



Wind Assited
Ship propulsion



MAIDEN VOYAGE ON MV LADY CHRISTINA





Ship design since 1952



Extreme fuel efficient vessels





- Studied Wind Assisted Ship propulsion 2009 – 2015
- Econowind developed 2016 - 2019

The logo for ECONOWIND, featuring the word "ECONOWIND" in white capital letters with a red and blue horizontal bar above the "O", on a black background.

ECONOWIND

MAIDEN VOYAGE ON MV LADY CHRISTINA





SKYSAILS



FLETTNER ROTORS



TURBO-SAIL



ECOLINER

Conclusion 2015:

- Wind assisted propulsion is feasible
- Up to 25% fuel reduction



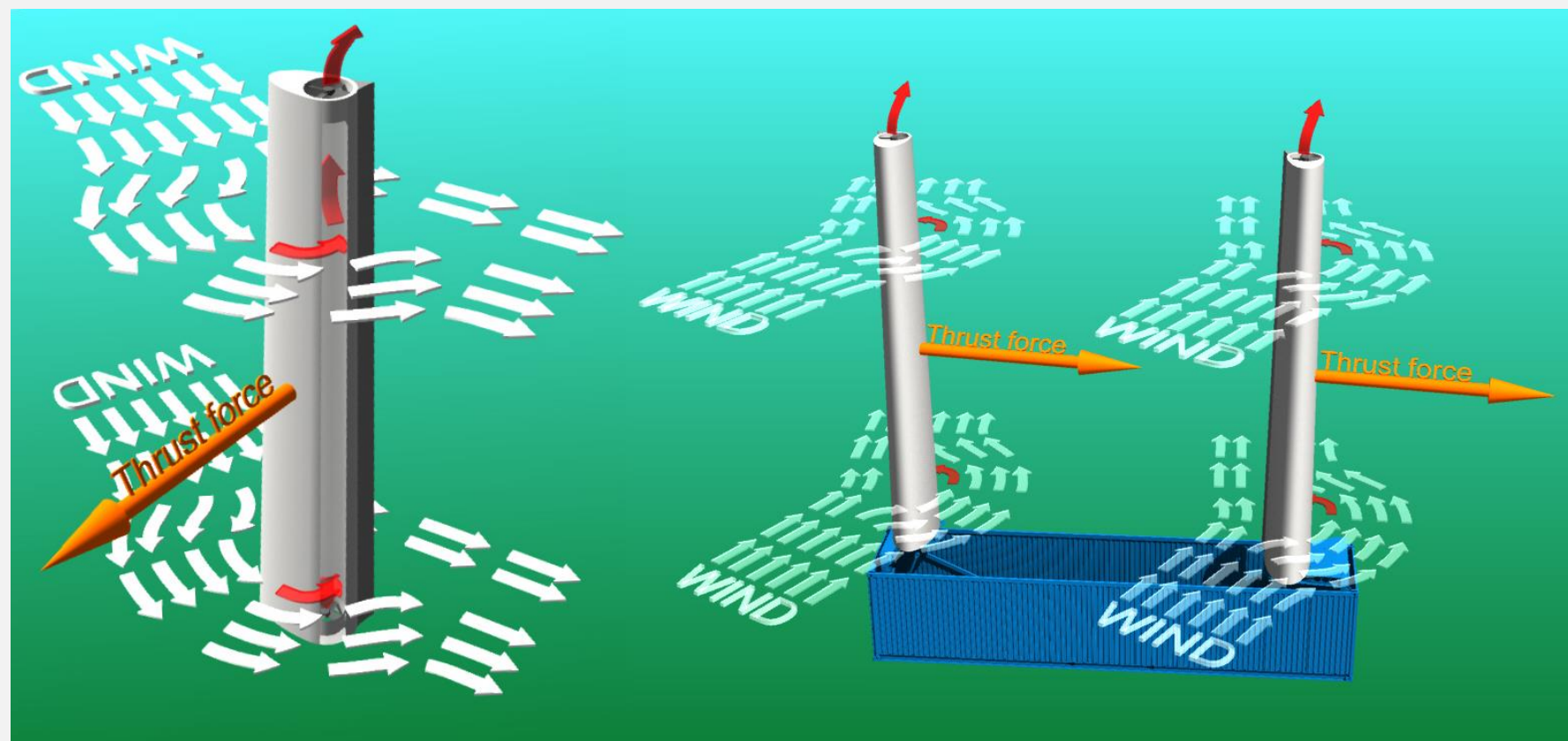
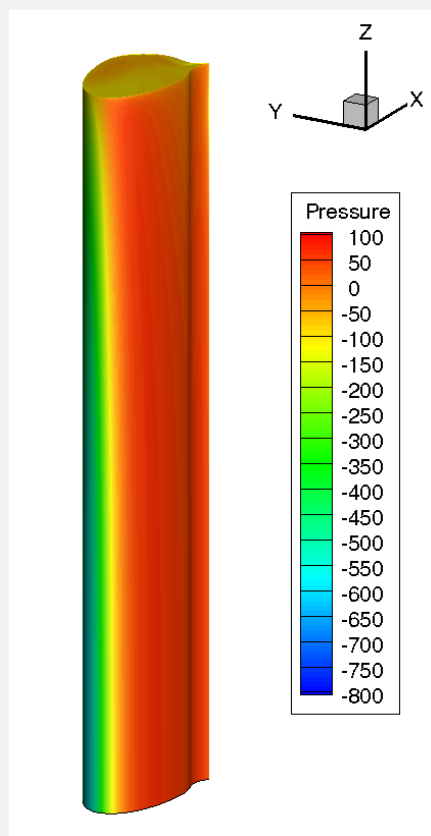
Wind Assited
Ship propulsion

Founded 2016



MAIDEN VOYAGE ON MV LADY CHRISTINA

Conoship developed eConowind-unit & VentiFoil-Suction Wing + initiated Econowind BV



ECONOWIND

Wind Assisted
Ship propulsion

- Containerized
- Foldable
- Suction wing

Installation in 45 minutes



ECONOWIND

MAIDEN VOYAGE ON MV LADY CHRISTINA

***Voyage:
Emden – Plymouth – Finland.***

Results of 1 unit:

800lt / day at same speed

400 lt/day at 0,5 knot extra speed

At 11 kn, this is on LC -8%



Retrofit 10m

Feb 2020
Jan van Dam
shipping



ECONOWIND

Retrofit

extended
16 m
summer-2020



ECONOWIND

Flatrack

**Movable by
Hatchcrane**

**Summer 2020
Boomsma Shipping**





Design steps into the future

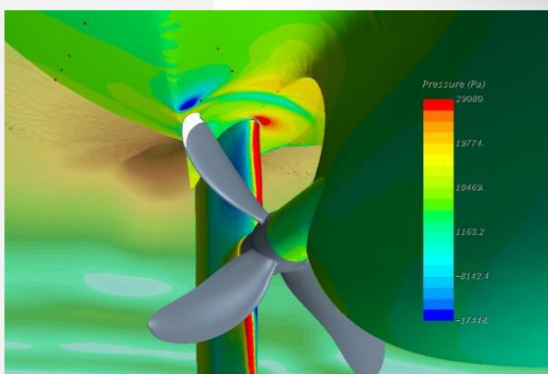
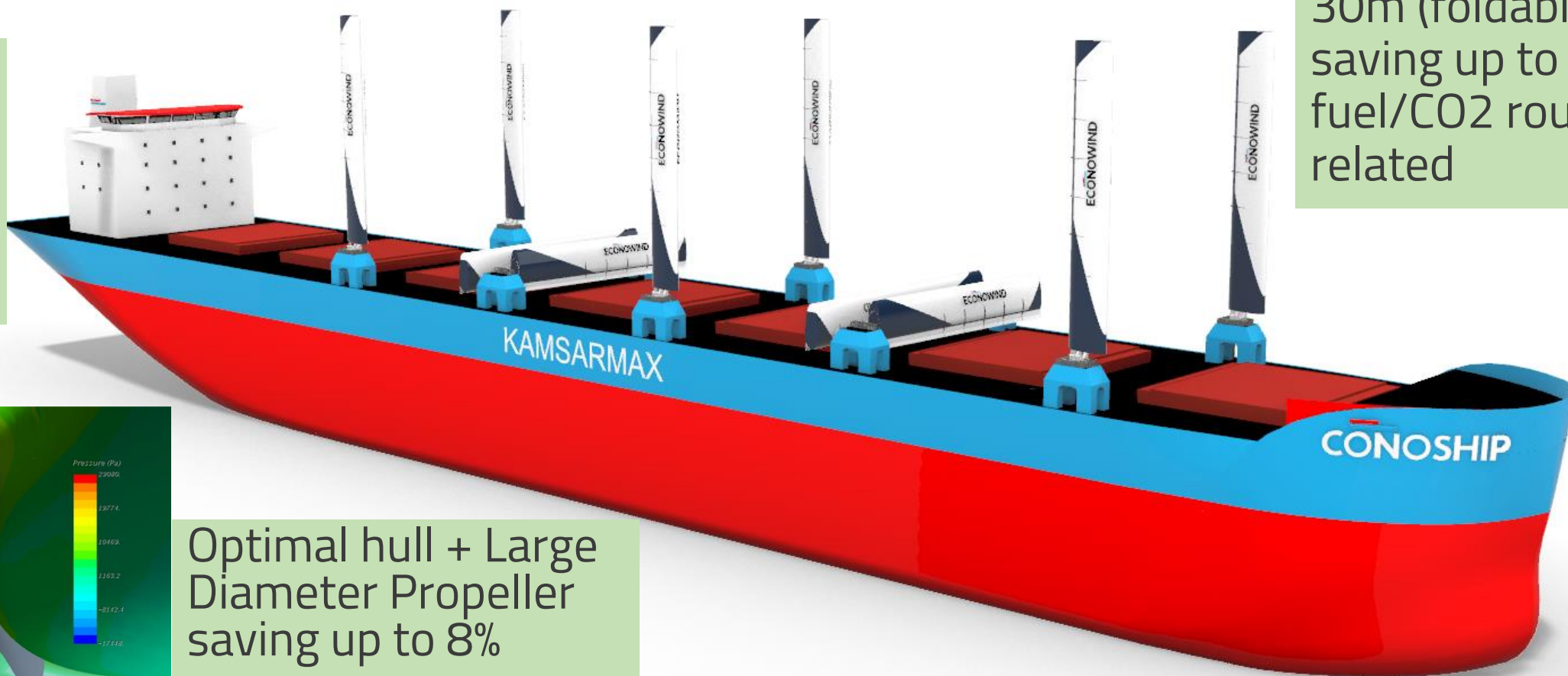


Scale up of existing technology

Optimization study KAMSARMAX 82.000 Dwt , speed 10 kn

Hybrid:
batteries &
LNG or
Methanol
(CO2
capture)

10 VentiFoil XL
30m (foldable)
saving up to 35%
fuel/CO2 route-
related



Optimal hull + Large
Diameter Propeller
saving up to 8%

Conoship 33000 ZE Dry Cargo

Loa 220m x B 23,75m x D 14,50m

Deadweight 33.000 ton

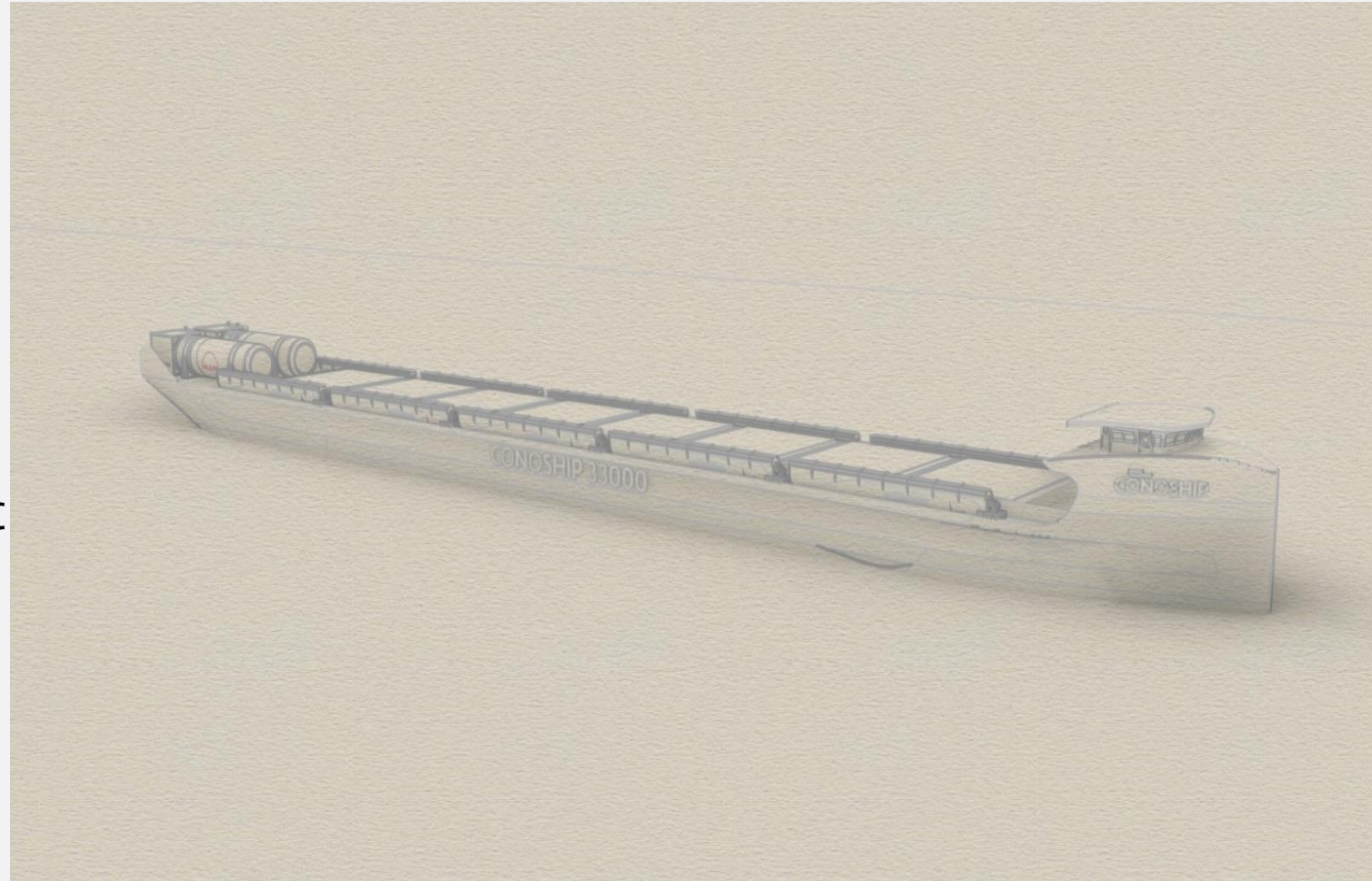
10 x 30m 'VentiFoil XL' suction wings
mounted on PS and SB (foldable)

Ship speed 10 ~ 11 kn on North Atlantic

CO2 & fuel reduction with 10 VentiFoil XL
:

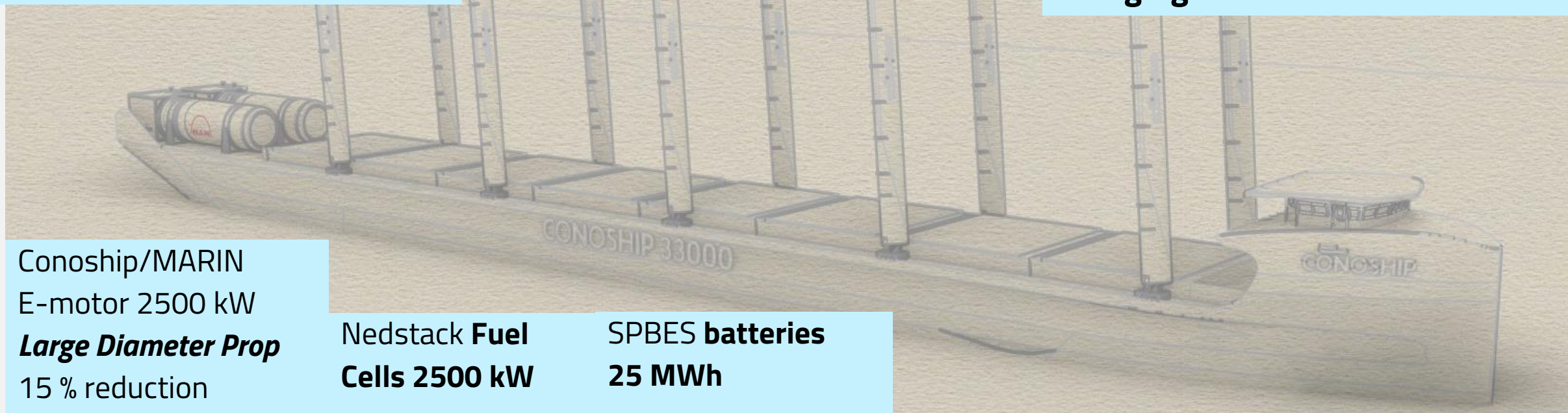
11kn @ favourable Bft 5: "**~125 %!!**"

North Atl. annual average: **~ 44 %**



MAN Cryo
Liquid H2 tanks 2 x 400 m3.

10 x 30m VentiFoil North Atl.
11kn @ favourable Bft 5:
Charging batteries ~250 kW



Conoship/MARIN
E-motor 2500 kW
Large Diameter Prop
15 % reduction

Nedstack **Fuel**
Cells 2500 kW

SPBES **batteries**
25 MWh

Zero Emission Conoship 33000 ZE : av. Speed 11kn North Atlantic
Hybrid propulsion: 10 x 30m **VentiFoil** & **E-motor**/generator & **batteries** & **FuelCells**
Liquid H2 in 2 x 400 m3 'Type C-like tanks'