



MERIAURA

**Hiilinetraalius on lähitulevaisuutta
– tartutaan yhdessä toimeen!**

Jussi Mälkiä 12.04.2023

Meriatura in numbers

Turnover 2022

69 M€

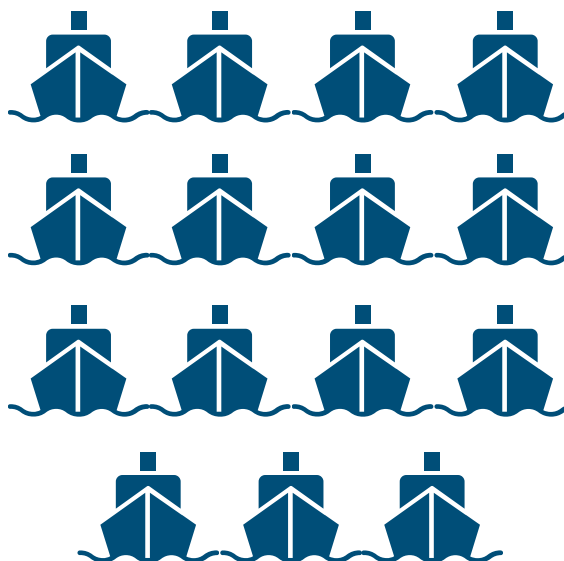
Steady growth for over 20 years

Cargo volume 2022

2,7M tonnes

CO2 emission per tonne
on a nautical mile

16,8 g



15 vessels,
operating mainly in the
Baltic and North sea
areas

6 vessels owned by
Meriatura



Vessels time-chartered
by Meriatura

735 
successful voyages in
2022

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Meriaura - Two main segments:

1. Bulk



Transport of industrial raw materials

3000-8000 DWT

Main commodities carried include:

- agribulk (grain, fertilizers, feedstuff)
- biofuels
- recyclables
- minerals
- forest industry products and wood supply
- project cargo and break bulk

2. Projects



Demanding heavy cargos and special transports

- i.e. components for wind power, shipbuilding, and port industries
- Self-developed and designed vessels that are technically unique in the whole world

More environmentally-friendly shipping



Innovating ships and
ship concepts



Pioneer of bio fuels
at sea

[Read more](#)



Constantly looking for
new solutions for cutting
our emissions

How to reach low carbon sea transportation ?

In order to achieve carbon neutrality, Bio oil is the only one in use so far , whose effects on opex and capex are reasonable

Upto 97,70 % less CO2 emissions (ISCC certificate for bio oil, 97,7 % less CO2)

- Even with 30/70% blend with diesel emission cut is remarkable

Other means for reaching the goal:

- Digital operational system enables;
- Less ballast voyages
- Virtual arrival and just in time operations
- = Energy efficient ship design solutions and operational performance

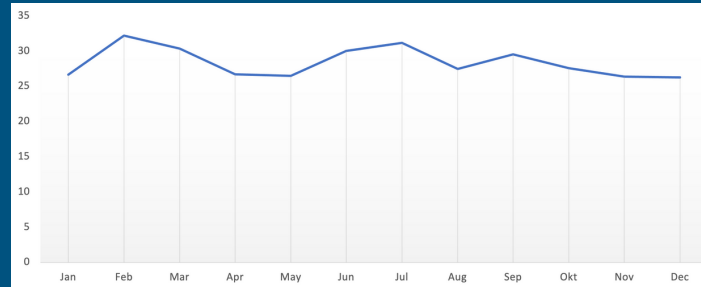
As automated loading & discharging as possible

Looking forward to a fruitful discussion!

The tonne-mile is our unit for monitoring CO2 emissions

The biggest source of emissions in our operations is marine fuel. We therefore closely monitor ship emissions and relate them to the transport work performed. During 2021, we developed a software and monitoring system for monitoring CO2 emissions. Emissions per tonne of cargo transported per nautical mile, or “tonne-mile” for short, was selected as the most sensible monitoring unit. Our goal was to collect data from the entire fleet throughout the year to form a benchmark for future emission reduction targets. This went as planned.

From the data we collect, the most important variables for the calculation are the nautical miles travelled and of these the share of ballast voyages, cargo capacity utilization and the fuel consumed. Different types of cargo are not comparable when calculating the capacity utilization rate, as some are measured in tonnes and some in cubes. That is why we use the so-called DWT equivalent in the calculation, i.e. cubic loads are converted into tonnes. If 100% of the hold has been used, the cubes shall be converted to correspond to the ship's full DWT cargo in tonnes.



Average ballast voyage / Total voyage (in Nm)



Average capacity used





Pioneer of biofuels at sea

Strong expertise and open-minded attitude for biofuels development

- One of the first sea carriers that use biofuel regularly
- First sea carrier that can offer nearly carbon-neutral transports
(Meriaura EcoVoy, launched in 2019)
- The newest EcoCoaster vessels can use 100% bio-oil
- First experiment made already in 1992

Bio-oil

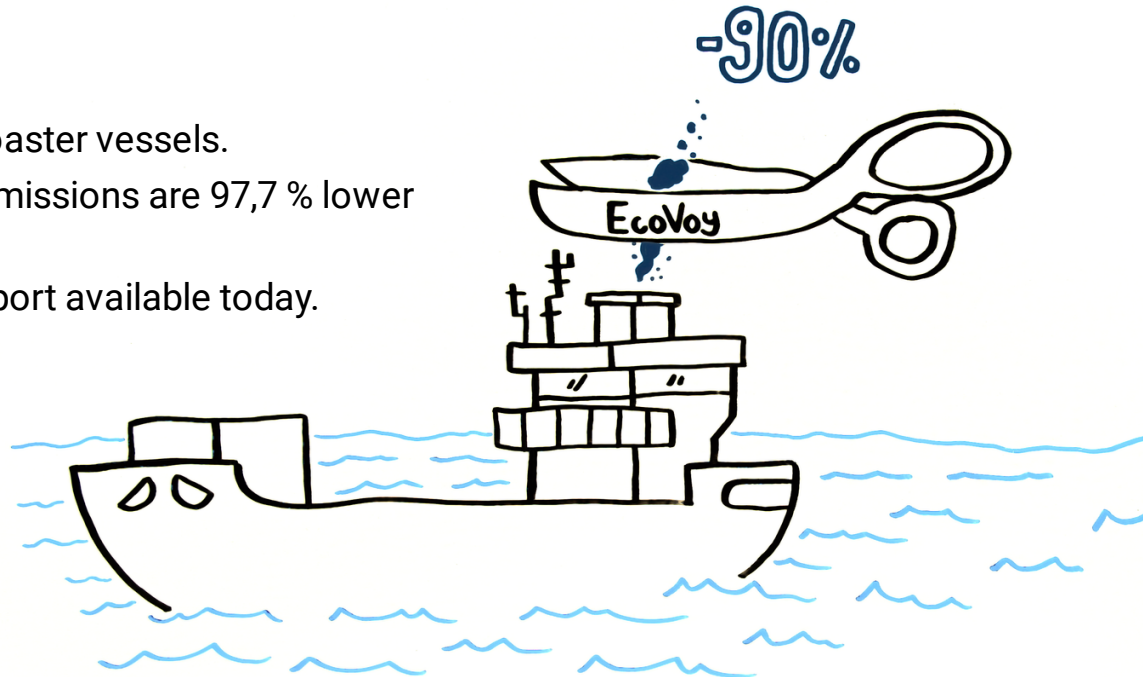
- Waste-based, ethically sustainable
- Produced within our group
- Raw materials come from food industry side streams
- Reduces carbon dioxide emissions up to 96%

Meriaura EcoVoy Contract

Did you know that you can reduce your sea transport emissions upto 97,7 %?
As the first sea carrier, Meriaura has introduced almost carbon neutral transport contracts.

Meriaura EcoVoy-concept is

- based on our low-consumption, biofuel-powered EcoCoaster vessels.
- When using waste-based biofuel, transports' lifecycle emissions are 97,7 % lower than with fossil fuels.
- Biofuel is the most climate friendly option for sea transport available today.
- Meriaura engages to source, produce and use EcoFuel at least the amount that equals to the total consumption of the voyages executed under the contract.



Certificate

according to the
Renewable Energy Directive (RED II)

(Directive (EU) 2018/2001 on the promotion of the use of energy from renewable sources (recast))

Certificate Number: EU-ISCC-Cert-LV227-00000114

BM Certification SIA
Jūrkaines iela 15, Rīga, LV-1046, Latvia
certifies that

VG-EcoFuel Oy

Linnankatu 88, 20100 Turku, Finland
complies with the requirements of the certification system
ISCC EU
(International Sustainability and Carbon Certification)
and the requirements of the RED II.

This certificate is valid from 06.01.2023 to 05.01.2024.

The site of the system user is certified as:

Collecting Point

Final Product Refinement

Rīga, 06.01.2023

Place and date of issue



Jānis Švirksts
Executive Director

Signature of issuing party

Annex to the certificate:

Sustainable materials handled by the certified site

This annex is only valid in connection with the certificate:

EU-ISCC-Cert-LV227-00000114 issued on 06.01.2023

Input material	Output material	GHG option ¹⁾	ISCC EU waste process applied ²⁾	SAI/FSA ³⁾
Used cooking oil (UCO)	Bio Marine Fuel	1	yes	N.A

¹⁾ 1: Default value

2: Actual value

3: NUTS 2 value or "NUTS2-equivalent" value. A "NUTS2-equivalent" value is a GHG value for cultivation in a "NUTS2-equivalent" region of a country outside the European Union (values are implemented by the European Commission). Option 3 is only applicable for the level of cultivation, i.e. for first gathering points, farms/plantations, central offices (group of farms or independent smallholders)

²⁾ Yes: The raw material meets the definition of waste or (processing) residue according to the RED II

No: The raw material complies with the relevant sustainability criteria according to Art. 29 (2)-(7) RED II

³⁾ Farm Sustainability Assessment (FSA) was developed by the Sustainable Agriculture Initiative (SAI)

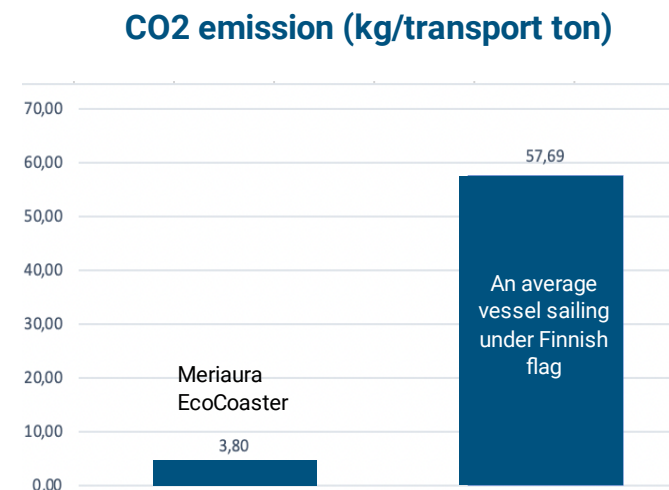
SAI Silver Compliance: ISCC Compliant material can be claimed as "Equivalent to FSA 2.1 Silver"

SAI Gold Compliance: ISCC Compliant material incl. add-on SAI Gold can be claimed as "Equivalent to FSA 2.1 Gold"

Theoretical comparison of CO2 emissions

	Consumption/year	Emissions t CO2			Total
		MGO 100%	LBO 70%	MGO 30%	
Meriaura EcoCoaster	900t	2885,4	46,62	865,62	
6 x EcoCoaster	5400t	17312,4	279,72	5193,72	
5473,44					

Finnish sea transport/year	Tons transported	Emissions	Emission/transport ton
All vessels	100 million tons	5 500 000 t CO2	
Under Finnish flag	28,6 million tons	1 650 000 t CO2	0,05769230 = 57,69 kg
Meriaura 6 EcoCoasters	1,44 million tons	5473 t CO2	0,003801 = 3,80 kg



NOTE! The figures used in the calculations are partly estimates, rounded or averages from larger entities, i.e. the results clarify the general picture and are not absolutely accurate.


Sources:

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Carbon compensation under investigation





Besides bio fuel, intensive development of other fuels is needed:

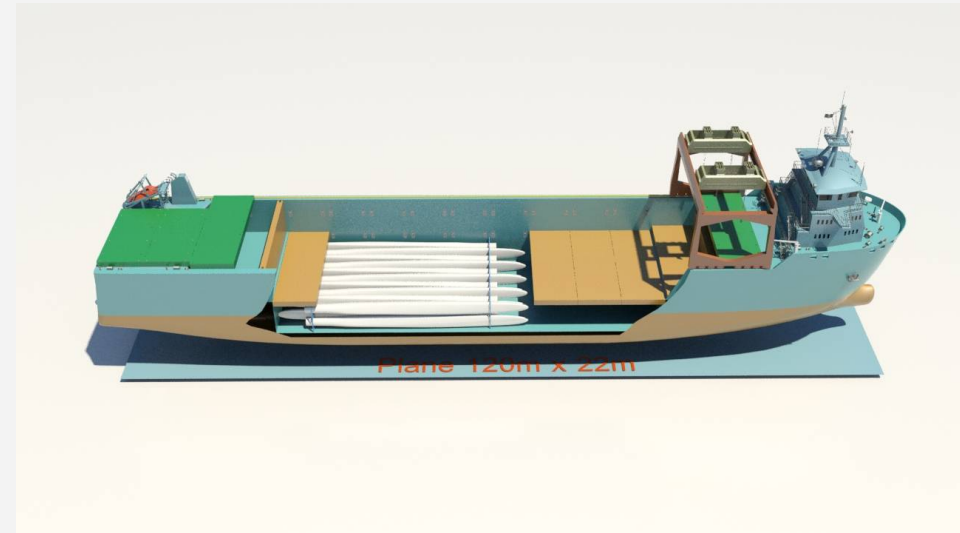
LOI together with Wärtsilä & GreenNorth2 to build:


Deck cargo carrier

- **Green ammonia powered -> target year 2028**
- **Dual fuel engine, possibility for Bio-oil/MDO/ Green Methanol**

"The contract shows the significance of our green energy project. We are very happy to join forces with such outstanding partners. This is a great way to speed up the green transition, which is no longer a utopia but a reality", says Jussi Ylinen, CEO of Green NorthH2 Energy.

We need several (ready-made) vessel concepts for reaching the before mentioned targets in the green transition

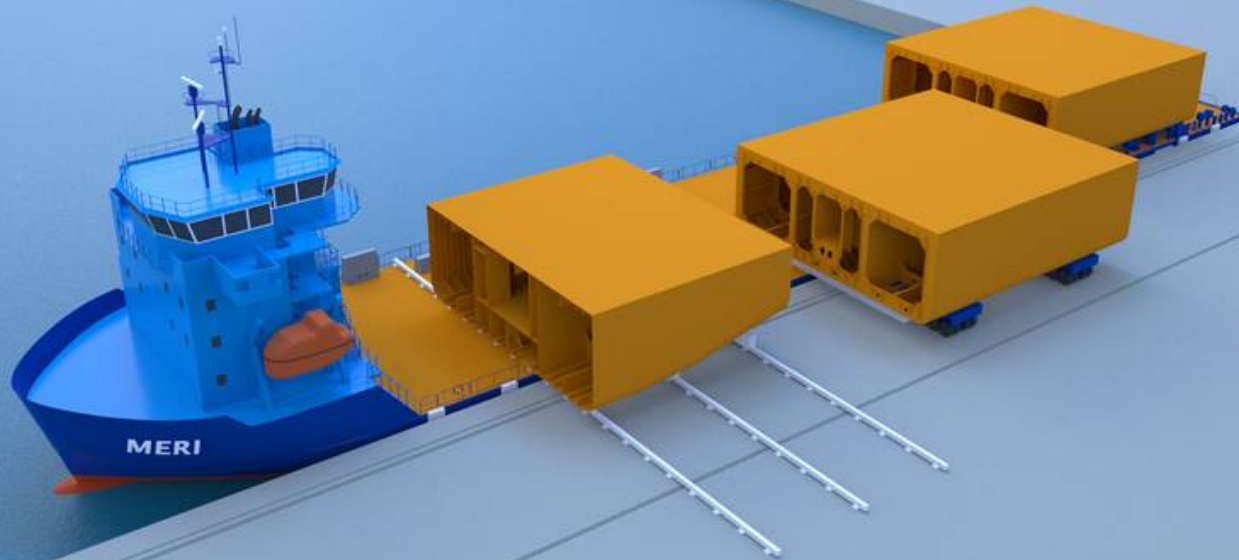




Besides technological development,
maritime education in Finland needs
"out of the box thinking"

Work tasks and competence needs of seafarers
are going to change dramatically along the
progression of the green transition

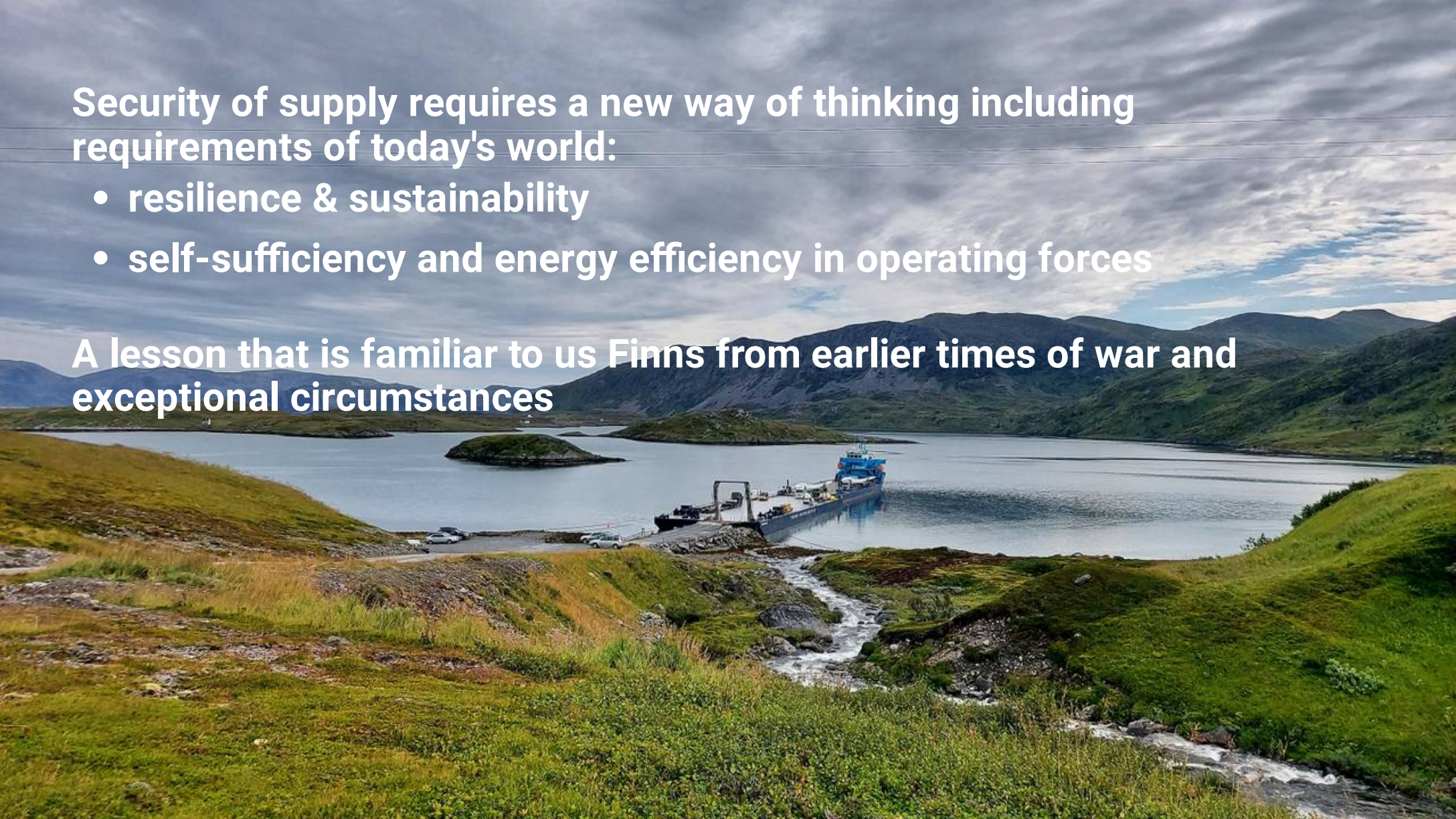
**Automated and efficient cargo handling
with modular shipbuilding technology
enable success in the future**



Security of supply requires a new way of thinking including requirements of today's world:

- **resilience & sustainability**
- **self-sufficiency and energy efficiency in operating forces**

A lesson that is familiar to us Finns from earlier times of war and exceptional circumstances



Case "STX 2011- 2012"

"Sunset industry" returned
as a significant factor in the
Finnish maritime cluster. Would it
make it happen now in shipping?

**New industrial revolution
-> the green transition in the main role**

