CASE

In the mind of a ship designer

WALLENIUS WILHELMSEN MARINE

Intro

Highly skilled naval architects, creative solutions and timely delivery have made Wallenius Marine the top choice when new RoRo tonnage is needed. One of the latest projects, building two low-emission LNG vessels, came to change the shipping industry.

> *Major changes are required to meet future environmental requirements.*

TEXT **SOFIA ZETTERMAN** PHOTO **MAGNUS GLANS, UECC**

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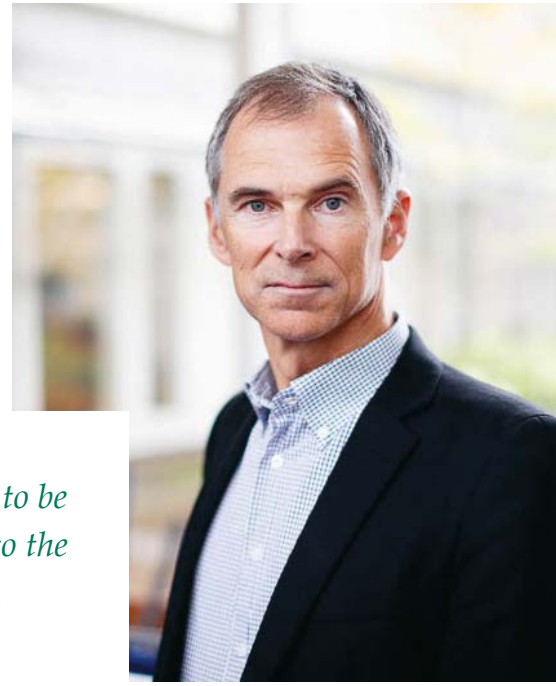
Carl Fagergren has had a passion for building boats for as long as he can remember. Since 1985, he has been devoted to professional ship design, the last decade at Wallenius Marine as Naval Architect and Project Manager.

Fagergren's first job at Wallenius was to draw the roadmap for how to reach Wallenius Marine's vision of truly sustainable shipping. The vision of sailing emission-free vessels has since been embraced by the whole Swedish shipping industry, as well as the rest of the world.

"Major changes are required to meet future environmental requirements, and those who don't have the courage, the innovativeness and the risk advancement to keep up will not be a part in tomorrow's shipping," Fagergren says.

Being one of a handful of Naval Architects in Sweden with vast competence and hands-on experience, it was only natural that Carl Fagergren was in charge of the design of one of Wallenius Marine's latest high-profile projects: the design of the two LNG (Liquefied Natural Gas) sister ships Auto ECO and Auto ENERGY. The ships launched in 2016, on behalf of United European Car Carriers (UECC), the leading provider of short sea RoRo transportation in Europe.



> *What I enjoy most is to be there from the first idea to the actual launch of a vessel.*
>
> Carl Fagergren

PHOTO **WALLENIUS MARINE**

Jan Thore Foss, Head of Ship Management and Head of Newbuilding at UECC, explains the challenging order of the two LNG vessels:

"We needed modern and efficient Ice Class 1AS, Short Sea PCTC's with low emission footprints, compliant with the requirements for sulphur emissions in the Baltic Sea. The challenge was the LNG design and installation, but Wallenius Marine has great in-house competence."

It took three years from idea to launch, which is extremely fast considering that no one had ever built High & Heavy LNG operated ships before. After a great many drawings and negotiating every detail, Wallenius Marine's design team reached consensus with UECC and the chosen Chinese shipyard Nantong COSCO KHI Ship Engineering.

> *It's important to dare to take big leaps when creating a new design.*
>
> Jan Thore Foss

"The shipbuilding process went very well with timely design and production schedule," says a pleased Jan Thore Foss. "Wallenius Marine is a professional company with highly skilled people, and a great cooperative team ensured good cooperation."

The big challenge was to fit an 800 m3 LNG tank onboard, a tank that occupies 4% of the deck area. Building a tank this large inside a vessel had not been done before. Also the liquefied natural gas has to be kept at -164 °C, creating a great risk of ice building around the tank, an issue that was finally solved by creating an extremely dry climate to prevent condensation and ice formation.

The challenge has changed the shipping industry.

"We were indeed inventing the wheel. We were pioneers when we developed these innovative LNG operated ships – and they are still the only two LNG ships that are Pure Car and Truck Carriers (PCTC)" says Carl Fagergren.

Auto Eco & Auto Energy

CAPACITY **3,800 CARS**

SPEED **18.6 KNOTS**

LENGTH **181 METRES**

BEAM **30 METRES**

DRAUGHT **8.40 METRES**

BUILT TO **1A SUPER FINNISH/ SWEDISH ICE CLASS**

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Wallenius Marine offers a complete and sustainable shipping service – from innovative design and newbuilding to ship management. We always take on a long-term perspective. Our integrated way of working, where operational feedback is used to optimize the design and enhance performance, goes into next generation of vessels.