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RMC shipyard soon to deliver two new ferries to Australia

Emission trading will increase freight costs in maritime traffic

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## EYE ON GREEN INNOVATION

*The marine industry is not immune to decarbonization. While many changes have been made, the sector still requires more system-wide thinking.*

*Recent EU report 'Research and innovation for climate neutrality by 2050 – Challenges, opportunities and the path forward' underlines the need to mobilize coordinated action in the waterborne transport sector, using an ecosystems approach. The report notes that three value chains are critical to steering the sector's decarbonization: the fuel chain, the shipbuilding chain, and the operations chain.*

*This is nothing new as such. In Europe, for example, the Waterborne Transport Platform has been working on bringing these three value chains together for a couple of years now. The Co-Programmed Partnership on Zero-Emission Waterborne Transport, a cooperation between the European Commission and the European waterborne transport sector, is seen as one key in this.*

*The Partnership will provide and demonstrate zero-emission solutions for all main ship types and services before 2030, enabling zero-emission waterborne transport before 2050. In the meantime, over 120 members from 21 EU Member States (and four countries associated to Horizon Europe), are actively shaping the future research, development, and innovation priorities of the sector.*

*These members represent the private players of the broader European waterborne transport sector, ranging from classification societies, shipbuilders, shipowners, maritime equipment manufacturers, infrastructure and service providers to universities and research institutes.*

*Engaging in a continuous dialogue between all waterborne stakeholders is most definitely the way forward, since that interaction is likely to yield new, green innovation for maritime and beyond. One recent example of this is technology group Wärtsilä's introduction of marine sector's first commercially available 4-stroke engine-based solution for ammonia fuel.*

*Sustainable ammonia is one of the leading candidates in shipping's search for alternative clean fuels. Wärtsilä's new 25 Ammonia solution can immediately reduce greenhouse gas emissions by more than 70 percent, compared to a similar sized diesel solution, meeting current EU targets until 2050 (and even exceeding the IMO target for 2040).*

*The new solution represents a considerable leap in sustainable shipping operations – during a time in which ship owners are seeking viable options among green fuels. The ammonia solution is now commercially available as part of the Wärtsilä 25 engine platform.*

*Viridis Bulk Carriers, the world's first zero emission shipping company, is intended to be the first shipowner to benefit from the new ammonia solution. Viridis Bulk Carriers is looking to change the European short sea bulk market via a carbon free transportation service based on a series of ammonia-powered newbuild vessels.*

PETRI CHARPENTIER

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After delivering two vessels to TUI Cruises in 2018 and 2019, Meyer Turku is now building another cruise ship for the German cruise line: Mein Schiff 7. Turku shipbuilders began construction on the vessel in June 2022. Mein Schiff 7 is the first built-in methanol capability cruise ship from the Turku shipyard.

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From 2024 onwards, European Union's Emission Trading System is being further expanded. It will now be applied – in several phases – even to emissions from ships and other maritime vessels. As has been the case on a number of previous occasions, EU's new environmental regulations come with a price tag.

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# Simply Iconic

by: SAMI J. ANTEROINEN

photos: ROYAL CARIBBEAN CRUISES LTD

*Christened by football legend Lionel Messi in January 2024, Icon of the Seas is the biggest cruise ship in the world. We looked under the hood.*





OVERLOOK





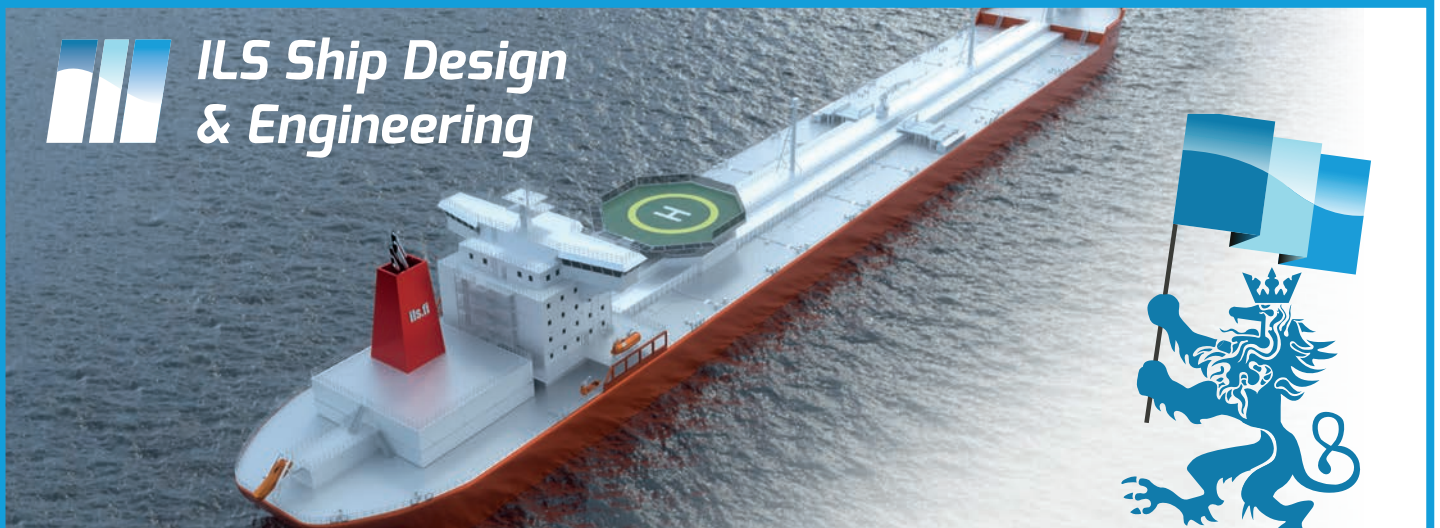
**// Installing  
AquaDome was  
certainly memorable.**







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SINCE 1988

**A**fter more than seven years of dreaming, planning and building, Royal Caribbean International's highly anticipated Icon of the Seas has become a reality. Constructed over the course of 900 days in Turku, Finland, the ship is jam-packed with innovative entertainment features.

Along the way, the Turku shipyard has witnessed some never-before-seen

feats, such as the installation of the single largest glass and steel structure to be lifted onto a cruise ship.

"Installing AquaDome was certainly memorable," says **Olli Jantunen**, the Project Manager for Icon of the Seas. At the time, Jantunen was still recovering from Covid and could have stayed home with good cause. Nevertheless, he stole away to the shipyard to see how the

installation of the massive glass dome got started.

"But I didn't stick around for the entire thing," he laughs.

AquaDome is a solid business card for both Caribbean and Meyer Turku. "Our customers may have some wild ideas, but we work hard to make them come true," confirms Jantunen who has made a career working with these big ships.







## Icon can be powered by liquefied natural gas (LNG).

“Actually, the Icon was the 13th prototype that I’ve been involved with,” he says.

### TOTAL PACKAGE

Icon’s impressive entertainment roster features both industry-firsts and old favorites spread across eight “neighborhoods”.

There are hair-raising, adrenaline-pumping thrills (record-breaking six water slides alone), more than 40 ways to dine – and always plenty of ways to chill (did we mention the seven pools?).

Icon is also the cruise line’s first ship that can be powered by liquefied natural gas (LNG). The dual-fuel engines work

alongside a lineup of energy efficiency initiatives and industry-leading environmental programs on board, such as the first waste-to-energy plant at sea.

Also, Icon is 24 percent more energy efficient than the standards required for ships being designed today. Being hailed as the cruise line’s most sustainable ship to date, Icon is certainly an important step in parent company Royal Caribbean Group’s green journey to introduce a net-zero cruise ship by 2035.

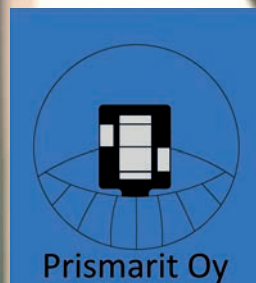
“Climate-wise, Icon represents the very best expertise we have,” says Jantunen.





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## ICONIC TRILOGY

Royal Caribbean International has commissioned Meyer Turku with the construction of three new ocean liners. The first – the lead ship in the Icon Class – was constructed in Finland with yard number NB 1400. The Icon of the Seas was delivered to the client on November 27, 2023.

This new series of ships consists of three luxury liners, each with a tonnage of around 250,800 GT and enough room for up to 5,610 passengers. All three luxury liners will feature completely new propulsion technology, using an eco-friendly LNG drive system that will ensure a significant reduction in emissions.

The second cruise ship in this class – Star of the Seas – will be delivered in 2025, and the third will follow in 2026.



## FOUR DECADES OF INNOVATION

Having started his career building ships already in 1986, Jantunen has had a front row seat into the evolution of the industry for a long time. He comments that the two “E’s” have only gained more momentum over the decades: entertainment and environment are big priorities in all the modern cruise ships.

“Over the years, we’ve been pushing the envelope on what kind of exciting features you can put on a ship, that’s for sure. Also, environmental issues have climbed higher and higher on the agenda over the last, say, 20 years – and are now more important than ever.”

Furthermore, Jantunen perceives a fundamental shift in the mindset of the business itself: “It used to be that we build ships that take vacationers to their holi-

**// We had a tight schedule to keep, but we did it.**

## AQUADOME: AN INSTANT HIT

A tranquil oasis by day and vibrant hot spot at night, this new neighborhood is filled with wraparound ocean views, new and returning restaurants and bars, a 55-foot-tall water curtain, and the next-level AquaTheater, debuting the first cast of robots, skateboarders, divers and more.

There’s also Royal Caribbean’s first food hall, AquaDome Market; new Overlook bar and pods; as well as the cruise line’s marquee aqua shows.





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day destination. Now, the ship is the destination.”

### OVERCOMING ALL CHALLENGES

Planning and building the Icon came with plenty of challenges, from pandemic and war to energy crisis and inflation. “During Covid, we had to take an 18-month break from construction and concentrate on finalizing architectural design via remote meetings,” he looks back.

“We had a tight schedule to keep, but we did it.”

Jantunen participated on the Icon’s pre-inaugural sail for VIPs on the Caribbean and had a chance to see the vessel in action – as well as the clearly smitten client. Returning to Turku, he kept hearing great things about the ship:

“The sales for Icon are better than with any other ship – and the feedback from the cruise patrons is the best Royal Caribbean has ever had.”



### TEAM TURKU

For Jantunen, delivering these giant vessels is very much a team sport. “What I find motivating in this work is that nobody

does it alone. We have great team spirit at the shipyard,” he says.

Seeing a ship built from scratch is always a journey all on its own.

“Every day is different. And while there are some really rough and tough days, too, that’s balanced out by those days when things are going your way and work proceeds nicely.” ■



### ICON BY THE NUMBERS

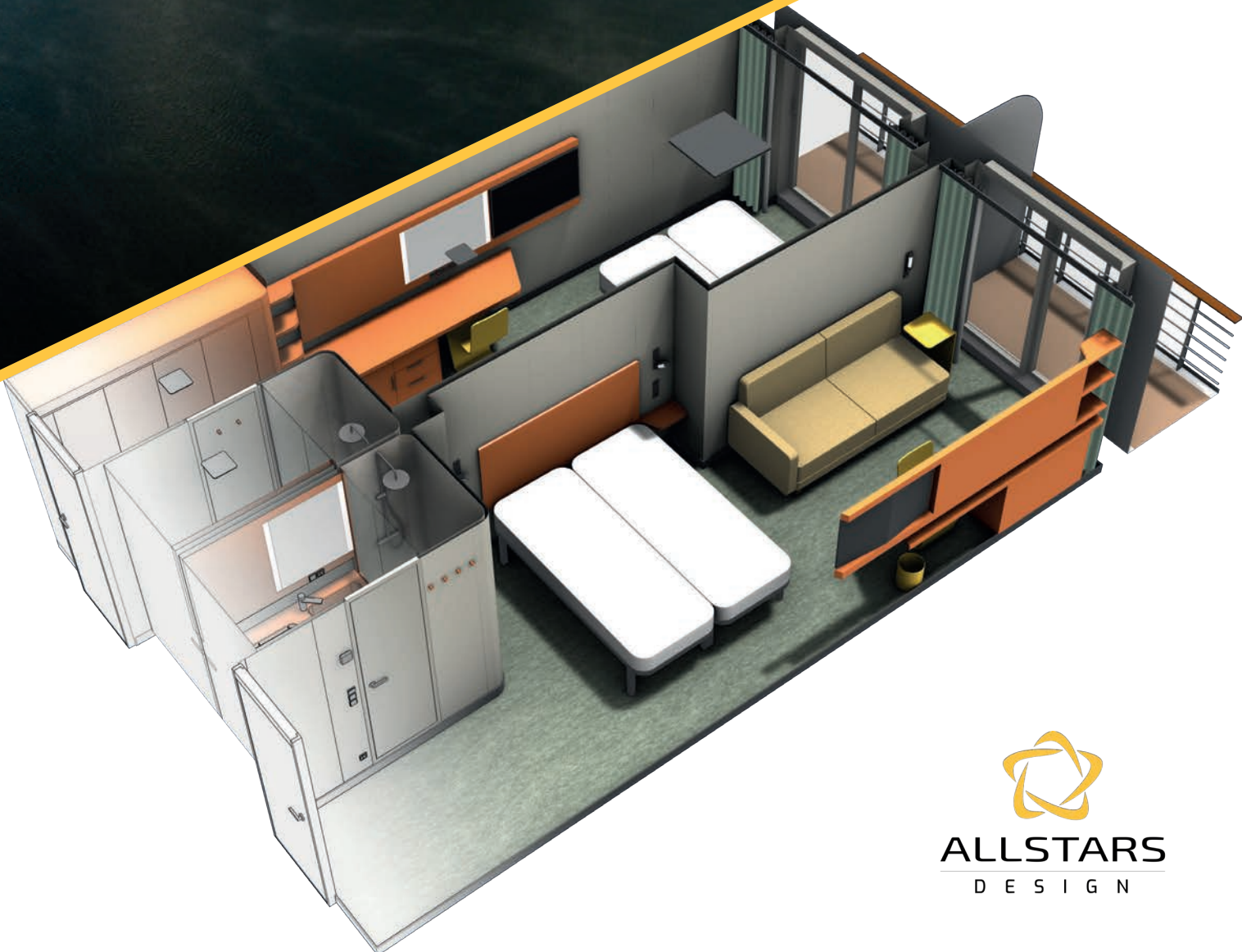
Tonnage	248,633 GT
Length	365 m
Passengers	5,610
Passenger cabins	2,813
Class	Icon Class
Type	Cruise Liner
Shipyard	Meyer Turku
Cruise Line	Royal Caribbean International



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**S**ievi-Tools was established in 1999 to support the development of mold manufacturing at Sievin Jalkine Oy, and very soon the expertise began to be marketed to other customers as well. Today, the majority of the company's turnover comes from machining services, while the manufacturing of molds and tools remains part of its service offering.

## 5-AXIS CAPABILITY MEETS CHALLENGES

Sievi-Tools manufactures various components for machine and equipment manufacturers from steel and aluminium. Typically, this involves serial production, but single-piece production is also possible.

CEO **Harri Salmela** notes that nowadays customers demand from component suppliers the ability to deliver high quality with fast delivery times. Sievi-Tools' response to these challenges is five-axis machining, in which the company is a pioneer in Finland.

"Five-axis machining is one of our absolute competitive advantages. There are fewer work stages, and the precision of the components is top-notch. Two out of our four machining centers are five-axis," says Salmela.

As a finishing service, Sievi-Tools also provides surface polishing. For some customers, the company offers assembly services. Customers receive the necessary measurement protocols from Sievi-Tools, and for their preparation, the Faro Gage articulated measuring arm is used.

## STAFF ENGAGED IN STRATEGIC WORK

Salmela emphasizes that without skilled, flexible, motivated, and committed personnel, Sievi-Tools would not be able to meet the challenges coming from customers.

"Sievi-Tools is a developing company, and we believe it is important that employees can influence their own work and

### Our references:

- Alteams Finland Oy
- ThyssenKrupp Aerospace Finland Oy
- Sulzer Pumps Finland Oy
- Patria Aerostructures Oy
- NCE
- Woodio Oy
- Alamarin-Jet Oy
- Lamor Corporation Ab

thereby achieve our quality goals and fulfill customer promises. We have involved the staff in our company's strategic work, meaning that employees are represented in the operational management team. This practice has proven to be really effective, and the positive effects have been clear."

In the operational management team, in addition to the CEO, there is representation from every stage of work and production supervision. Employees have the largest representation. ■



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Puh. 044 488 1553

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# Metal-free Sea Climaver® changes the game in marine HVAC

by: SAMI J. ANTEROINEN

*Ship owners and operators are looking for ever more efficient and sustainable HVAC solutions for their vessels – and they also would prefer them smaller, lighter and quieter. Saint-Gobain has developed an all-in-one duct system, by the name of Sea Climaver®, that checks all these boxes.*

**S**ea Climaver® is made from dense, rigid glass wool boards. Sea Climaver®'s self-supporting air ducts offer a cost-effective, easy-to-install alternative to traditional insulated metal ducts.

“Duct sections are assembled easily, without the need for expensive machinery usually used on-site,” confirms Key

Account Manager **Herkko Miettinen**, the man behind this new marine innovation.

The Climaver® solution itself has been around for quite a while, with Saint-Gobain launching it already back in 1969. However, in November 2020 Miettinen got to thinking, if a marine application would make sense commercially.

“I was convinced that we could have a duct system that is a lot lighter than the traditional ones – and reducing weight onboard is exactly what ship-owners are after right now.”

## **MAKE IT LIGHT!**

Turns out that compared to a traditional







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Steel duct + insulation	25 tonnes			
<b>SEA CLIMAVER®</b>	<b>9.5 tonnes</b>	<b>-15.5 tonnes</b>	<b>-15.5 tonnes / year</b>	<b>-50 tonnes CO<sub>2</sub> / year</b>

\* Rule of thumb: A reduction of 1 tonne in the mass of ships saves around 1 tonne of fuel per year

\*\* CO<sub>2</sub> emission calculating acc. MEPC.1/circ 684, diesel fuel type

ductwork solution (metal duct + insulation), Sea Climaver® reduces the weight of your average HVAC ductwork by up to 65%.

“This translates directly into reduced fuel consumption, which in turn decreases green house gas emissions,” Miettinen points out.

Miettinen wasted no time in getting the international Saint-Gobain team together and pitched them the idea. With the green light from colleagues, he contacted Royal Caribbean International and Meyer Turku shipyard: would they be interested in a pilot?

“First, we made mockup to test the concept, and received an OK also from classification society. The next step was finding a suitable pilot.”

Pretty soon, Sea Climaver® found a piloting opportunity, and not a modest one at that: Sea Climaver® solution was to cover a test area of 1,500 square metres on Icon of the Seas, Royal Caribbean’s newest cruise ship.

### TOP PERFORMANCE FROM NEWCOMER

With Icon of the Seas sailing off from Turku in December 2023, there’s already some experiences on the performance of the Sea Climaver® system. Miettinen says that Sea Climaver® has met all expectations and even exceeded them.

“Energy efficiency of the system is exceptional and it’s very quiet, too.”

Great thermal resistance, reduced thermal bridges and excellent airtightness help reduce energy consumption and limit greenhouse gas emissions from the ventilation system.

“Now that we’ve proven the concept on Icon, we will do a bigger area on Star of the Seas,” Miettinen reveals. In addition to new vessels, also the retrofit market will benefit from the new system. ■

More information:

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# RMC shipyard soon to deliver two new ferries to Australia

by: ARI MONONEN

photos: RAUMA MARINE CONSTRUCTIONS





*On the west coast of Finland, the Rauma Marine Constructions (RMC) shipyard is in the process of building two identical car and passenger ferries for the TT-Line Company in Australia. The first one is nearing completion. The construction of the two vessels – M/S Spirit of Tasmania IV and V – has created a total of some 3,500 person-years' worth of employment at the Rauma shipyard between 2021 and 2024.*





The two new car and passenger ferries will replace two older ships in the same fleet: the Spirit of Tasmania I and Spirit of Tasmania II. Both of these were also built by RMC shipyard in Finland.

Before the Spirit of Tasmania ferries, RMC has built several technologically advanced commercial vessels. In 2022, RMC delivered to Tallink Silja line the energy-efficient car and passenger ferry MyStar that operates the route between Tallinn (Estonia) and Helsinki. In 2021, RMC completed Wasaline's car and passenger ferry Aurora Botnia that has won international awards for its top-notch sustainability.

Currently, along with the two Spirit of Tasmania ferries, RMC is in the process of constructing the first multi-role corvettes for the Finnish Navy. The shipbuilding for the first of these was started on 30 October, 2023. The project consists of four vessels and will be continued until the year 2029.



CEO and President of the RMC shipyard, Mika Nieminen.

## BOTH SHIPS EQUIPPED WITH FOUR ENGINES

The new Spirit of Tasmania ships have a gross tonnage of 48,000. The ships have a length of 212 metres and a width of 31 metres.

Each ship is equipped with four Wärtsilä 9 cylinder turbocharge dual-fuel engines, operating on LNG and diesel fuel. These engines produce 10,305 kilowatts (kW) of power each. The ships' propellers are twin-variable pitch propellers. Average speed will be 26 knots.

Both new vessels have a capacity of 1 800 passengers. Each vessel features 301 new cabins, 118 standard recliners and 47 business recliners.

Shipbuilding work for the Spirit of Tasmania IV was started on 28 February, 2022.

Later on, the keel laying of this ship was celebrated at Rauma shipyard in October 2022.



The keel laying ceremony for Spirit of Tasmania V took place at the RMC shipyard on May 17, 2023.



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Near the end of last year, on 27 October 2023, Rauma shipyard celebrated the launch and christening ceremony of the ferry Spirit of Tasmania IV.

## M/S SPIRIT OF TASMANIA V ALSO UNDER CONSTRUCTION

The production of the vessel's sister ship, Spirit of Tasmania V, was celebrated with a traditional steel cutting ceremony in December 2022.

Another milestone was reached when the keel laying ceremony for Spirit of Tasmania V took place at the RMC shipyard on May 17, 2023.

In a long-standing shipbuilding tradition, recently minted 2023 Australian and Finnish coins were placed in the keel before the first block was lowered into position. The coins symbolise good fortune for the builders and all those who will sail on the vessel. Eventually, the Spirit of Tasmania V is scheduled to be completed by the end of 2024.

## HEADING FOR THE BASS STRAIT

Near the end of last year, on 27 October 2023, Rauma shipyard celebrated the launch and christening ceremony of the ferry Spirit of Tasmania IV, the first of two identical car and passenger ferries that are now under construction.

"We at Rauma work every day to enhance our expertise in shipbuilding, striving to become stronger and more modern", Mr. **Mika Nieminen** – CEO and President of the RMC shipyard – noted at the ceremony.

Once in operation, the new vessels will sail on a challenging route across the Bass Strait between Geelong, Victoria, and Devonport, Tasmania. The distance between Geelong and Devonport is 448 km, or 242 nautical miles. The ferries have been specially designed for this route.

TT-Line Company is a significant player in maritime transport between mainland Australia and Tasmania, and the shipbuilding project is the largest individual foreign sale between Australia and Finland. The TT-Line employs over 600 people and transports over 450,000 passengers annually. Spirit of Tasmania is widely recognised for its contribution to the Australian tourism industry and for fostering economic development by providing world-class passenger and freight services.

After the launch, the work was shifted from hull construction to equip-

ment assembly and interior work, with the focus on finishing plumbing and electrics as well as interior design for the hotel area. Furthermore, the work around the vessel's engine room and car deck was continued. The equipment assembly phase continued with the implementation of various systems, culminating in sea trials.

## INNOVATIONS FOR FIRE SAFETY

The new Spirit of Tasmania vessels will be the first ferries to operate in Australia featuring Tasmanian-made marine fire safety insulation material.

Designed and manufactured in Hobart specifically for steel passenger vessels by CBG Systems, the material lines the walls of steel ships, protecting them in the event of a fire. The new fire safety material had been more than two years in the making.

As a part of an international requirement around ship safety, passenger ferries must be lined with a passive fire protection product. In the event of a fire, the Rapid Access Composite system contains the fire onboard the vessel for one hour, allowing for the safe evacuation of passengers. CBG Systems has worked alongside the RMC shipyard to deliver the insulation materials for the project.

## FINAL TESTS BEFORE COMPLETION

As the work has continued, the shipbuilding for the Spirit of Tasmania IV is nearing its final stages.

On 1st March 2024, the engines of this ship were started for the very first time. This was a pivotal moment in the construction of the first of the two new ferries at Rauma Marine Constructions shipyard.

The engine start signified the beginning of comprehensive system testing aboard the vessel. Each one of the four dual-fuel main engines were started one by one over the weeks that followed.

This new milestone brought the final completion of the ship one step closer again. Before too long, ship enthusiasts with telescopes can spot a brand new ship on the horizon at the Bass Strait. ■



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# Koja Marine champions energy-saving HVAC systems onboard – also for retrofit projects

by: SAMI J. ANTEROINEN

*Cruise ship owners have increased interest in HVAC energy investment projects, due to the IMO's new Carbon Intensity Indicator (CII) and rising fuel prices. As the Carbon Intensity Indicator is a measure of a ship's energy efficiency, these issues have taken on a brand-new significance.*

**H**owever, there is one more factor that outweighs all others in the cruise ship owners' minds:

"The main trigger for the investment decision is the payback period, which is highly influenced by the used fuel type and its price, cruise profile, energy sav-

ing potential and the cost of the investment," says **Teemu Tanninen**, Director, Koja Marine.

Modern, big cruise ships have extensive HVAC systems in place for patron comfort – but are they always as energy-efficient and low-carbon as possible? Tan-

ninen believes that energy costs can be brought down considerably in most cases.

"Regarding to HVAC system energy consumption in the whole cruise ship scale, the HVAC consumes approximately between 10–15% of the whole fuel consumption, depending on the HVAC technology and cruise profile," he starts off.

## SECURE AIR FLOW TO CABINS

Tanninen points out that a working HVAC system can be divided into four sub systems: cabin, public, service and stairs.





"In a cruise ship, the cabin system is the highest energy consumer, taking up about 35% of the total HVAC energy consumption. Thus, Koja is developing energy saving options particularly for the cabin system," Tanninen explains.

Right now, Koja is putting the finishing touches on a HVAC retrofit concept which brings the energy-efficient ways of 2020's to much older vessels, too. Based on the company's theoretical calculations, Koja expects approximately 50% energy savings from the cabin air conditioning system, corresponding approximately to 2–2.5% fuel consumption reduction in the whole ship scale – thus, having direct impact on CII.

"We will give out more information, when our project is ready for public," adds Tanninen.

## OPTIMIZING HVAC

Koja's operating model is rooted on holistic ideology: When the entire lifecycle of a

HVAC system has been individually dimensioned and optimized, starting from the design phase, the savings do multiply over time. Since Koja is building sturdy HVAC systems for the waves, structures/components need to be tested under extreme conditions. Koja promises to support and serve at every stage of the system's lifecycle.

It is not unfair to say that Koja Marine's smart ventilation solutions are the soul of the ship. The top experts at Koja's R&D Center design and test each HVAC solution with an eye on high performance and low carbon in realistic operational conditions.

"Koja's new product, Koja SmartAir® concept is a HVAC automation system, complete with a user-friendly software interface. All energy consumption data is logged into the system and available for statistical use," explains Tanninen.

"Koja SmartAir also features energy saving time programs that assist the customer in managing the system."

## HVAC WITH IQ

Tanninen explains that the system is anchored on "demand-based" ideology: there's no point in focusing air flow to the ship's stairways at night when everybody's asleep, but once the ship docks, those stairs become crowded and air scarce. Another example: when people are asleep in their beds, they produce less CO<sub>2</sub> – so the HVAC system can ease up a bit.

"Our system brings demand-based air conditioning for all areas: stairs, cabins, service and public spaces."

Another change is the conversion of constant chilled water flow to demand-based flow system.

"The customary three-way valve system is replaced with a two-way valve system that yields improved energy savings." Pumps, for example, need less energy when they're dealing with variable flow instead of constant flow.

## FAN COIL MODE TO THE E-RESCUE!

The "secret sauce" in all of this is the fan coil mode for public and stairs air con-



ditioning units. "The system re-circulates indoor air when CO<sub>2</sub> levels in served space are below defined levels; when the level is exceeded, a fresh air is provided accordingly," Tanninen explains the idea behind fan coil mode use.

Koja Marine has a proud tradition of excellence which is built on delivery reliability, quality and efficiency – and this is why the world's largest cruise lines have come to depend upon Koja as their HVAC partner. The company's experience of nearly 90 years is something that the customers really appreciate – but Tanninen admits that retrofits still pose challenges even for seasoned hands.

"Every cabin is retrofitted with HVAC individually and this requires lots of skilled labor," Tanninen says, adding that Koja has built powerful networks to counter the rising demand: no project is too big for the company to handle. ■

*More information:*

[www.koja.fi/en/koja-usa-inc](http://www.koja.fi/en/koja-usa-inc)

[www.koja.fi/en/marine](http://www.koja.fi/en/marine)

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Mein Sch



# Lucky Seven

## MEIN SCHIFF 7 IS THE FIRST BUILT-IN METHANOL CAPABILITY CRUISE SHIP FROM THE TURKU SHIPYARD

by: SAMI J. ANTEROINEN

photos: MEYER TURKU OY







*Meyer Turku, Mein Schiff 7 Project Manager Noora Maunila.*

*After delivering two vessels to TUI Cruises in 2018 and 2019, Meyer Turku is now building another cruise ship for the German cruise line: Mein Schiff 7. Turku shipbuilders began construction on the vessel in June 2022.*

**“W**e’re currently entering the final phase of the construction and looking to deliver the ship to the client in June 2024,” says Project Manager **Noora Maunila**.

Similar to the structurally identical Mein Schiff 1 and Mein Schiff 2, the new vessel will hold around 2,900 passengers, most of whom will be accommodated in cabins with a sea view. The running track, the gym and spa areas, the arena with a sports court and climbing wall, as well

as the 25-metre outdoor pool will also be similar to those found on board the sister ships.

**Wybcke Meier**, CEO of TUI Cruises, has remarked that Mein Schiff 7 will take the company forward in its goal to pursue more environmentally friendly cruise tourism. The ship is built to enable the use of methanol as fuel and all engines aboard are fitted with Selective Catalytic Reduction system to reduce nitrogen oxide emissions.

In addition, the ship’s operations in the port are almost emission-free. For TUI Cruises, Mein Schiff 7 is an important milestone in its efforts to provide the first climate-neutral cruises by 2030.

#### **GREEN INNOVATION WINS THE DAY**

Making the first cruise ship with a built-in capability to run on methanol is a big deal for the shipyard, as well. **Tim Meyer**, CEO of Meyer Turku, has described the undertaking as a “huge leap forward” in the



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UWIRA – PRODUCTIVITY AS A PRODUCT

## // Mein Schiff is the final ship in the series and the most advanced.

shipbuilder's quest for industry leadership in the Green Transition.

Noora Maunila is thinking along the same lines:

"Turku shipyard has made a name for itself as an innovator in the field of sustainable marine solutions. We will continue to introduce new technology on the newbuilds and pursue carbon-free ships," she says.

"Green fuels is one area that is obviously of interest to the cruise lines and

we're investing in their development, be it methanol or some other sustainable fuel."

### COMMITTED TO CONSTANT IMPROVEMENT

Each Mein Schiff vessel has participated in Green Transition by making sustainable improvements – in addition to your regular upgrades. Along the way, the hull structures of the vessels has been retooled to accommodate for passenger comfort – and to stop tax-free bottles

from rattling too much on their shelves, for example.

"Mein Schiff is the final ship in the series and the most advanced," Maunila says.

Mein Schiff 7 is also the first ship with Maunila as the project manager. "I started at the Turku shipyard in 2011, doing project design and sales for Mein Schiff 3," she looks back.

The start of the job as the ultimate shot-caller for the newbuild wasn't very glamorous, however. "That same week in March 2020 Covid hit with full force and there was total chaos for a while," she laughs.

"As a result, I spent 10-hour days at my desk with headphones on, doing





Tim Meyer, CEO of Meyer Turku and CEO of TUI Cruises Wybcke Meier.

remote meetings non-stop," she says, adding that she prefers a lot more hands-on approach.

### CRASH COURSE IN CRISIS MANAGEMENT

The global pandemic impacted just about everything from work force woes to materials availability, and Covid was only the beginning: the war in Ukraine brought along more nasty challenges such as energy crisis and rising prices.

"We really had to work hard to mitigate these obstacles. Putting together this ship has been a great achievement from our team." For the final push, the shipyard has had around 2,000 workers putting in the finishing touches.

#### MEIN SCHIFF 7 BY THE NUMBERS

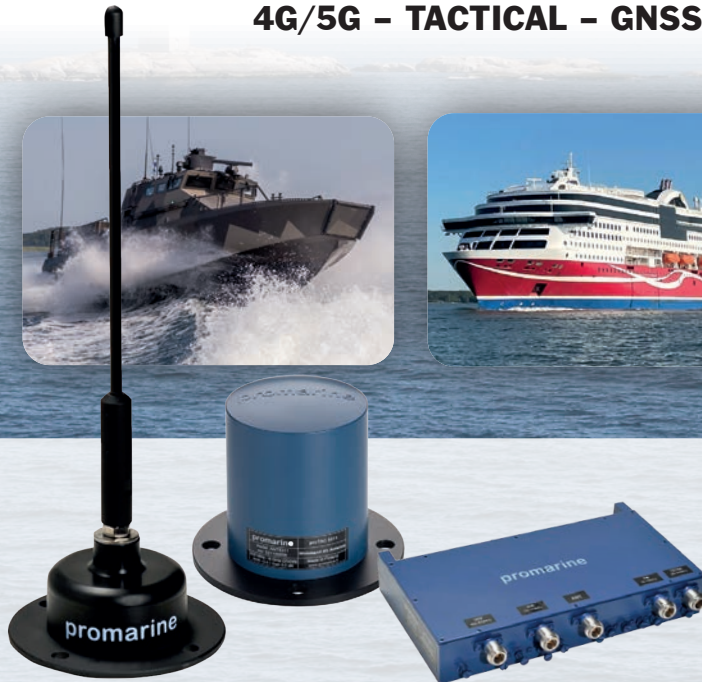
Tonnage	111,500 GT
Length	316 m
Breadth moulded	35.8 m
Decks	16
Total engine power	48,000 kW
Propulsion power	28 MW
Speed	22 kn
Passengers	2,894
Passenger cabins	1,447
Crew	1,000
Classification	DNVGL
Type	Cruise liner
Shipyard	Meyer Turku
Cruise Line	TUI Cruises



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## Putting together this ship has been a great achievement from our team.

But what is it about Finns that makes them such prolific shipbuilders – especially when it comes to making the world's best cruise ships? – Maunila replies that the shipbuilding tradition is very strong in places like Turku.

“Of course there are shipyards in other countries, too, but we’ve succeeded in nurturing a great culture here. When you’re part of the shipyard family, that really means something,” she says.

According to Maunila, doing your part in these giant, one-of-a-kind under-

takings is a source of great pride for all the people involved. “There is a sense of belonging that’s very strong.”

### **SAME TRIBE, SAME BLOOD**

Maunila recalls talking to a shipyard “lifer,” with 40 years spent building ships of different shapes and sizes. She found that there was clearly a similar mindset – and real connection.

“Young, old, or in-between, if you work at the shipyard, you’re part of the

team, part of our community. That’s something that really stays with you.”

For the project manager, the building of Mein Schiff 7 is similar to putting together a huge puzzle. “In a sense, we’re making floating cities here. From an engineering viewpoint, that is a very attractive challenge,” she smiles.

As the summertime delivery day keeps approaching fast, Maunila admits to being anxious to finish the job. “We’re almost there. Now it’s just a matter of finishing strong.”

Maunila’s biggest take-away from her first project manager gig is all about the team:

“When the team succeeds, that’s just the best feeling in the world.” ■



# Cafitesse filter coffee brewing system – the cost efficient and sustainable way to serve good coffee at sea



*m/s Aurora Botnia is full of new sustainable innovations.*

***JDE Peets equipped AURORA BOTNIA with the Cafitesse coffee system, uniquely sustainable and bio-safe, as a newbuilding.***

Jacobs Douwe Egberts Peets (JDE Peets), the largest pure play coffee company in the world, congratulates Wasaline on its third year of successful operation of AURORA BOTNIA. This vessel represents true forward thinking in the whole off-shore industry. Consumers worldwide, but particularly in the Nordic area, are increasingly concerned about the human impact on Earth's environment. Coming generations will in everyday life prefer consumption habits, including travel, that they know to be more sustainable.

"Navigare necesse est" was known thousands of years ago, even before coffee was discovered by humanity. Today, enjoying the aroma and taste of good coffee is part of seafaring. Regardless of if it is on the bridge in the middle of the night, or in a cruise liner gourmet restaurant, a cup of coffee feels like a part of good life.

One kilo of ground coffee produces about three kilos of wet coffee grounds

after brewing. Chief Engineers know everything about coffee-fat clogged plumbing, not to mention disposing off large amounts of wet coffee grounds or stale coffee.

With the Cafitesse filter coffee system wet grounds remain in a Dutch coffee roastery, where they will convert into

energy in the local power plant. The Cafitesse system produces a coffee cup in seconds, in unlimited number, but only on demand. Thus, precious coffee will not be wasted into sewers.

Additionally, Cafitesse produces coffee without contact with humans before it dispenses into cup. This makes the sys-



*In the Business Lounge, Cafitesse makes coffee, black or white and cocoa.*





*The crew enjoys fresh hot coffee 24/7.*



*In the buffet Cafitesse makes a cup of black coffee in 2 seconds. Nobody needs to wait.*

tem uniquely biohazard-safe in crowded passenger environments.

Passengers and crew of AURORA BOTNIA enjoy good coffee, always fresh and hot 24/7, brewed by Cafitesse off-shore capable coffee dispensers. Our system is saving energy aboard, resources ashore and leaves nothing to waste, as the packaging is fully recyclable.

**A VESSEL MID-LIFE UPGRADE, OR EVEN ANNUAL YARD OVERHAUL, IS A GOLDEN OPPORTUNITY TO PUT ON-BOARD COFFEE SERVICES AND ECONOMICS ON TRACK**

Many vessels world-wide have expensive and resource wasting piston coffee brewers installed. These require cumbersome and expensive daily maintenance and produce massive volumes of coffee waste.

When a vessel changes owner or trading route it often goes through refurbishment and classification at a shipyard.

This is an excellent opportunity to completely overhaul the coffee services into profitability and cost-efficiency, not to mention sustainability.

Old coffee brewing equipment is often energy wasting and work intensive on already stretched crews.

On ALFÅGELN, a hardworking short-sea ferry trading in the Åland archipelago for many years, her coffee moment came in 2022. The cafeteria staff wanted to concentrate on servicing passengers with good food and coffee around the clock. The solution was a Cafitesse brewer with a swipe payment system for bank cards. The new system was installed during a yard visit and tested to capacity before ALFÅGELN returned on route.

The new coffee service immediately changed passenger perception of good coffee on board and increased service level



*Cafitesse makes real milk coffees for quick service in the busy bar.*

in the cafeteria. In two years, almost all ferries in the area have changed to Cafitesse. Passengers now can buy hot and good coffee anytime during crossings between harbor stops. Customer satisfaction is further increased as sustainability, biohazard safety and recycling are visibly communicated. ■

*More information: [www.novacafi.fi](http://www.novacafi.fi)*



*m/s Alfågeln cafeteria with Cafitesse coffee brewer, serving coffee 24/7.*



*m/s Knipan and m/s Alfågeln are robust short-sea ferries, equipped with Cafitesse.*

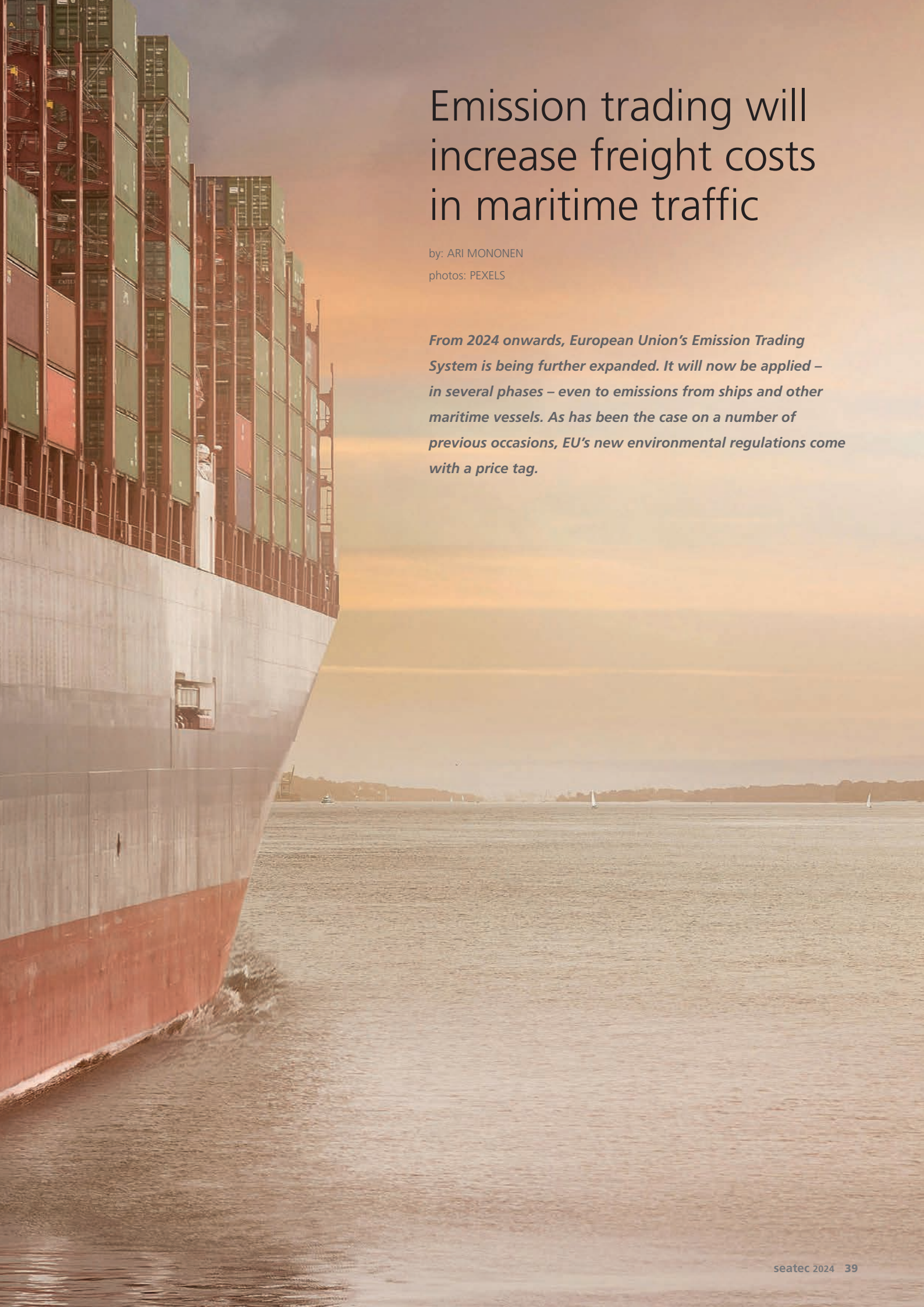
photo: COPYRIGHT © 2024 LAPPO PÅ ÅLAND





**Climate actions in the maritime sector are continuously being pushed forward.**





# Emission trading will increase freight costs in maritime traffic

by: ARI MONONEN

photos: PEXELS

*From 2024 onwards, European Union's Emission Trading System is being further expanded. It will now be applied – in several phases – even to emissions from ships and other maritime vessels. As has been the case on a number of previous occasions, EU's new environmental regulations come with a price tag.*



Climate actions in the maritime sector are continuously being pushed forward, both through the European Union's Emissions Trading System (ETS) and by way of switching to cleaner marine fuels. Such means are deemed necessary if climate goals are to be achieved, even though there is a risk of hefty new costs for maritime traffic and freight transports.

In accordance with the EU's ETS directive, maritime traffic will be incorporated into the Emissions Trading System gradually, in various phases. This process was started on 1st January, 2024.

### **ETS REQUIREMENTS ALREADY INCORPORATED INTO NATIONAL LAWS**

In Finland, the ETS directive's obligations have been introduced in the country's new

national Emissions Trading Act, approved in December 2023. It will repeal both the current Emissions Trading Act and the Act on Aviation Emissions Trading.

After the expansion of the Emissions Trading System's coverage, the ETS will include emissions from large ships departing from and arriving to EU ports, regardless of the ships' flags.

Maritime emissions trading will be applied to vessels having a gross tonnage of at least 5,000 and carrying freight and passengers for commercial purposes. Similar obligations will come to apply to off-shore vessels – such as oil and gas exploration vessels or maritime construction vessels – with a gross tonnage of at least 5,000 starting on 1st January, 2027.

The Emissions Trading System is the considered to be the most significant EU-

level action so far for achieving emission reduction goals.

### **NEW SHIP FUELS NEEDED**


This year, emissions trading will apply to the carbon dioxide emissions of maritime transport, starting on 1 January 2024. Later on, the coverage will be expanded to methane and nitrous oxide (NOx) emissions, starting on 1st January of 2026.

In practice, shipping companies shall acquire emission allowances to 40 percent of verified emissions reported for 2024 and 70 percent of verified emissions reported for 2025. Starting from 2026, emission allowances are to be acquired in full.

In addition to emissions trading, the maritime traffic operated within the EU area will be required to utilise renewable and low-emission fuels. From the year







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2025 onwards, the greenhouse-gas intensity of maritime fuels shall be reduced by 2 percent in comparison with the figures from year 2020. Further restrictions will be imposed at five-year intervals, with the aim of achieving a reduction of 75 percent by the year 2050.

It has been estimated that the maritime sector represents approximately 3 to 4 percent of the total of the European Union's carbon dioxide (CO<sub>2</sub>) emissions.

#### **EXEMPTIONS FOR REMOTE REGIONS**

Geographically, the Emissions Trade Directive includes 100 percent of emissions from intra-EU voyages and 50 percent of emissions from extra-EU voyages.

To prevent transshipment activities and calls to ports outside the EU for the

purpose of evading compliance, the scope of the Directive explicitly excludes certain stops at non-EU ports where the risk of evasion is deemed to be highest. The European Commission has compiled a list of these ports and will keep updating it.

The exclusion zone extends 300 nautical miles from a port under the jurisdiction of an EU Member State. This exclusion applies only to container ships in non-EU

ports where transshipment of containers has been at least 65 percent of all container traffic during the preceding 12 months.

Islands having fewer than 200,000 inhabitants and lacking road or rail connections to the mainland are exempt from acquiring emission allowances until the year 2030. Further exemptions have been allowed to the nine outermost EU regions,

**Similar obligations  
will come to apply  
to offshore vessels.**





## // In the Baltic Sea area, the new regulations will mean significant increases in traffic costs.

i.e. regions that are most geographically distant from the European continent.

### **HUGE INCREASES EXPECTED IN MARITIME FREIGHT COSTS**

In the Baltic Sea area, the new regulations will mean significant increases in traffic costs.

According to preliminary estimates, the cost effects may be in the order of 500 to 700 million euros annually by the year 2026. These figures take into account both the emission trading and the effects of switching to new maritime fuels.

Expanding the coverage of ETS regulations is part of the EU's larger "Fit for 55"

regulation package, intended for achieving a 55 percent reduction in environmental emissions by the year 2030. Most of those requirements are already being incorporated into the national legislation of all EU member states, including Finland.

The CEO of the Finnish Freight Forwarding and Logistics Association, Mr. Petri Laitinen, noted in his social media posts in November 2023 that ETS-related cost increases may come as a surprise to many Finnish companies operating in the field of foreign exports and imports. However:

"Emission trading is an important and efficient tool for reducing environ-

mental emissions in maritime traffic, even though it will mean cost increases during the transitional stage," Mr. Laitinen concluded in his LinkedIn post. ■

#### *LITERARY AND ONLINE SOURCES:*

Carraro, Camilla – Osipova, Liudmila: *The Maritime Sector in the European Union Emissions Trading System*. International Council on Clean Transportation (ICCT), Dec. 2023.

Carraro, Camilla – Osipova, Liudmila: *Shipping Emissions under the European Union Emissions Trading System*. International Council on Clean Transportation (ICCT), Dec. 2023.

*EU:n päästökauppa laajenee meriliikenteeseen vuonna 2024*. EK online news, Helsinki 2023 ([www.ek.fi](http://www.ek.fi)).

*Petri Laitinen's Post* on LinkedIn, Nov. 2023 (<https://www.linkedin.com/posts/>).

Traficom: *Marine Transport Will Become Part of the Emissions Trading System*. Helsinki 2024 ([www.traficom.fi](http://www.traficom.fi)).



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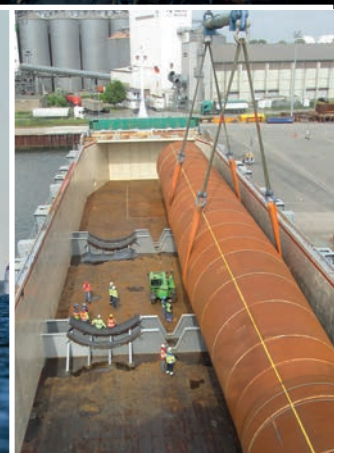
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# Targeting green innovations

## MEYER TURKU IS ENLISTING THE AID OF UNIVERSITIES IN PURSUIT OF MORE SUSTAINABLE SHIPBUILDING

by: SAMI J. ANTEROINEN

photos: MEYER TURKU OY

*Meyer Turku is intensifying its collaboration with the academic world. The latest move involves deepening the long-standing cooperation with Åbo Akademi as a new partnership agreement was signed.*







The agreement period is five years, and the focus lies, at least initially, on Åbo Akademi's Faculty of Natural Sciences and Technology and Meyer-led green transition program NEcOLEAP. Meyer Turku collaborates also with two other local universities, University of Turku and the Turku University of Applied Sciences, along with most universities across the land.

**Ilkka Rytkölä**, Ecosystem Lead at Meyer Turku, is especially excited about the launch of Green Transition Lab – a shared workspace which supports the interaction between researchers and industry. Located in Data City in Turku, Green Transition Lab opened its doors in March 2024 and has hit the ground running:

“There's been dozens of events and meetings at the Lab already and services available for startups, for example,” Rytkölä says.

**// The collaboration is a very significant one from the perspective of the university.**

**Kim Wikström**, Professor of Industrial Engineering and Management at Åbo Akademi, is equally pleased with Green Transition Lab as a solid example of wide-spanning collaboration.

“Via Green Transition Lab, we pursue a systemic approach, with hopefully a variety of benefits to come. We are looking for new initiatives targeting even radical innovations,” Wikström says.

#### **PROFESSORSHIP IN THE WORKS**

In addition to the Lab, the new partnership agreement includes e.g. doctoral student positions and a range of courses adapted for lifelong learning in the shipbuilding industry – as well as a sponsored professorship.





“We’re in the process of appointing the professorship in sustainability that Meyer Turku will finance, with a particular focus on process technology, energy technology and industrial engineering and management,” says Wikström, adding that the collaboration is a very significant one from the perspective of the university.

“We will fill the professorship by the end of the year,” he believes.

#### **DIGGING DEEP**

Talking about ways to cut down carbon in the marine industry, Wikström acknowledges that green fuels are trending very strongly, but there are other sustainable moves to make, too.

“Use of space on ships is one issue. If you rethink functions in the ship’s public areas and cabins, you can achieve surprising results,” he says. For example, instead of ships having laundry services onboard, would it make sense to do the laundry on the shore?

## **// Another development area involves digitalization and Big Data.**

Another development area involves digitalization and Big Data. “With all the information available, we can manage and optimize the flow of people on ships.”

The big thing on the backburner is making ships out of green steel. “Ships require vast amounts of steel, so making that steel in a carbon-neutral way would be a tremendous improvement,” says Wikström.

Green steel fleets are still probably decades away, but in terms of competitive advantage, it makes sense to be among the early adaptors in this field. “Also regulation keeps tightening and it helps to be proactive, instead of just following the pack.”

#### **NECOLEAP PUSHES MARITIME R&D**

The new collaboration fits seamlessly into the wider framework of NECOLEAP, the green transition lead program which kicked off in 2022. In the Business Finland funded program, Meyer Turku heads a group of companies, universities and research institutes in order to develop innovative and sustainable technological solutions for the needs of the maritime industry. The program will run until 2025.

The research and development topics within the NECOLEAP program focus on four areas: the designing of the cruise ship itself, the shipyard’s operations, i.e. the different phases of shipbuilding, and the introduction of smart technologies and the open-minded professionals of the future.

Regarding the shipyard, the goal is to develop the concept of a carbon-neutral cruise ship by 2025 and make the entire shipyard climate-neutral by 2030.





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Ilkka Rytkölä recognizes that the goals are ambitious.

"We've set the target high and it's not going to be easy. Nevertheless, we believe that it is possible."

#### ECOSYSTEM EDGE

Rytkölä agrees with Wikström that it's 'all hands on deck' in bringing down carbon: you need more sustainable fuels, materials, processes...

"Clearly it is something you can't do all by yourself. We need the entire marine ecosystem to pull together in this one," Rytkölä says, pointing out that the shipyard serves as the master coordinator and integrator of a shipbuilding project – while the suppliers within the vast ecosystem provide the products.

"We have suppliers that vary in size a lot and have different access to resources, but it's also true that especially the smaller companies can be very creative in cutting down CO<sub>2</sub> emissions," he says.

Rytkölä also points out that looking at the lifespan CO<sub>2</sub> emissions caused by building and running cruise ships, only 5% come from the actual shipyard operations.

"We have to look at the entire big picture to see where we can make the biggest impact."

#### UNITED WE SAIL

Both Wikström and Rytkölä see strategic, long-term collaboration as the key to marine industry's sustained success.

"Local universities are keen on collaboration, but also, for instance, Aalto, Tampere and Oulu universities are contributing to the work," Wikström says, emphasizing the importance of having broad shoulders. "We have a very diverse competence platform."

Approaching this equation from the business side, Rytkölä views the Finnish marine cluster as a very powerful difference-maker:

"We have a very special ecosystem with unique strengths and common goals. It's unlike anything else out there," he says. ■





# Driving sustainability via pipeline system excellence

by: SAMI J. ANTEROINEN

*Methanol is one of the new and exciting fuels used in the marine industry – with TUI Cruises' Mein Schiff 7 and RCCL Celebrity's Edge Series newbuild being among the first methanol fuel capable cruise ships. Currently under construction at shipyards, the environmentally-friendly cruise ships will be delivered in 2024–2025.*

Uwira, an innovative Finnish pipeline manufacturer, is charged with delivering the demanding methanol pipeline solutions to ships under construction. Sales & Sustainability Director **Samuli Kuusisto** says that Uwira has decades of experience in producing advanced pipeline solutions.

*"Now, we are excited to contribute to key methanol projects."*



*Director of Development Thomas Hägglund and Sales & Sustainability Director Samuli Kuusisto from Uwira.*

Uwira's modular solutions use double-walled pipes that guarantee safe transfer of hazardous fuels, in this case, methanol.

*"While the solution features double-walled pipes, it's not the same solu-*

*tion that carries LNG. With LNG, you don't need high pressure in the pipes."*

## SAFETY COMES FIRST

The methanol solution, however, requires high pressure to work – which, in turn, requires exacting standards for the onboard pipes that typically run for 30–50 meters to each engine.

*"We have developed our pipeline solution to deal with high pressure and pressure fluctuations that come with the technology. When we visit projects abroad, we want to point out the importance of the high-pressure fluctuation issues."* Kuusisto says, adding that the Finnish company is really a forerunner in this regard:

Uwira's double-walled pipes can withstand pressures of up to 1,800 bar. The company's double-walled pipes are made of materials such as steel, stainless steel, Duplex, and Super-Duplex Stainless Steel.

Uwira can handle pipeline prefabrication as well as installation for methanol projects. *"We have a dedicated team for installations alone,"* says Kuusisto.







## MASTERING METHANOL

This expertise, however, did not develop overnight. As early as 2015, Uwira was already involved in delivering modular solutions made of double-walled pipes to M/S Stena Germanica, which uses methanol as fuel. Kuusisto remembers that the vessel – built in Poland – only came to existence after a lot of groundbreaking planning.

*“We were required to deliver a real innovative pipeline solution to support Wärtsilä’s engines and succeeded, thanks to great collaboration from all parties,”* Kuusisto says, adding that classification society Lloyd’s was also involved in the project.

During the years that followed, the methanol technology onboard Stena Germanica proved reliable again and again –

but it has taken a long time for the technology to catch on.

Presently, however, the French Chantiers de l’Atlantique (CdA) shipyard is building Celebrity Cruises’ new ship, the fifth vessel in the company’s Edge Series, to feature methanol-readiness. Celebrity Cruises is one of the brands of Royal Caribbean.

Fitted with Wärtsilä’s methanol-ready engines, the new ship is scheduled for delivery from the yard in 2025.

Kuusisto is happy to see the technology spread in Europe.

*“We firmly believe that methanol is the next big thing in maritime, even if there are availability issues right now.”*

## GREEN LIGHT FOR GREEN TRANSITION

Going forward, Uwira wants to continue

to play a vital role in the green transition by supplying pipeline solutions, modules, and pressure vessels for new, more environmentally friendly fuels. **Thomas Hägglund**, Uwira Director of Development, says that finding sustainable solutions is a major issue for the entire industry.

*“We are enabling this transition and making way for a more sustainable future,”* says Hägglund.

Methanol is only one part of Uwira’s sustainable arsenal: ammonia and hydrogen are also in play. In fact, Uwira is involved in a marine hydrogen fuel cell system project, which enables vessels to sustain zero-emission operations for longer periods of time than would be possible using battery power alone.

## HYDROGEN PIPELINE SOLUTION

The hydrogen fuel cell system is ideal for zero-emission operations onboard ships that go on routes where hydrogen supply is available.

*“Here, we are supplying double-walled hydrogen pipelines,”* confirms Hägglund.

Hydrogen is a great fit for a company that has delivered demanding pipeline solutions over the years.

*“With this specialization, we have achieved the desired level of quality in our products. In use, our products last for decades,”* says Hägglund. ■

More information: [www.uwira.fi](http://www.uwira.fi)





ABB Oy	Comatec Industrial and Marine Oy	I.S. Mäkinen Oy
Adwatec Oy	Deltamarin Oy	Jalmare Oy
Aker Arctic Technology Oy	DNY Finland Oy	Kaefer Oy
Aker Solutions Finland Oy	EIE Maskin Oy	Kavika Oy
Alfa Laval Aalborg Oy	Elcoline Group Oy	Kemppi Oy
Allstars Engineering Oy	Elomatic Consulting & Engineering Oy	Koja Oy
ALMACO Group Oy	Emmanoa Oy	KONE Hissit Oy
Antti-Teollisuus Oy	Enersense Offshore Oy	Koneteknologiakeskus Turku Oy
Apex-Marine Oy	E.U. -Adhoc Project Oy	Kongsberg Maritime Finland Oy
AQ Trafotek Oy	Evac Oy	Laivasähkötyö Oy
Auramarine Oy	Foreship Oy	Lamor Corporation Oyj
Beacon Finland Ltd Oy	Furuno Finland Oy	Lautex Oy
Bertel O. Steen Power Solutions Finland Oy	Groke Technologies Oy	LED Tailor Oy
Bluetech Finland Oy	Halton Marine Oy	MAN Energy Solutions Sverige AB, Finland Branch
Cadmatic Oy	Helkama Bica Oy	Marioff Corporation Oy





Material Maintenance MaMa Oy  
 Merima Oy  
 Mesekon Oy  
 Metalliasennus Huuhka Oy  
 Metos Oy Ab  
 Meyer Turku Oy  
 Millog Marine & Power Oy  
 Mobimar Oy  
 Napa Oy  
 Navice Oy  
 Nora flooring systems Oy  
 Norsepower  
 Oy NIT Naval Interior Team Ltd  
 Oilon Oy  
 Onninen Oy

Orsap Oy  
 Paramet Konepaja Oy  
 Parmarine Oy  
 Paroc Oy Ab  
 Pemamek Oy  
 Piikkio Works Oy  
 Pocadel Oy  
 Promeco Group Oy  
 Rauma Marine Constructions Oy  
 Rauman Meriteollisuuskiinteistöt Oy  
 Reddal Helsinki Oy  
 R&M Ship Technologies Finland Oy  
 Roxtec Finland Oy  
 RR Site Service Oy  
 Saajos Oy

Saint-Gobain Finland Oy  
 S.A. Svendsen Oy  
 SBA Interior Oy  
 SeaKing Oy  
 Shipbuilding Completion Oy  
 SSAB Europe Oy  
 Steerprop Oy  
 Oy Stellio Ab  
 TEVO Lokomo Oy  
 Turun Korjaustelakka Oy  
 Uudenkaupungin Työvene Oy  
 Vallila Marine Oy  
 Valmet Oyj  
 Wiima Logistics Oy  
 Wärtsilä Oyj Abp



## WIND POWERS VESSELS

**W**ind turbines in vessels is not a new invention. Savonius Rotor was invented by a Finn, Sigurd Savonius in 1926, almost 100 years ago. Operation of his invention is based on Magnus effect and Flettner law; very familiar to people involved in sailing.

The same physics laws are prevailing in Windside turbine, born 1982 in Finland by **Risto Joutsiniemi**. Due to shape and some mechanical differences, Windside has many advantages over Savonius rotor, e.g. totally soundless operation and utmost durability producing energy also in storms.

After working over 40 years with Windside turbines, Mr. Joutsiniemi describes that "a long journey has been just as a day of small beginnings; future is at sea". – Despite the growing interest today from building industry.

"As Windside turbines are strong enough to face storms seen by lighthouse Le Four in France, or McMurdo base station in Antarctica, they surely can stand and produce safe electricity also on vessels," Mr. Joutsiniemi says.



Photos above: Le Four in northern Finistère  
Windside WS-0, 15B installed 2021.  
Photo by: Direction Interrégionale de la Mer  
Nord Atlantique Manche Ouest.

### Key Facts:

#### Windside is used by e.g.

Harbours, light houses, vessels, research centres, telecom, radars

#### Operates 2m/s up to 60m/s

Specifically designed for low cut-in wind speeds and no cut-out at extreme wind speeds. Production also in storms.

#### 25+ year offshore lifespan

Built of heavy-duty reinforced fiberglass, marine-grade aluminium, hardened steel, fully galvanized frames, high-quality bearings, and sealed electronics.

#### Up to 5 years maintenance-free

Optional automatic lubrication system extends maintenance intervals to 5 years.

#### Silent, vibration-free and safe

Perfectly silent, less than 5dB. Balanced for zero vibration. Safe to touch at all speeds.

#### Patented technology



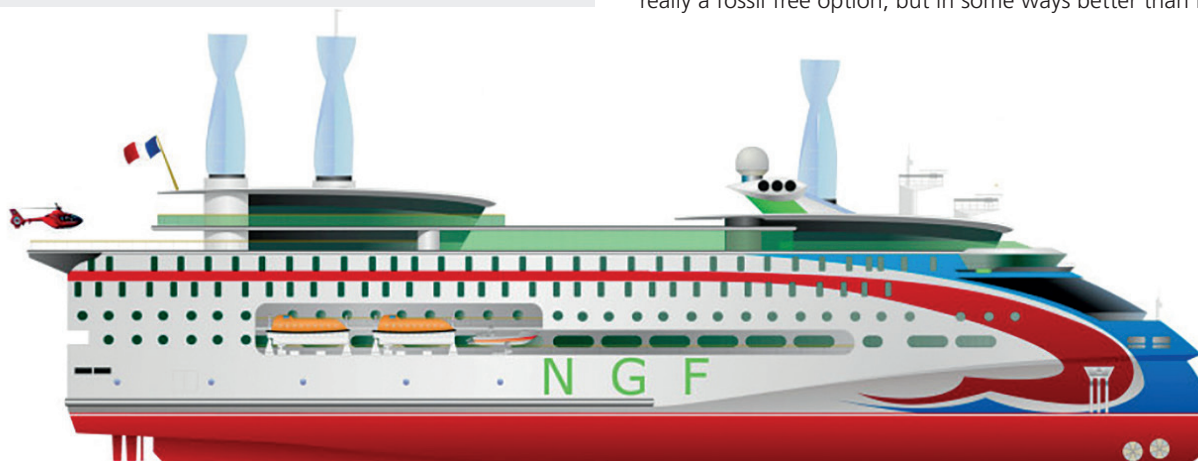
Civil engineer Per Kavli. Photo: Iván Kverme.

Civil engineer **Per Kavli** and the company Green Ships in Oslo are behind the projects for designing boats using only renewable energy as energy source.

Mr. Kavli says:

"Environmental requirement and regulations in maritime sector are under big changes. The whole shipping industry is looking for new power plant solutions and the ultimate goal is to obtain ZERO NOX and CO<sub>2</sub> emissions.

This has resulted in the use of some new fuel options: Hydrogen, ammonia, methanol, fuel cells and also LNG (which is not really a fossil free option, but in some ways better than MDO).





One way to reduce emissions is to use free energy from wind and sun. Wind turbines are a good alternative, as they can work 24h/day/365 days/year, and require less space."

"They can work as roll reduction units, due to the «Gyro effect», which to some extent can substitute expensive active roll reduction fins. Also, when the vessel is moving, it creates something called the «Magnus effect», which reduces the ships wind resistance."

Mr. Kavli describes a new modern hybrid ship:

"The 160 m medium size cruise ship is designed for operation in the Norwegian world heritage fjords, where ZERO emission is a mandatory requirement, from 1.1.2016 onwards. This ship will use a combination of fuel cells, large size batteries, and 5 large size Windside wind turbines. The same concept can and will be used in many types of ships, such as Ropax ferries, offshore ships, etc."

Mr. Kavli estimates that from the day one, the ships will reduce emissions ca. 70% compared to existing tonnage, and later on even more.

In the future, Mr. Kavli sees a large market for environmentally friendly cruise, tourism and ferry traffic. Authorities in several countries are keen for new ferry connections, to be operated with low-emission ferries that generate minimum noise.

"New Hybrid ships that do not use fossil fuels is the future. It makes sense to use wind turbines as they are suitable for most types of ships. Also good for roll reduction purposes, typically where there are passengers on board," he says. ■

*Green Ships AS is an Oslo-based maritime consulting firm owned by Per Kavli's family company, Kavli Eiendom.*

*More information: [www.windside.com](http://www.windside.com), [general@windside.com](mailto:general@windside.com)*

## FSSA, Finnish Ship Suppliers & Service Association



# ALMOST 80 YEARS OF SHIP SUPPLYING HISTORY

The Finnish Ship Suppliers & Service Association, FSSA has undertaken innumerable actions to defend the interest of the maritime supply sector in Finland, the Baltic Sea and worldwide for almost 80 years. Consul Eric Liljefors (Finland) representative of FSSA were one of the initiative takers to establish ISSA, The International Ship Suppliers & Service Association when the first formal meeting was held in Copenhagen, Denmark 1955. ISSA was formally founded 14th of May 1956. ISSA is a well-recognized organisation world-wide to this day within the maritime industry.

Since the beginning of FSSA, the organisation has had a close and successful cooperation with both the Finnish customs and other Finnish authorities. We can state that the Finnish customs have been quite a pioneer with building systems for both ship owners and ship supplying companies e.g., to handle the goods and the custom clearance.

Currently the members of FSSA have their presence in all the commercial ports of the Finnish territory.

The long, genuine history of FSSA has enabled the members to render a world class service providing the Finnish quality at the highest level. Aligned with the leading companies of the industry globally. In fact, some of our members include companies with international presence beyond our borders and are included as an industry reference in Europe.

### FSSA IS PART OF THE INTERNATIONAL SHIP SUPPLIERS & SERVICE ASSOCIATION

FSSA (SLY, Suomen Laivakauppiaitten yhdistys ry.) is a fully recognized and integrated member of the ISSA, International Ship Suppliers & Service Association, which headquarters are based in London, UK. ISSA has its presence in 51 countries, 500+ Ports



Locations, 1500+ Members and 40 National Associations. Furthermore, FSSA is an active member of OCEAN, European Ship Suppliers Organization.

### FSSA IS AIMING FOR A SUSTAINABLE AND EFFECTIVE FUTURE

"At FSSA we think that working close with bodies in charge of the laws and regulations that touches our sector plays as an important role as the quality and service provided by our members. Together these actions, with the environment in mind are the landmarks that guarantee sustainability and an even more effective future of sustainable Finnish ship supplying," says the newly elected Chairman of the Board, **Martin Holmström**, Managing Director of Signwell Oy. ■

*More information: [signwell.fi](http://signwell.fi)*



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photo: STX Europe





# company directory

photo: UNSPLASH



1 4 6 7

**AB-MARINEL OY**

Konsantie 30  
FI-21260 Raisio  
Finland  
Phone +358 2 444 11  
info@ab-marinel.fi  
www.ab-marinel.fi

**Contact Persons**

Tommi Niemi  
Henry Lindström

**Facts & Figures**

Turnover: EUR 5 million  
Personnel: 41  
Established: 1986

**Specialty Areas**

- AB-Marinel Oy supplies comprehensive delivery of the electrical materials, – equipment and spare parts for all kind of ships and represents several manufacturers of the electrical control-, alarm and communication systems.
- Specialised in turn-key-deliveries for newbuilding ships, including design, installations, material and equipment.

2 6 7

**AT-MARINE OY, AUTROSAFE**

Uranuksenuja 10  
FI-01480 Vantaa  
Finland  
Phone +358 9 5494 2600  
sales@atmarine.fi  
www.atmarine.fi

**Contact Persons**

Antti Pihlajamäki, antti.pihlajamaki@atmarine.fi  
Jussi Kujanpää, jussi.kujanpaa@atmarine.fi

**Specialty Areas**

Services:

- Sales, maintenance, manufacturing, commissioning and planning

Equipment:

- Navigation and communication systems
- Machine and fire alarm systems
- Engine room equipment, sound and light alarms, alarm panels and centers
- Temperature and pressure sensors
- Machine automation
- Escape and emergency lighting including special signs for exterior and interior decks
- LED lamps, searchlights and window wipers
- Liquid Handling Equipment
- Special Electronic Devices

1 3 8

**JTK POWER OY**

Teollisuustie 6  
FI-66600 Vöyri  
Finland  
Phone +358 20 781 2300  
Fax +358 6 361 0383  
info.fi@jtk-power.com  
www.jtk-power-group.com  
www.jtk-power-vss.com

**Contact Person**

Robert Ollus, Managing Director, robert.ollus@jtk-power.com

**Facts & Figures**

Turnover: EUR 35 million  
Personnel: 85 in Finland, 40 in China  
Established: 1998

**Specialty Areas**

Large Internal Combustion Engines' and Gas Turbines' exhaust and charge air silencers. Offshore-, paper- & pulp and other process industries large silencers. Small parts machining of e.g. valve seat inserts for medium speed engines and other high quality machined cylindrical parts. Shelter Solutions Equipment (Väestönsuoja tuotteet) for the building industry and complete Shelter Solutions together with Karantia Perusturva Oy. Subcontracting of complex welded structures. 3-way and 2-way exhaust flow valves/dampers. Design, simulation & measurement services, specialty on attenuation.

4

**LAUTEX OY**

Ojakkalantie 13  
FI-03100 Nummela, Finland  
Phone +358 9 224 8810  
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www.lautex.com

**Contact Persons**

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Antti Holappa, Sales Manager  
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Eveliina Välimäki, Project Manager  
eveliina.valimaki@lautex.fi, +358 50 436 4478

**Facts & Figures**

Personnel: 53  
Established: 1951  
Parent Company: Teknoma Oy

**Specialty Areas**

Ceilings for ship accommodation and public spaces, such as metal panels, profiles, tiles and gratings in aluminium or steel. The product range also includes B-0 and B-15 fire classified ceilings, domes, beams and special ceilings. All ceiling materials are possible to coat on different materials.

1 8

**MEYER TURKU OY**

Telakkakatu 1, FI-20101 Turku, Finland  
Phone +358 10 6700  
www.meyerturku.fi

**Contact Person**

Anna Hakala, Head of Communications, anna.hakala@meyerturku.fi

**Facts & Figures**

Net sales 1 295,5 million €  
Personnel 2 131

**Subsidiaries & Representatives**

Piikkiö Works Oy, Shipbuilding Completion Oy, ENG'nd Oy

**Specialty Areas**

The Meyer Turku Oy shipyard is specialized in the construction of very demanding, innovative, and environmentally efficient cruise ships, car ferries, and special vessels. Our share of the global cruise construction market is approximately 15%, and our shipyard's order books extend to 2026. Our largest customers are Royal Caribbean International, TUI Cruises, the Finnish Border Guard and Carnival Cruise Line. Meyer Turku employs 2,000 top professionals and operates the Turku shipyard where vessels are built since 1737. Meyer Turku's subsidiaries are Piikkiö Works Oy, a cabin factory located in Piikkiö, Shipbuilding Completion Oy, which offers complete deliveries to public spaces, and ENG'nd Oy, a shipbuilding and offshore design company based in Rauma. Together with the German shipyards, Meyer Werft in Papenburg, and Neptun Werf in Rostock, Meyer Turku forms the Meyer Group, one of the world's leading cruise ship builders. We are constantly striving for more sustainable shipbuilding. We have identified five UN Agenda 2030 goals, which we can especially influence in our operations and cooperation with partners and customers.

1 2 7

**PORKKA FINLAND OY**

P.O. Box 127  
FI-33101 Tampere  
Finland  
Phone +358 10 201 9200  
sales@porkka.com  
www.porkka.com

**Contact Person**

Petri Hiilloste  
petri.hiilloste@porkka.com

**Facts & Figures**

Turnover: EUR 30 million  
Personnel: 170  
Established: 1962  
Parent Company: Festivo Finland Oy

**Specialty Areas:**

- Provision stores
- Walk-in rooms in galleys/pantries
- Insulated doors
- Insulated fire doors A60, for cold stores
- Marine cold cabinets and counters

1. Consulting  
2. Equipment  
3. Machinery

4. Materials  
5. Safety  
6. Systems

7. Turnkey Deliveries  
8. Yards  
9. Other



7

**S.A. SVENDSEN OY**

Rajatorpantie 41 C  
FI-01640 Vantaa  
Finland  
Phone +358 9 681 1170  
Fax +358 9 6811 1768  
www.sasvensen.com

**Contact Person**

Kimmo Räisänen  
Managing Director  
kimmo.raisanen@sasvensen.com

**Facts & Figures**

Turnover: EUR 3 million  
Personnel: 3  
Established: 1981

**Specialty Areas**

- Complete turnkey deliveries for cruise ships and ferries
- Interior materials and custom made interior modules
- Refurbishments and refits for cruise ships and ferries

2 4 9

**SBA INTERIOR LTD**

Hangontie 940  
FI-10300 Karjaa  
Finland  
Phone +358 19 327 71  
info@sba.fi  
www.sba.fi

**Contact Persons**

Thomas Pökelmann, Sales Manager, thomas.pokelmann@sba.fi  
Johan Fagerlund, Technical Director, johan.fagerlund@sba.fi  
Aki Virta, Executive Vice President, aki.virta@sba.fi  
Henrik Grönvall, Sales & Project Manager, henrik.gronvall@sba.fi

**Facts & Figures**

Turnover: EUR 24 million  
Personnel: 134  
Established: 1985

**Specialty Areas**

SBA is specialised in high-quality accommodation panelling systems and different type of beds for use on board ships. The wall panels and pullman bed bottoms are available with special custom-made printings. Another branch of SBA is subcontracting for the metal industry. SBA manufactures also a wide range of steel accessories for the maritime industry.

9

**SEAKING LTD**

Valimotie 13b B, FI-00380 Helsinki, Finland  
Phone +358 9 350 8840  
Fax +358 9 3508 8422  
sales@seaking.net

**Contact Person**

Jan Montonen, VP Sales, jan.montonen@seaking.net

**Facts & Figures**

Personnel: 400  
Established: 1985  
Parent Company: SeaKing International AG

**Subsidiaries & Representatives**

SeaKing France, SeaKing GmbH, SeaKing Italy, SeaKing Poland, SeaKing Inc.

**Specialty Areas**

Established in 1985, SeaKing is the industry's leading provider of functional catering systems to cruise liners and other high-class passenger vessels. SeaKing supports its customers throughout the ship's life cycle with basic design, consulting, equipment deliveries, training, maintenance and upgrading of the catering systems. SeaKing has a large production facility in Poland specialised in stainless steel (including refrigerators, service counters, ventilation hoods and pre-fabricated pantries) and a second production facility in Ft. Lauderdale, aimed at responding to the industry's growing renovation and repair activities.

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**SEASIDE INDUSTRY PARK RAUMA**

Suojantie 5  
FI-26100 Rauma  
Finland  
www.seasideindustry.com

**Contact Person**

Timo Luukkonen  
+358 40 550 1942  
timo.luukkonen@seasideindustry.com

**Specialty Areas**

Seaside Industry Park is the hub of the maritime cluster in Rauma. Successful principal companies in shipbuilding and marine production with wide and efficient supplier network operate in the park. The region is utilizing versatile infrastructure and comprehensive common services. Seaside offers an efficient manufacturing environment and cooperation network that also enables smaller companies to participate in major projects and achieve competitive advantages and added value. Additional information: www.seasideindustry.com

4 7

**SPT-PAINTING OY**

Rälssitie 6  
FI-01510 Vantaa  
Finland  
www.spt-painting.fi

**Contact Person**

Tomi Hulmi  
+358 40 548 3898  
tom.hulmi@spt-painting.fi

**Facts & Figures**

Personnel: 30  
Established: 1990

**Specialty Areas**

- Decking systems for the cruise industry
- Indoor- and outdoor-floorings to shipdecks
- Balcony floorings
- Epoxy- and acryl-floorings

2 4 6 7

**TELESILTA OY**

Telakkatie 6  
FI-23500 Uusikaupunki  
Finland  
Phone +358 2 848 5500  
telesilta@harjuelekter.com  
www.telesilta.fi

**Contact Persons**

Joonas Puustelli, Managing Director  
Jarkko Myllyniemi, Rauma Site Manager

**Facts & Figures**

Personnel: 40  
Established: 1978  
Parent Company: Harju Elekter (listed)

**Specialty Areas**

Marine industry electrification works. Challenging turn-key projects for the electrical, navigation and automation systems including design, system deliveries, project management, installation, commissioning and maintenance. Expertise working in every major shipyards in Finland.

1. Consulting  
2. Equipment  
3. Machinery

4. Materials  
5. Safety  
6. Systems

7. Turnkey Deliveries  
8. Yards  
9. Other



**WINDSIDE PRODUCTION OY LTD**

Porthanintie 2  
FI-44500 Viitasaari  
Finland  
Phone +358 40 731 5037  
sales@windside.com  
www.windside.com



**Contact Person**

Risto Joutsiniemi  
Managing Director  
risto@windside.com

**Specialty Areas**

Windside wind turbines, made over 40 years in Finland, are used in battery charging but also grid connected. They are safe, soundless and the most ecological solutions for energy production wherever energy is needed. Examples of users: Light houses, vessels, buoys, platforms etc. Windside turbines meet the requirements of demanding professional use in the harshest environments. Their unique features ensure reliability, high efficiency, long life span, durability and an absolute minimum of maintenance. All the advantages of the turbine together with the beautiful design, enables almost limitless use of Windside.

**NOTES**

Horizontal lines for notes in the top right section.

Large area of horizontal lines for notes in the bottom section.

- 1. Consulting
- 2. Equipment
- 3. Machinery

- 4. Materials
- 5. Safety
- 6. Systems

- 7. Turnkey Deliveries
- 8. Yards
- 9. Other





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