

INOVAÇÃO NA TRANSIÇÃO ENERGÉTICA OFFSHORE

LUCAS CORREA
GERENTE SENIOR, INOVAÇÃO DE MERCADO



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OFFSHORE FUTURE VISION

FOUNDED IN 1834

GLOBAL LEADER

in sustainable solutions for the marine and energy markets

COMPARABLE OPERATING
RESULT

357 MEUR

ORDER INTAKE

5,735 MEUR

NET SALES

4,778 MEUR

OPERATIONS IN OVER

200 LOCATIONS

OUR PERSONNEL APPROX.

18,000

R&D INVESTMENTS

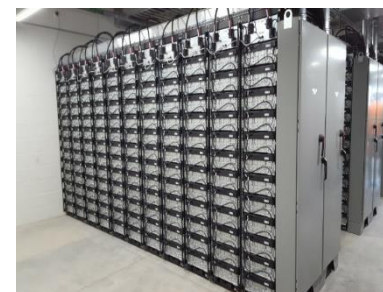
155 MEUR

2,600 PATENTS & APLICATIONS

WHO ARE WE?



Utilizing inductive charging
before Apple



Compete with Tesla for
largest amount of battery
storage capacity in the
Americas

Hands free cruising in Europe
and North America



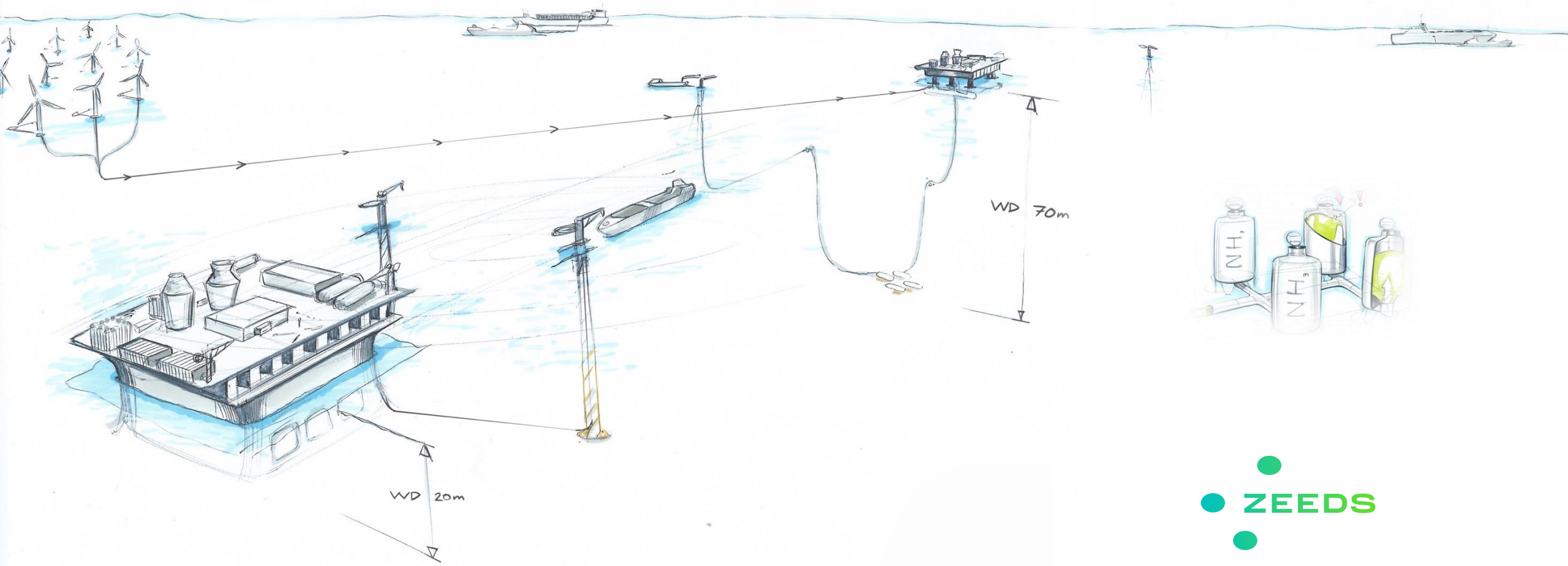
A satellite image of Earth showing a large, swirling hurricane or cyclone in the center. The clouds are white and dense, contrasting with the deep blue of the ocean. The text "CLIMATE CRISIS" is overlaid in white, bold, sans-serif capital letters.

CLIMATE CRISIS

CO-CREATION & COLLABORATION



CLEAN FUELS HUBS



INITIAL RESULTS

Viking Energy to be retrofit for ammonia fuel in 2024

By [Trevor Brown](#) on January 23, 2020

This morning, it was announced that the “Viking Energy,” a supply vessel for Equinor’s offshore operations, will be modified to run on a 2 MW direct ammonia fuel cell. This will be a five year project: the technology will be scaled-up on land before being installed on the vessel, which will begin a year of GHG emission-free operations in 2024.



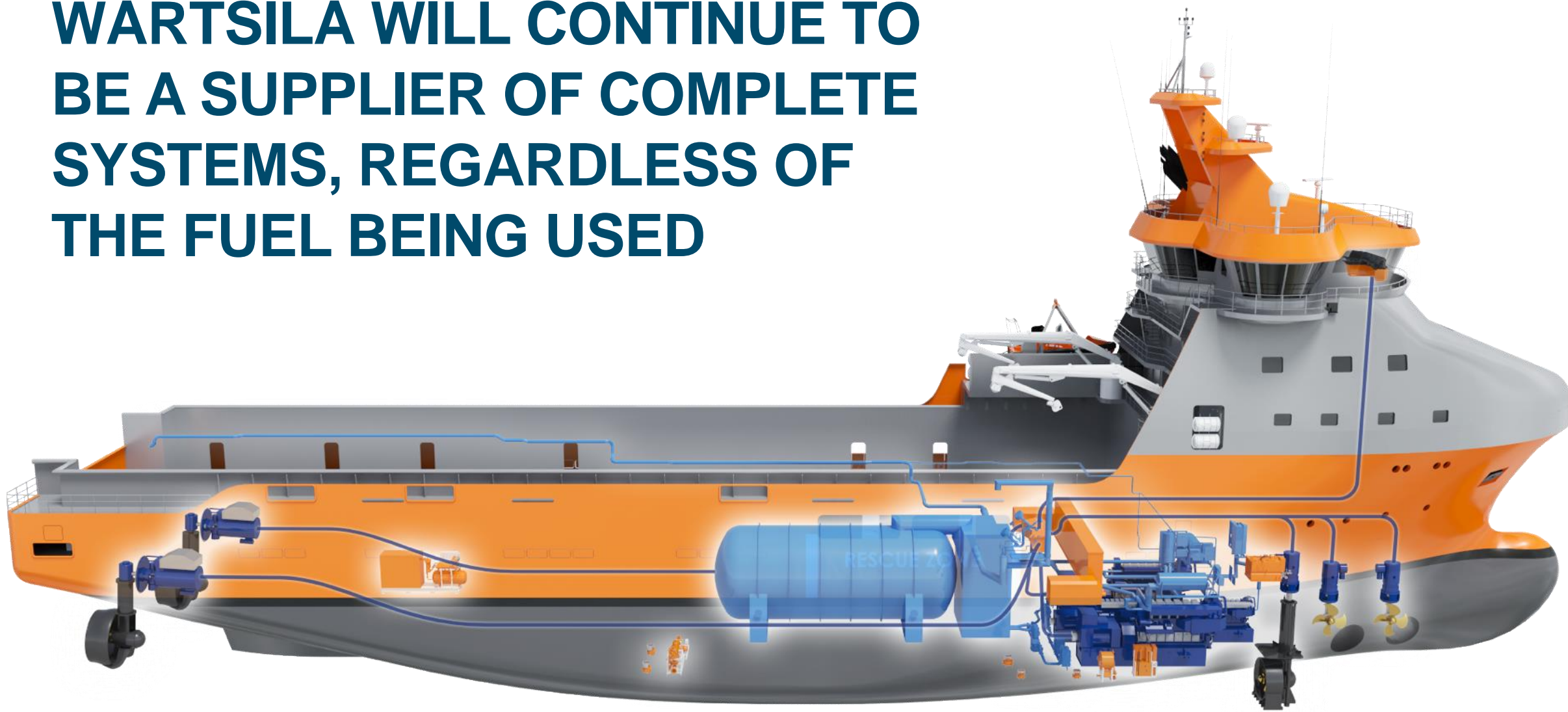
Photo: “Viking Energy,” Eidesvik Offshore AS. Fuel Cells and Hydrogen Joint Undertaking (FCH JU) announcement,

World’s first full scale ammonia engine test - an important step towards carbon free shipping

Wärtsilä Corporation, Trade press release, 30 June 2020 at 10:01 AM E. Europe Standard Time



**WÄRTSILÄ WILL CONTINUE TO
BE A SUPPLIER OF COMPLETE
SYSTEMS, REGARDLESS OF
THE FUEL BEING USED**



WE HAVE THE KNOWLEDGE AND TECHNOLOGIES TO BURN MOST THE FUTURE FUELS

Engine type	Diesel	LPG	LNG	FAME/ HVO*	Bio- methane	Hydrogen	Ammonia	Methanol / Ethanol	Synthetic methane
Diesel	●			●			●	●	
DF	●	●	●	●	●	●	●	●	●
SG		●	●		●	●	●		●
GD	●	●	●	●	●		●	●	●
LG	● (MGO only)	●		●			●	●	

● Ready solution

● Industrialisation needed

● Development needed

* FAME, HVO: biodiesel

Hybrid Battery Systems

Since 2007 Wärtsilä has developed, manufactured and delivered sophisticated battery/hybrid systems. These systems include energy management control, power electronics and battery integrations.

- Proven technology
- Fewer engines installed/running – Running engines at optimal loads.
- Reduced fuel consumption, emissions and maintenance costs
- Increased redundancy and improved blackout recovery
- Can be applied to new build or existing rigs

🔍 Buscar

Valor

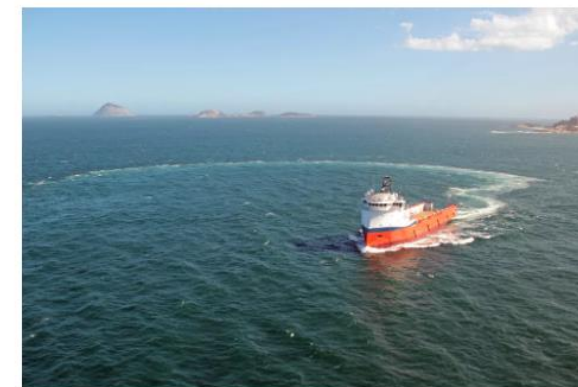
Empresas

Brasil receberá primeiro navio a propulsão híbrida da América Latina

Tecnologia permite que o motor da embarcação alterne entre o diesel e a energia proveniente de baterias

Por Gabriela Ruddy, Valor — Rio

11/11/2020 09h57 - Atualizado há um ano



Wärtsilä vai converter o CBO Flamengo para ser operado com propulsão híbrida — Foto: Reprodução/grupocbo.com.br

A companhia finlandesa **Wärtsilä** fechou contrato para converter um navio da frota do **Grupo CBO**, o **CBO Flamengo**, unidade de apoio a plataformas do setor de óleo e gás, do tipo PSV ("plataform supply vessel"). Com isso, o Brasil será o primeiro país da América Latina a receber um navio operado com propulsão híbrida. A tecnologia permite

Carbon Capture



Wärtsilä CCS investment

Wärtsilä has launched a multi-million Euro investment program for developing CCS technology for the maritime industry.

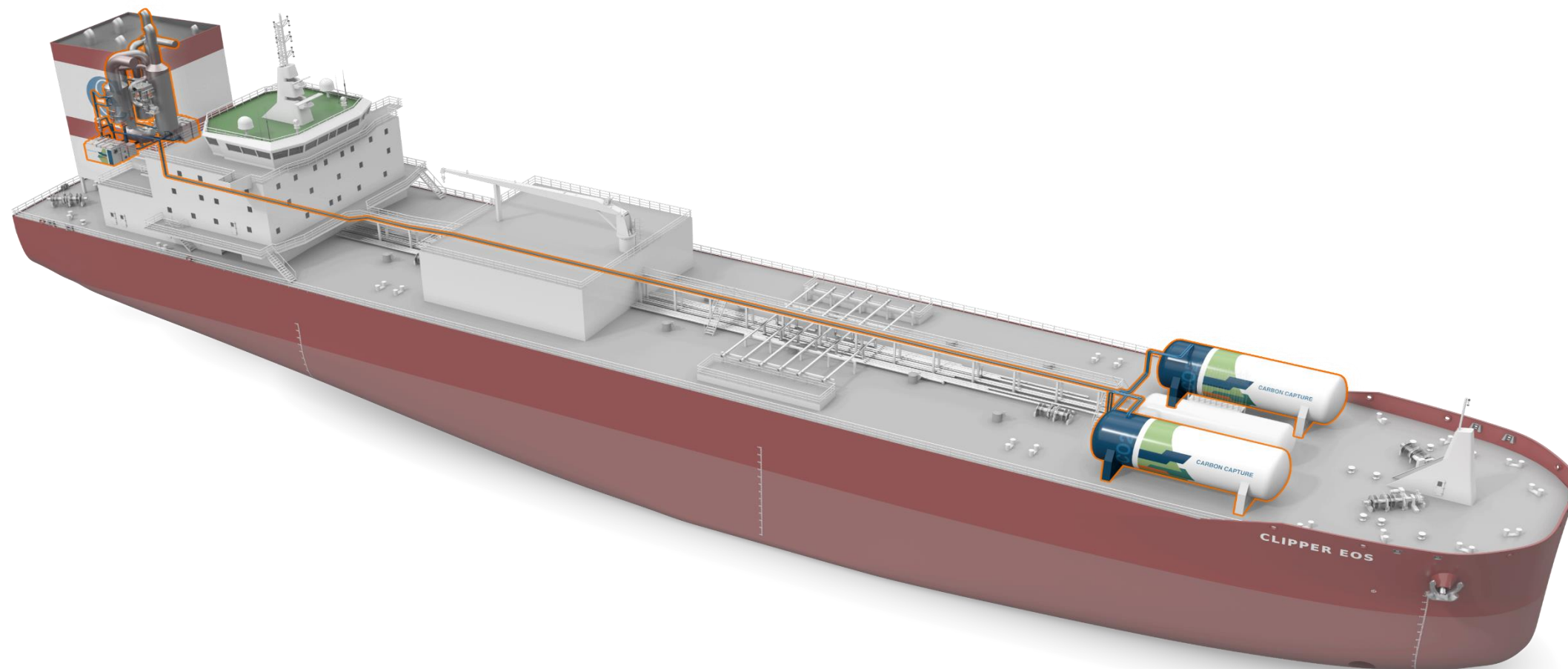
We have designed and installed a 1 MW pilot plant in our test facility in Moss, Norway in order to test our CCS technology in a range of scenarios and conditions.

We have been able to confirm the design assumptions and have been operating the system successfully since January 2022 achieving consistent CO₂ capture rates of above 65%.

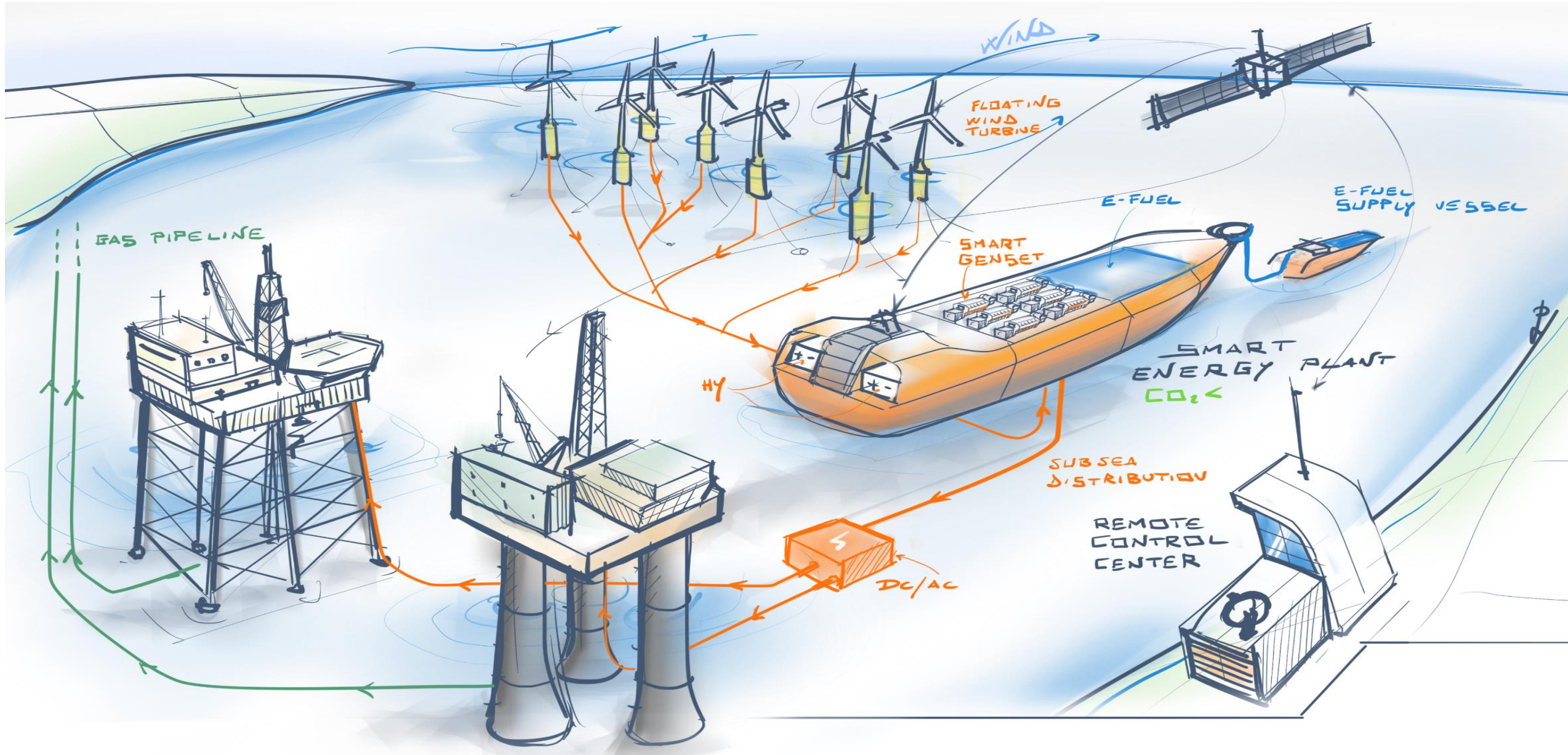
First pilot project agreed upon with a European tanker owner for a 7MW application on a tanker – 2023.

FIRST PILOT PROJECT HAS BEEN AGREED

Pilot project for a European tanker vessel owner for a 7 MW installation to be completed during 2023



OFFSHORE ENERGY HUB





Lucas Correa

Senior Manager, Market Innovation





WÄRTSILÄ