



LOG

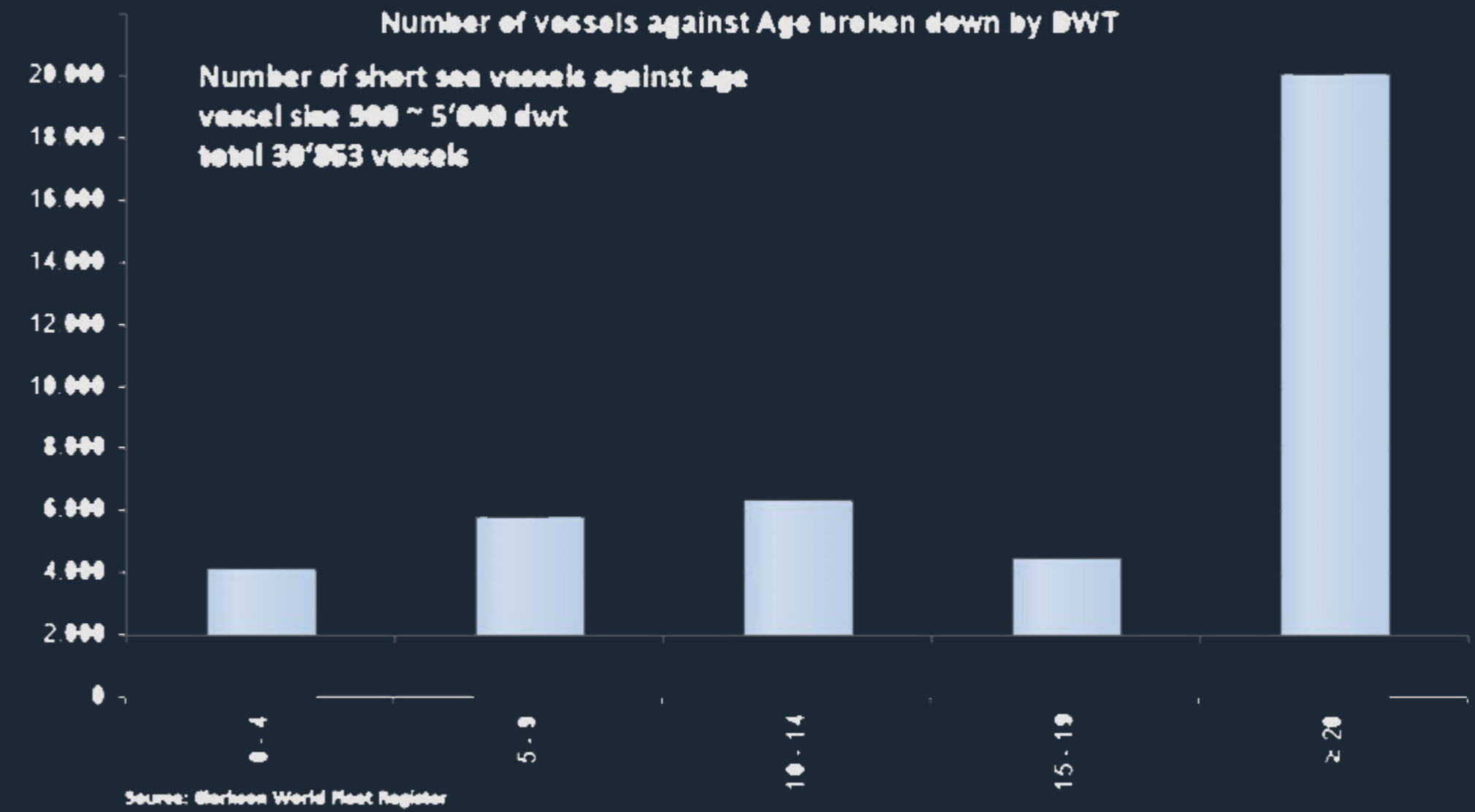
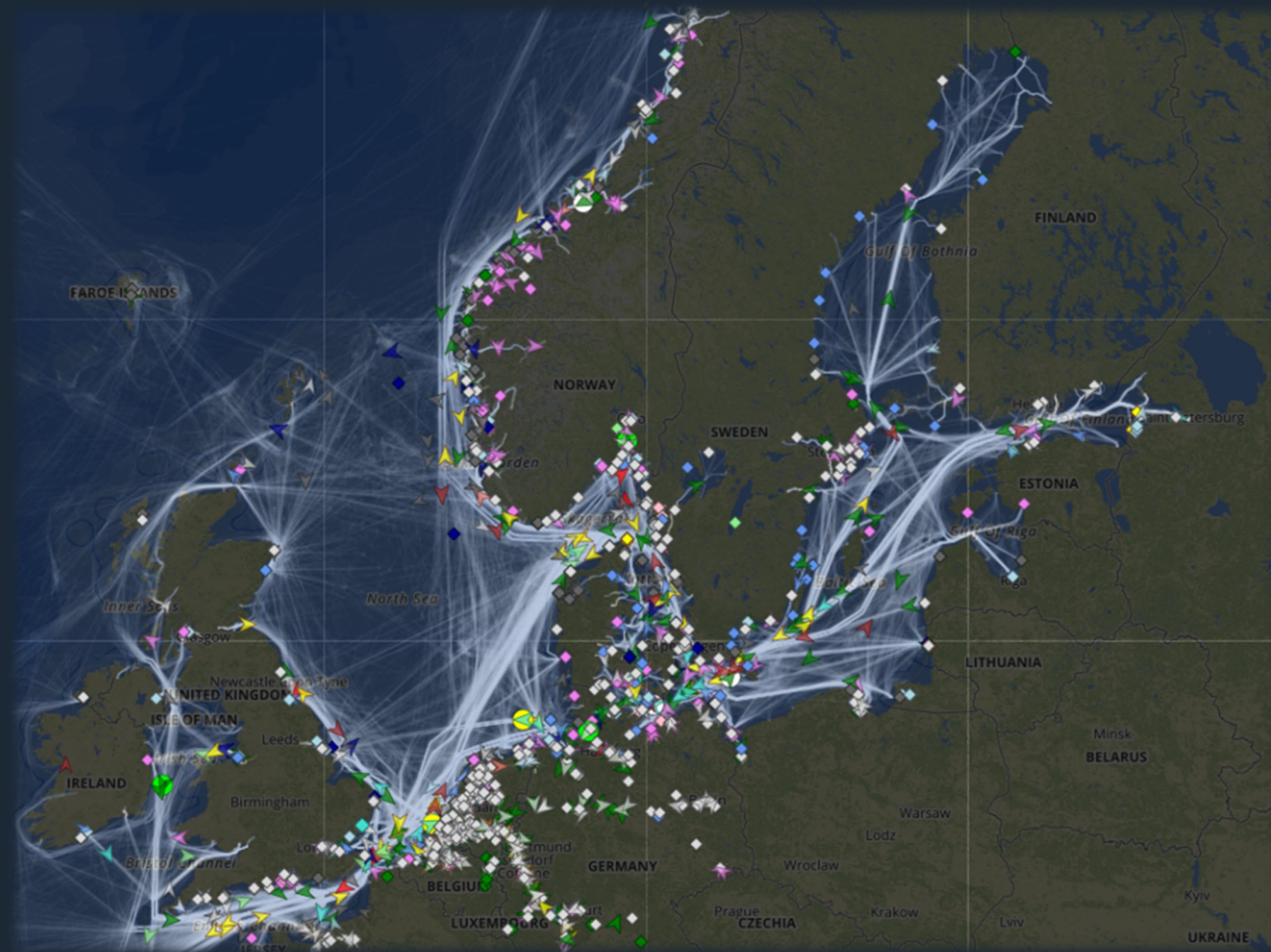
loge shipmanagement

founded 2015 by ing j. gerdes & cpt st. lohmann in haren (ems)

cloud-based shipmanagement

coastal shipping, trading zone a1

targeting emission free shipping by 2023

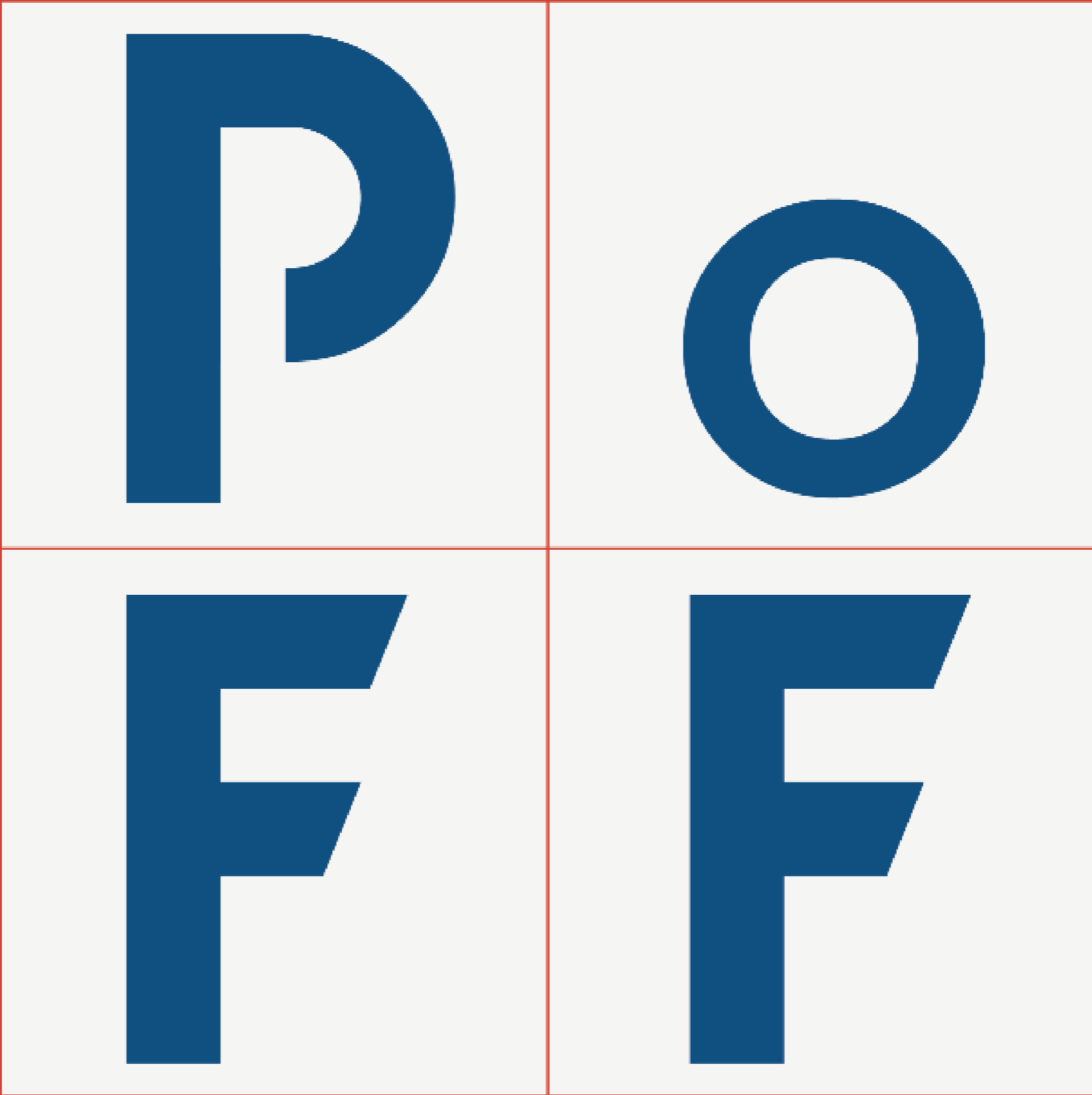


coastal shipping northern europe

global approx. 30'000 vessels 500~5'000 dwt / 59 % age \geq 20 years

european owners approx. 3'200 vessels / 47 % age \geq 20 years

vessel replacement of today counts for emissions next 20 years!



The Power For Future



SOFC

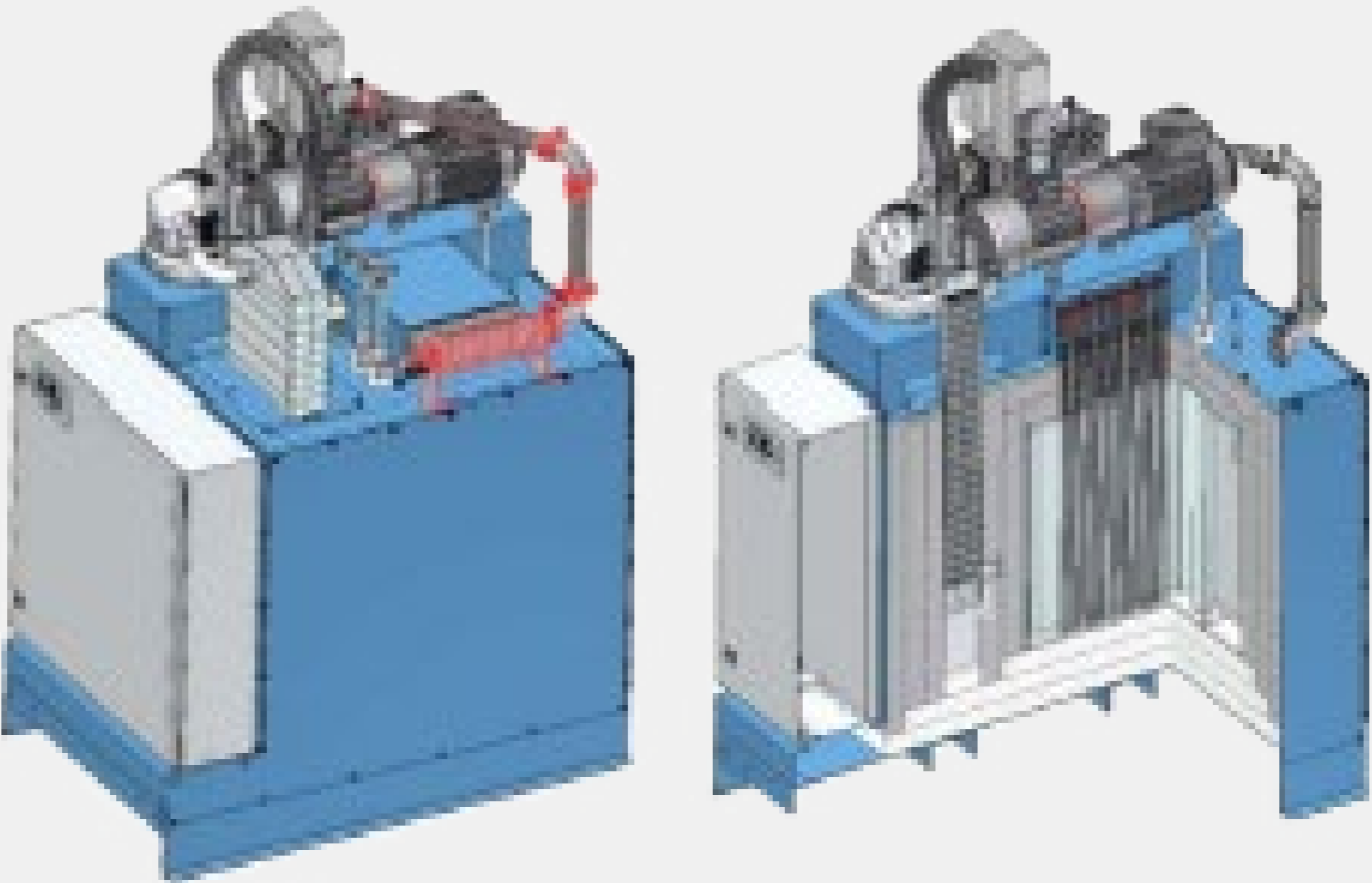
G I G A F A C T O R Y

The Power For Future Ltd. (PoFF) has been established in result of the requirement for alternative power solutions for emission-neutral heavy-duty transport such as shipping, train and truck.

PoFF is a SOFC fuel cell with integrated CO₂ capturing, capable working with fossil, grey and green liquid fuels such as methanol.

The Giga Factory will offer PoFF at a competitive price replacing internal combustion engines.

SOFC – Solid Oxid Fuel Cell



MODULAR

250 kWh / module
approx. 1'000 x 500 x 500 mm

EFFICIENT

BSFC 220 g/kWh (methanol)
linear fuel consumption over whole load range
target 72% electrical fuel efficiency
zero lubrication oil consumption

EXHAUST

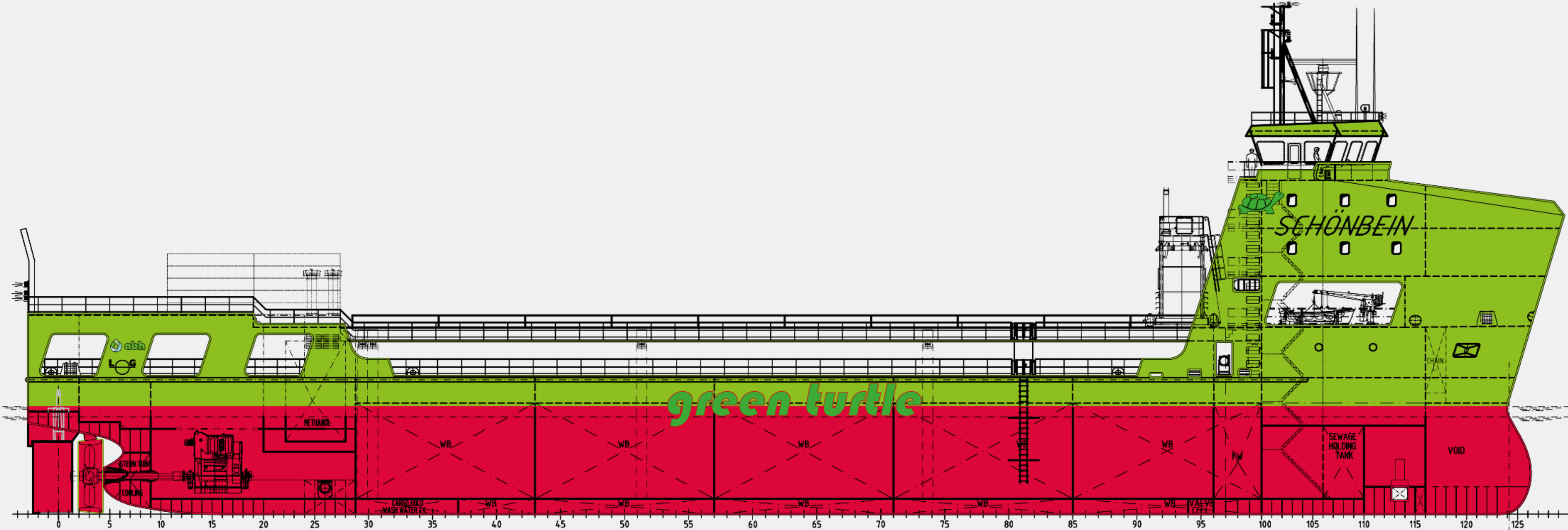
H₂O + CO₂ only
integrated MOF CO₂ Capture & Storage
t_{EXH} 250 °C
low noise of approx. 75 dBa

AVAILABLE

prototype end 2024
serial production as of 2025
marine type approved
made in Germany



GREEN TURTLE – 5'500 dwt multi-purpose coaster



MAIN

LOA 89.97 m
 B 16.20 m
 D 6.30 m (scantling)
 v_{eco} 10.0 kn

POWER

6PoFF250 / 1'500 kW
 BESS 1'020 kWh
 DC e-motor water –cooled
 direct driven

FUEL

Methanol (CAS 67-56-1)

Capacities

Cargo 6'950 cbm
 Methanol 153 cbm
 CO2 MOF 136 cbm
 Ballast Water 2'100 cbm
 Fresh Water 60 cbm



PoFF Timeline

We have started our thoughts about replacing internal combustion engines in 2016, investigating alternatives in energy storage and energy generation in coastal shipping. In result, we consider methanol-fueled solid oxid fuel cells as most feasible solution for short-sea shipping and electricity generation onboard in general to cope with the climate change

2016

LoGe Shipmanagement

Foundation of Shipping Company

We have founded LoGe Shipmanagement with the purpose to concentrate on short-sea shipping only, focusing on mini bulker trading north and baltic sea. This gave us an inside glimpse on operational, commercial and technical requirements.

2021

IP

Intellectual Property

After having investigated ship energy alternatives such as battery energy storage and PEM fuel cells, we became aware of SOFC application in bio-gas agricultural environment. A first investigation confirmed the compatibility with maritime environment. In result, we have submitted a patent application for methanol fuel SOFC including MOF CO₂ Capturing & Storage.

2021

PoFF

Foundation of The Power for Future (PoFF)

Despite on a TRL of 6, no industrial SOFC is available in the market leading us to the decision to set-up a Giga Factory dedicated to marine type-approved SOFC production.

NOW

RUBIN

RUBIN subsidiary application

We have applied for public funds to carry-out a technical / commercial feasibility study for SOFC production and set-up of a GiGa Factory in Emden / Germany. This specific funding is divided into a conception and implementation phase for entrepreneurial alliances.

FUTURE

We expect the application for funds to be approved in August 2022 with the feasibility study to be completed by February 2023. In case of a positive result, we will perceive further public funds for setting-up a GiGa factory in Emden, with first prototype manufactured by 2024. After prototype testing, we envisage a mass production as of 2025.



OUR PARTNERS

companies and institutions partner for RUBIN application



The PoFF – Project Alliance

Partner for the concept phase

11

The Power for Future

Emden, Germany

Initiator / know-how carrier of the maritime application, investor relations and IP holder

AVL List

Graz, Austria

Know-how carrier SOFC fuel cell technology and MOF CO₂ capturing

Wybelsumer Polder

Emden, Germany

Windpark green energy provider

BP Europa SE

Hamburg, Germany

Manufacturer of (green) methanol, value chain utilizer of captured CO₂

OS Schiffahrt

Haren (Ems), Germany

Ship engineering office, project management & sworn surveyor

OFFIS e. V.

Oldenburg, Germany

Automation and digitalization of production proces

MCN e. V.

Hamburg, Germany

Maritimes Cluster Norddeutschland e. V. maritime network with more than 380 members

EurA

Oldenburg, Germany

Project management & public funds



OUR SUPPORTERS

companies and institutions supporting RUBIN application



The PoFF – Project Alliance

Supporters during the concept phase and afterwards

abh Ingenieur-Technik

Emden, Germany

engineering and services in ship design, offshore wind power, offshore oil and gas, hydrogen and energy technology

Wirtschaftsförderung

Emden, Germany

promotion of Emden city economic development & business development / marketing

Fehn Shipmanagement

Leer, Germany

engineering and services in ship design, offshore wind power, offshore oil and gas, hydrogen and energy technology

MES

Hamburg, Germany

engineering and services in ship retrofit and energy efficiency technologies

Hochschule Emden

Emden, Germany

Campus university supporting cultural, economic, social and technological development by innovation

nordic hamburg

Hamburg, Germany

project development with extensive operating expertise in ship management

Reederei Deymann

Haren, Germany

specialises in tanker, container and cargo inland shipping,

U

anywhere, earth

do you want to support our SOFC Giga Factory initiative?
info@thepoff.de

