design and planning stages. They can discuss a client's PLC wish-list and will know exactly which equipment will require programmable control before setting up the software to ensure the yacht runs just how the client and crew want it. It's a truly bespoke service which the PLC team manage from start to finish.

As more features appear aboard yachts, from voice-operated lighting and audio-video controls to sophisticated rig loads sensors for rigs almost 250ft tall, the need to understand the detailed programming unique to each yacht is important when it comes to upgrades or problem solving.

Mikael Johansson and Martin Flink, Baltic's specialist PLC engineers explained that yachts are equipped with a dedicated computer loaded with programming tools which can talk to their desktops in Finland. "It's a completely secure system," said Mikael who said that by remotely modifying the onboard PLCs they can alter just about anything from the line speed of winches to automating a charging system.



# INTERVIEW - PG JOHANSSON

Tales from Baltic's mastermind

There can be few yacht builders who can boast an unbroken career with the company he co-founded almost 50 years ago. In that time PG Johansson has witnessed every twist and turn of a colourful, exciting and technically pioneering industry accumulating a wealth of fascinating stories, some familiar, some still untold.

In his new occasional blog, Tell Tales, which will feature on the Baltic Yachts' website, PG will be recalling his experiences of the yachts he has built, the people he has met and some of the more unusual events on the journey to turning clients' dreams into reality.



As Baltic Yachts approaches its 50th birthday, cofounder and yacht building polymath Per-Göran 'PG' Johansson recalls some of the key moments in the company's eventful history

As a founding member of Baltic Yachts, Per-Göran 'PG' Johansson has remained a constant source of knowledge, vision and inspiration throughout the company's 48-year history, playing a fundamental role in shaping a business from its series production boat building roots to a world leader in advanced composite superyachts.

From the sell-out sensation of the Baltic 39 at the 1977 Hamburg Boat Show and the threat of cut-price mass production, to secret submarine work for the USSR during the Cold War and the growth of performance superyachting this century, PG has been on Baltic's eventful journey every step of the way.

With no formal training, but with a gift for mathematics nurtured by his school teachers and university tutors, PG was one of five young men in their 20s who, in 1973, left neighbouring Nautor's Swan determined to build lighter, stiffer and faster yachts. As the project manager of Nautor's iconic Swan 65, PG tried to convince the management that the yacht, with its large hull panels, could be built lighter and stiffer, resulting in a faster, better boat.

#### SENSING AN OPPORTUNITY - LIGHT WAS RIGHT

Nautor's elders were not convinced and despite PG's deep respect for the company, which remains to this day, he and his four colleagues sensed an opportunity, founding Baltic Yachts in Bosund in 1973. Much debate ensued in the industry and media about heavy versus light yachts, some of it propaganda designed to derail the ideas of the young Finnish upstart. But PG and his breakaway cohort were convinced 'light was right' and their careful research and calculations proved it.





The founding of Baltic Yachts couldn't have happened at a worse moment in global economics. The oil crisis of the 1970s was tightening its grip and Baltic Yachts had to be bailed out by Hollming Oy just a few years into its venture. But the Finnish ship-building giant had identified the technical advances evident at the fledgling yacht builder in Bosund and it believed in its future.

#### C&C WERE TURNING HEADS

Equally influential over Baltic's development was the work of a fast-growing yacht designing and building operation thousands of miles away in Canada. Cuthbertson and Cassian – C&C Yachts – were turning heads on the race courses of North America and PG Johansson was impressed with their use of velocity prediction programs, polar curves and other design tools. "They were the first naval architects I'd come across to use processes like these, at a time when most designers couldn't even spell computer," recalled PG.

His association with the company's head designer Rob Ball, whose affinity for deep research and design calculation matched PG's own ideas, led to a series of C&C-designed Baltic production yachts, the Baltic 39 being among the most successful.

#### SOLD OUT BEFORE BALTIC KNEW IT

Extraordinarily, at the world premiere of the Baltic 39 at the 1977 Hamburg Boat Show, the yacht sold out almost before Baltic knew it. "We'd had lots of interested visitors on the first two or three days, but it wasn't until later in the show, when I heard by chance from sailmakers and electronics companies that their customers were intending to buy a Baltic 39, that we realised we had a success on our hands!"

Selling 12 yachts of this calibre at a world premier was unheard of and it set Baltic Yachts on course with a string of successful C&C designs. Although the Baltic 39 stood out with 74 hulls sold, it was the judel/vrolijk-designed Baltic 43, launched in 1993, which was more commercially successful, according to PG. It was a sign of things to come and cemented Baltic's relationship with another highly successful naval architect.

#### WELL VERSED IN TECHNICAL FACTS

But what accounted for this success? "Although Baltics were regarded as series production boats, in reality they were semi-custom - clients appreciated being able to make changes to suit their particular needs and to have a yacht that was unique," explained PG. In addition, as head of marketing and sales, he was unusually well versed in hard technical facts like weight tables, sail area to displacement ratios and other hitherto 'hidden' information that rarely saw the light of day.

Mast and rig calculations for the Baltic 39, for instance, were extremely detailed and thorough. "We made our own masts in those days and used information from sensors to develop the calculations," he explained.

Clients appreciated the detailed explanations and the fact that Baltic Yachts itself had examined design and used the latest technology to build lighter, stiffer and faster yachts. It was a policy as effective then as it is today. "Even though we were 25% to 30% more expensive than many of our competitors, clients were happy to buy what they saw as a high-quality product which had been very well researched and built," said PG.

#### SUBMARINES IN THE COLD WAR

Meanwhile, Baltic Yachts' owners Hollming were about to call on PG for some extremely unusual work. They were developing a secret project for the USSR which required specialist technical input from PG and his team in Bosund. It was the height of the Cold War and the Russians wanted to build two 26ft long, 19-ton submersibles capable of diving to a depth of 6km. Operated by the Russian Academy of Sciences, the Mir submersibles were to be used for research and possibly assist in submarine rescue missions. Hollming had the technical wherewithal the Russians were looking for, which involved cooperation with





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outside experts and the Baltic team who worked on the laminate design and methodology for the hull material.

Work on these advanced submersibles attracted the attention of the Americans, who when they realised the technology was a success were furious it had been sold to the Russians. "We found ourselves caught up in an international row, but we completed the project and learned a great deal about sandwich construction and vacuum-bagging in the process," said PG.

#### OUR CLIENTS WANTED TO GET INVOLVED

As mass production of sailing yachts burgeoned in Europe in the mid to late 80s it became increasingly difficult for Baltic to compete on price. This trend coincided with a growing number of clients enquiring about larger yachts, possibly one-offs built on an entirely custom basis. "I was surprised to hear at one boat show that clients were actively





discouraged from visiting their production yacht being built, whereas our clients wanted to get involved with their custom yacht right from the start," said PG.

Once again, PG Johansson's grasp of design and production encouraged clients to become deeply involved with planning and building to the extent that some enjoyed this process almost as much as sailing the end product. "That's probably an exaggeration, but on one occasion returning to Jakobstad following a first trial sail the client said 'well, that was great – what shall we do next?!"

### 'IF YOU WANT TO MEET PEOPLE, GET INTO YACHT BUILDING'

It also reflected an evolving industry. PG explained that few careers provided the opportunity to meet and work alongside so many accomplished people who were keen to involve their own skills in building the yacht that Baltic would create. "I began to realise that if you wanted to go sailing you shouldn't get into yacht building, but if you wanted to meet the most interesting people in life then you should be a yacht builder!" said PG. "Yachts might be interesting, but people can be more interesting."

The Baltic 147 Visione, launched in 2002 with naval architecture by Reichel Pugh, is arguably one of the best examples of using advanced technology and ongoing owner input to great effect. A yacht widely accepted as being ahead of her time in terms of design and still hard to beat on the superyacht race courses of the world, Visione epitomises the innovative approach taken by Baltic Yachts and how effective owner involvement can be.

#### NEED FOR POSITIVE CONSEQUENCES

For PG Johansson it was a stand-out project. "She is still a super hi-tech boat – when she was being designed and built, the owner was always looking at ways to save weight but the saving had to be worth it – there had to be positive consequences," explained PG.

Visione had a conventional diesel engine but a hydraulic transmission system. "'What if we built the hydraulic pump out of titanium – how much weight would we save?' I was asked. We made the calculations, looked at the changes and was given the go-ahead," said PG. But the owner knew where to draw the line.

1. PG with two of Baltic's founders Tor Hinders (left) and Nils Luoma (right).

2. PG accepting the Boat of the Year award for the Baltic 43 in the New York Yacht Club.



PG explained that by using a highly unusual radioactive waste material which was 45% heavier than lead, the keel bulb size could be dramatically reduced. "Was there a down-side? Well, it would cost \$6 million, at which point the idea was shelved!"

Visione heralded the start of a remarkable era during which some of the finest super-sailing yachts were launched by Baltic Yachts, elevating the company to the very forefront of advanced composite yacht building.

#### ORDERING PINK GINS

Repeat customers are a sure sign of company success and the series of Pink Gin projects provides a perfect illustration. PG recalls the first yacht ordered by Professor Hans Georg Näder was a 97ft judel/vrolijk design displaying a relatively classic outward appearance hiding a hi-tech carbon hull. Despite her cruising credentials she weighed in at just 52 tons, light for a yacht of her type and era.

Her successor, a 152-footer launched in 2006, was also deceptively fast, her elegant, long overhangs belying a performance which rewarded her owner by famously winning the Millennium Cup in Palma de Mallorca in 2007, coinciding with the America's Cup held in nearby Valencia. Again, in conjunction with judel/vrolijk, PG and his team had invested a lot of time in optimising design and engineering.

The third Pink Gin, the Baltic 175 launched in 2017, was at the time the largest carbon fibre sloop in the world, winning awards for the highly complex and successful engineering which enabled fold-out balconies to be built into her topsides.

Between these three hi-tech cruising yachts, the same client built the appropriately named Interim, hull number 21 of the successful Baltic 40, as a stop-gap while the first Pink Gin was under construction; Bionic Elk, a canting



keeled 56-footer with twin daggerboards, and Ice, a 43ft, super-fast, easy to handle day sailer, all of which epitomised Baltic Yachts' passion for new ideas.

By the time Professor Näder was planning his third Pink Gin he had invested in a stake in Baltic Yachts and so confident is he of the company's ability he now owns it in its entirety.

#### ACCUMULATED DATA FOR 560 YACHTS

The accumulated knowledge, formulae and data for more than 560 yachts built over a period of nearly 50 years still forms the foundation of Baltic Yachts' research and development and is used by the young teams of designers and engineers following in PG's footsteps.

Some of the more recent award-winning superyachts from Visione, Hetairos, Innuksuk and Nilaya to Nikata, My Song, WinWin, Pink Gin and the foil-assisted Canova have all benefitted from input from the company's unique data base. "Although I officially retired in 2009 I occasionally get involved with a new project," said PG.

One question he is sometimes asked by clients is, "Why don't *you* design my yacht?" PG responds: "It's great to be asked that question because it indicates clients know what we are doing and are capable of designing a yacht – but our relationship with the world's top designers is one of our greatest assets and one I would always want to preserve."

#### A SPECIAL TRIBUTE

He pays particular tribute to the Baltic Yacht Family, the team behind everything he's done and without whom very little if anything would have been achieved. "I have had the opportunity and honour to represent what I believe is one of the world's best possible boat builders," said PG. "As such I have been lucky enough to receive personal credit from across the world, but a large part of this should be attributed to the amazing work of our Baltic team."

INTERVIEW

Baltic 175 Pink Gin



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