



Maritime Wind Propulsion System



Background

NayamWings is utilizing advanced airfoil shapes and an asymmetric configuration, enabling powerful thrust.

Our innovation **doubles ship profits** & ensures compliance with CII regulations, marking a significant leap in maritime efficiency and sustainability.

Arena:

The wind propulsion market for ships is in rise due to fuel price increase and newly added regulations (by UN\IMO).

Background

Technological status:

- ✔ Completed two successful POC's.
- ✔ Technical DD by IAI completed (collaboration).
- ✔ Signed LOI's with two shipping companies for installations (Dynamic shipping, XT shipping).
- ✔ Registered patent – Dec.23, in 19 European countries.

Financial status:

- ✔ \$750K in grants and pre-seed money.
- ✔ \$1M grant approved by the Israeli Innovation Authority
- ✔ Active \$4M Seed round

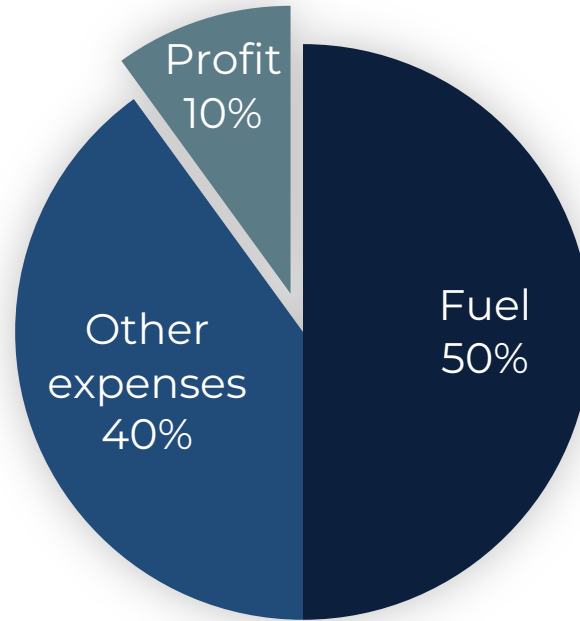
The Maritime Arena



90% of all products delivered by ships

Value Proposition

Regular ship's profit

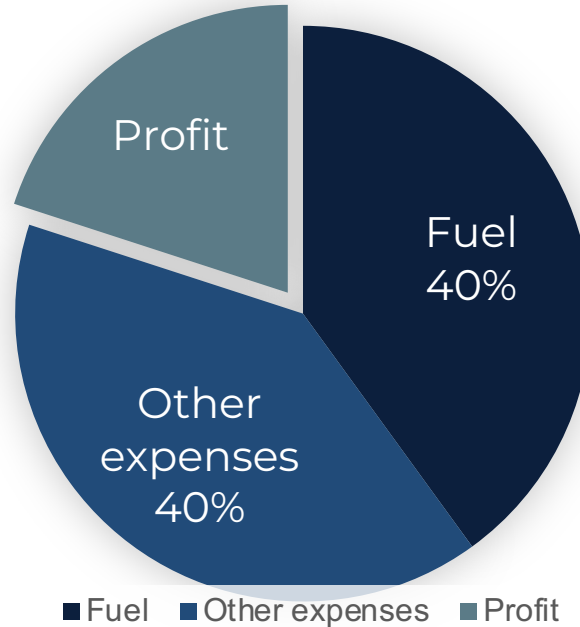


■ Fuel ■ Other expenses ■ Profit

Value Proposition – Reducing 20% Engine Load

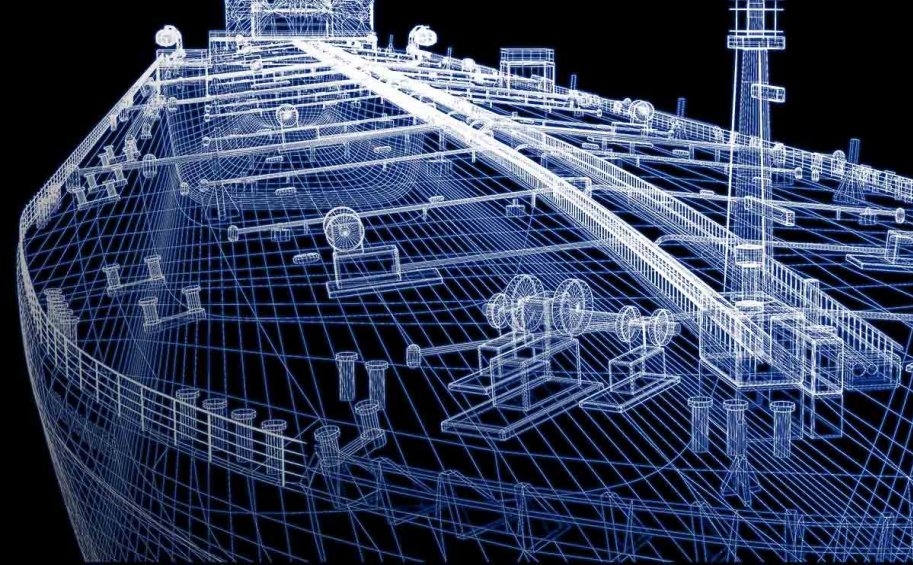
Ship equipped with NayamWings

Profit is doubled



Challenges and Why Now?

1 Cost
of
fuel



2 IMO
new
regulations

New UN Regulations- MARPOL Annex IV



CII

EEDI

VOC

NOx

SOx

SEEMP

PM

ODS

ASH

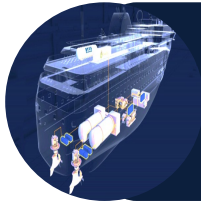
Main Solutions for Mitigating Regulations



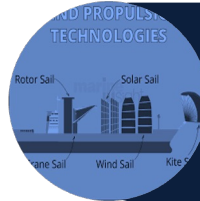
Clean fuels



LNG



Fuel cells



Wind propulsion

Main Solutions for Mitigating Regulations



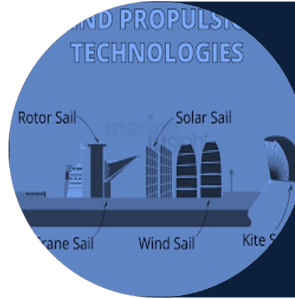
Clean fuels



Fuel cells



LNG



Wind propulsion

The only solution with reasonable ROI

Competitive Landscape

OCEANBIRD



ECONOWIND



ANEMOI



NORSEPOWER



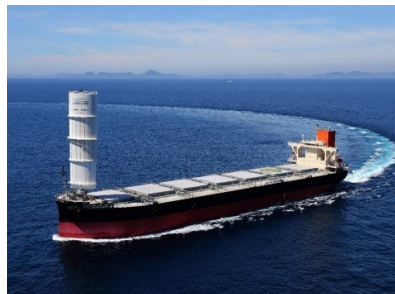
BOUND4BLUE



AYRO



WIND CHALLENGER



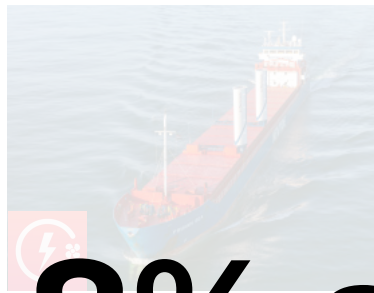
YARA-BAR



OCEANBIRD



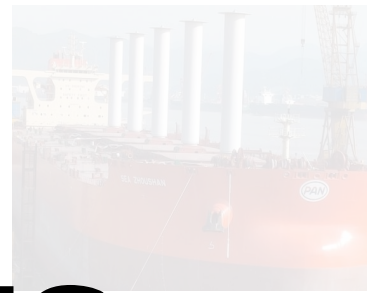
ECONOWIND



ANEMOI



NORSEPOWER

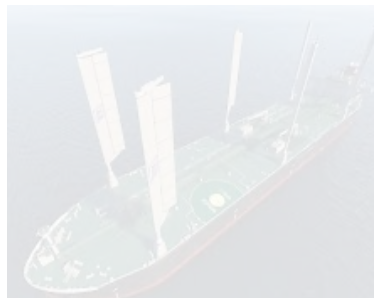


4-8% savings

BOUND4BLUE



AYRO



WIND CHALLENGER



YARA-BAR



What We Do



Watch clip
Copy link below

<https://1drv.ms/v/s!Anp7Yu0wxEG-gbhajFMSxNSCEIGg3Q?e=RJKTrc>



**Each wing obtains pure
200HP / 156kWh on average**

Conditions: wind speed- 16 knots, wind direction – 360 deg , ship speed – 13 knots

**15-25% Retrofitted
35% New build**

Fuel consumption and emission reduction

Market Size:

- ✓ TAM - 50,000 Ships
 - ✓ SAM – 35,000 ships - \$100B Market
 - ✓ SOM – 1000 ships by 2030 :\$1.5B
- 2030 annual:
200+ ships: \$600M+ sales
\$200M recurrent for services

Patent approved

EU Patent:
3317178



Market Approach & Strategy - How We Grow Our Business



Patent
registration
Dec.
2023



Seed, FSP,
Strategic
alliances
2024



First
market
penetration
& Round A
2025



scale up
2026



Initiating
HaaS
model
Expansion
2027

Market Traction



Mr. Saar Carmeli, CEO
45 Ha'Atzma'ut Rd.
Haifa 3303323
Israel

Dear Saar,

Re: Letter of Intent

1. The undersigned is the Management company of the M/V Milburn and the owner's, representative. The M/V Milburn is a cement carrier built by Hyundai Heavy Industries Co., Ltd. (keel laid January 5, 1987).
2. We are happy to have met with the NayamWings team on board the M/V Milburn, on July 7, 2022, while in the Haifa port. Your explanation of the NayamWings' system working principles, the resulting fuel consumption and carbon emissions reductions were very informative and interesting.
3. As discussed, we are enthusiastic about having your prototype installed, at your expenses, on the M/V Milburn (one or two wings, depending on the CFD calculations and associated costs) and carefully examining the resulting savings in fuel consumption and operating expenses.
4. As agreed, future costs of use of your utilizing your system and installation in additional ships will be discussed separately once the prototype has reasonably proven itself.

We look forward to the installation of your system during the forthcoming dry dock of the vessel which will take place during the course of 2023.

Looking forward to a mutually rewarding relationship.

Capt. Yaron Karmi
Dynamic Shipping Services (DSS) Ltd

We take it and deliver to places others don't – no road is impossible

LOI – Dynamic Shipping

Market Traction

LOI – XT shipping



20th of December 2022

To: Mr. Saar Carmeli,
CEO, NayamWings
Israel

Dear Mr. Carmeli,

Re: **Letter of Intent**

It was a pleasure to meet you and your team to discuss NayamWings solution for the shipping industry.

Our team finds your solution of high interest to XT management fleet, which can help the company save energy costs, reduce carbon emission, and comply with the upcoming GHG regulation

We are happy to take an active part as a strategic partner for NayamWings and would be happy to explore early adoption of your solution, XT will be happy to provide a vessel for the installation of another prototype if Nayam is interested in it.

Once you will complete the development of a full-scale prototype, we can start exploring in details the first installation.

We look forward to examining your FSP and to find the path to integrate Nayam's systems into our fleet.

Best regards,

Rotem Malka
Shipping Director


Rotem Malka
Shipping Director
XT management LTD

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Unit Economics for Retrofit Installation - Use Case

Basic assumptions

30 - Ton per day

250 - Cruising days per year

7.1 M(\$) - Annual fuel cost

1.4 M(\$) - Savings - Annual reduction Of 20%

Ship economics

2.7 M(\$) - Total cost OEM

0.2 M(\$) - Annual service payments

1.2 M(\$) - Net Annual savings

2.2 years - ROI

Potential CO₂ reduction:

1 ton of fuel generates 3.15 tons of CO₂

Annual potential CO₂ savings for this ship: **4710 tons**



Team



Saar
Carmeli
CEO
Co-Founder



Amnon Asscher
CTO
Founder, Inventor



Avishay
Parker
COO & BD
Co-Founder

Expert Team



Liat Mazor - CBO



Refael Chen - CSO

- Idan Avni - Naval Architecture & engineering
- Ron Zolty - Software & control engineering

Advisory Board



Yedidya Yaari
Former Rafael's CEO
IL Navy Chief



Prof. Orestis Schinas
Associate Professor
Department of Shipping
University of the Aegean

We Answer the UN SDGs

Harvesting wind energy
System ROI 2-4 years



Integrating innovation
and automation at
traditional maritime
systems

Resource efficiency
Over 90% recycled
materials



Greenhouse gas
emissions
Reduction
Can save over 200M
ton of CO2 annually

NayamWings is the Asymmetric Element



www.nayamwings.com

Let's talk

