

 Gotlandsbolaget

A new standard for fossil free shipping

European Ferry Shipping Summit 2024



Gotland Horizon X

The world's first large-scale hydrogen ready catamaran

Speed: 28 knots.

Waterjet: compact propulsion with low fuel consumption at high speed.

Capacity: 1 500 passengers, 400 cars.

Length: 130 m, width 30 m.



Opportunities & Challenges with the Gotland traffic

Main transport route: for passengers and goods between the island Gotland and the mainland

High speed needed: to maintain closeness between Gotland and the mainland

Crossings between three recurring ports: Nynäshamn, Oskarshamn & Visby (Gotland)

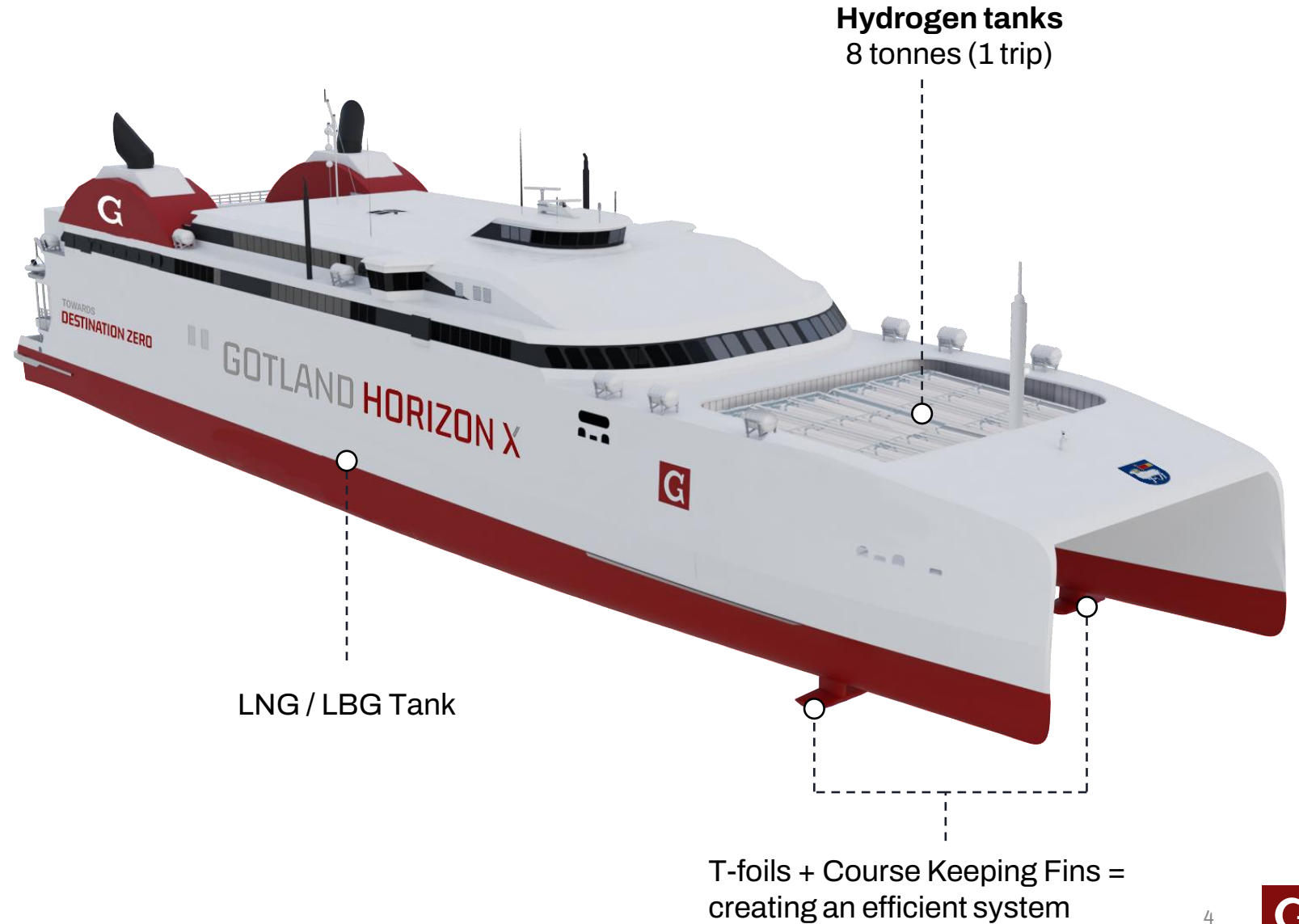
Large demand differences: higher during peak season

Lack of electricity production: both close to ports and around Gotland



Multifuel & Hydrogen ready

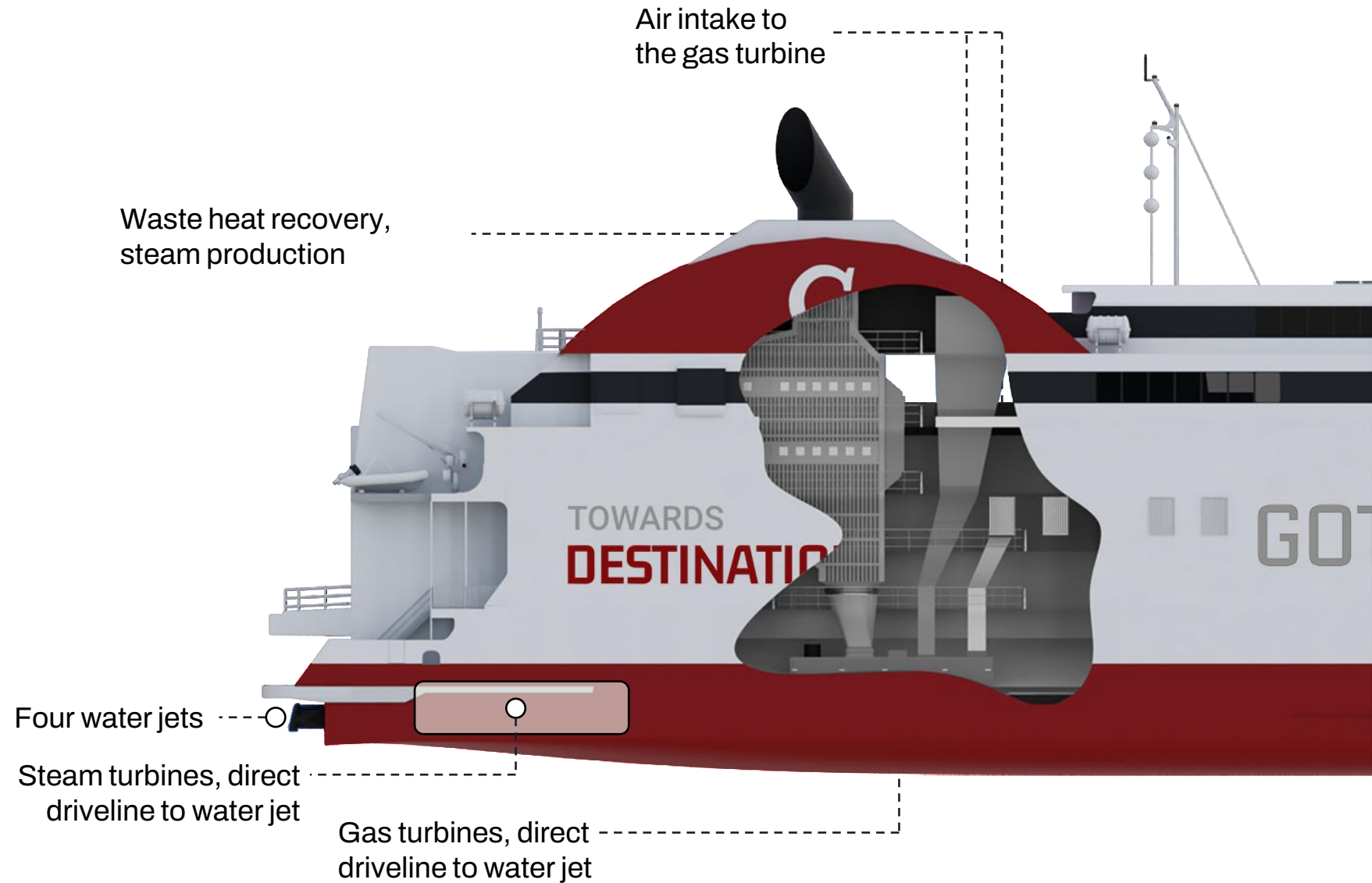
Developed in cooperation between Austal and Gotlandsbolaget and designed for multi-fuel, high speed (28 knots) and hydrogen ready.



Combined cycle

Combination of gas and steam turbines allows us to capture more of the energy by the hydrogen

Increases efficiency from 35% to about 50%.



Hydrogen projects in Sweden

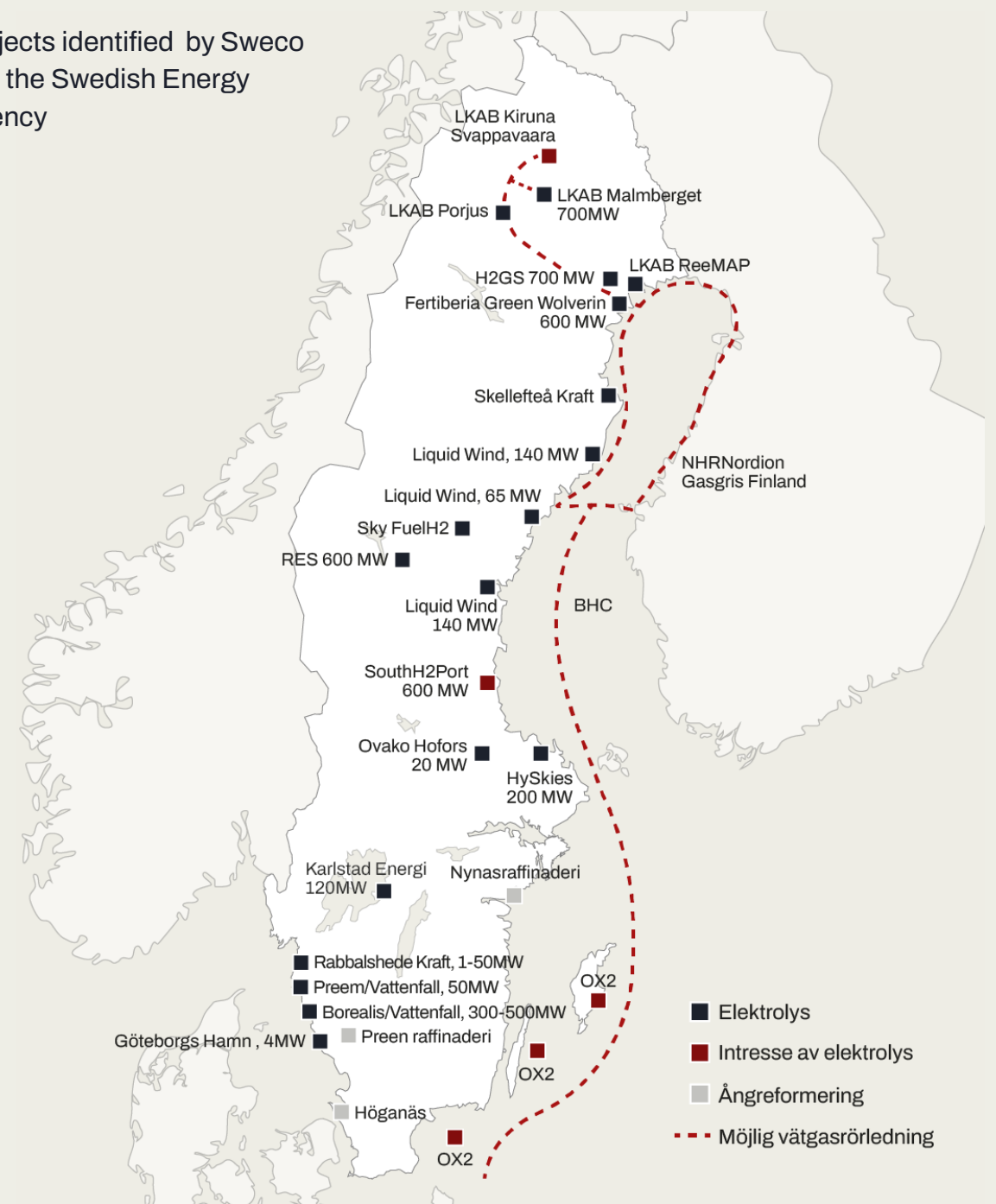
Several ongoing projects to produce hydrogen in Sweden.

20 000 tonnes hydrogen needed for 3 ships in traffic all year around = 3000 trips/year.

Equals 1 TWh (approx. Gotland's current energy need).

Need to develop infrastructure from production to port (and use in port).

Projects identified by Sweco and the Swedish Energy Agency



Approval in Principle

Approval in Principle is crucial for advancing new ship designs, particularly for new technologies.

It helps to identify potential issues and ensures compliance with safety and that no significant obstacles exist before construction.

The equivalence of the alternative design shall be demonstrated as specified in SOLAS regulation II-1/55.

Gotland Company and Austal have developed a technology for hydrogen fuel to be included in the assessment by DNV.

Process by DNV for Gotland Company

1

Technology Assessment

2

Risk Assessment

3

Approval in Principle

A new standard – what's required?

To develop new technology, new fuels and new infrastructure we need to work in with a multi-stakeholder perspective and engagement. To share success and risk.



**Research &
Development**

Shipowner
& developer

Academia

**Vessel
construction**

Shipyards

Turbine
producers

Technical
assessment

**Vessel in
operation**

Ports

Fuel & energy
producers

Regional & national
infrastructure

Thank you!

Christer Bruzelius,
Senior Advisor and Project Owner



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