



Motivation

Marine Edge develops regenerative hybrid technology to improve ship fuel economy and reduce its emissions

90,000 merchant ships sail the oceans around the globe emitting more CO₂, NO_x, SO_x than the 1.4b cars on earth

Our mission is to optimize drivetrain efficiency for cargo ships and minimize their fuel burn, emissions and running costs.

Team



Anna Shapira Lyadov

Embedded Systems Engineer

Over 10 years as an engineer at Rafael
BSc in Mechanical Engineering
BSc in Computer Science



Mark Moran

VP R&D

25 years of managing R&D in software,
telemetry, grid optimization, and more.
MSc in Computer Science and Physics



Gali Hendin

Algorithm and DSP

Vast experience in algorithm development,
and signal processing.
MSc in Geophysics
PhD in Environmental Engineering



Nevo Dotan

CEO

20+ years as Naval officer (LTC)
and captain of several vessels
BSc in Aerospace Eng. and MBA



Amichay H Gross

Executive Chairman

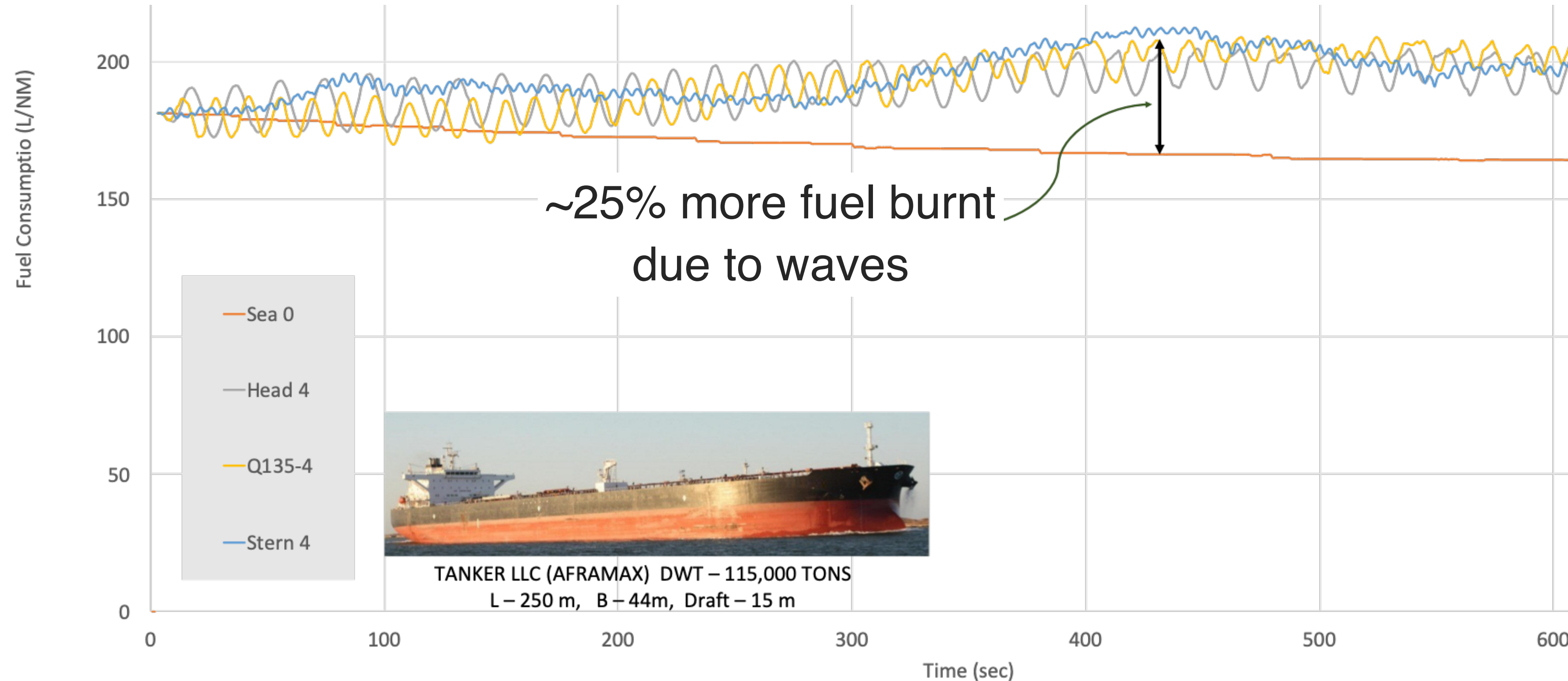
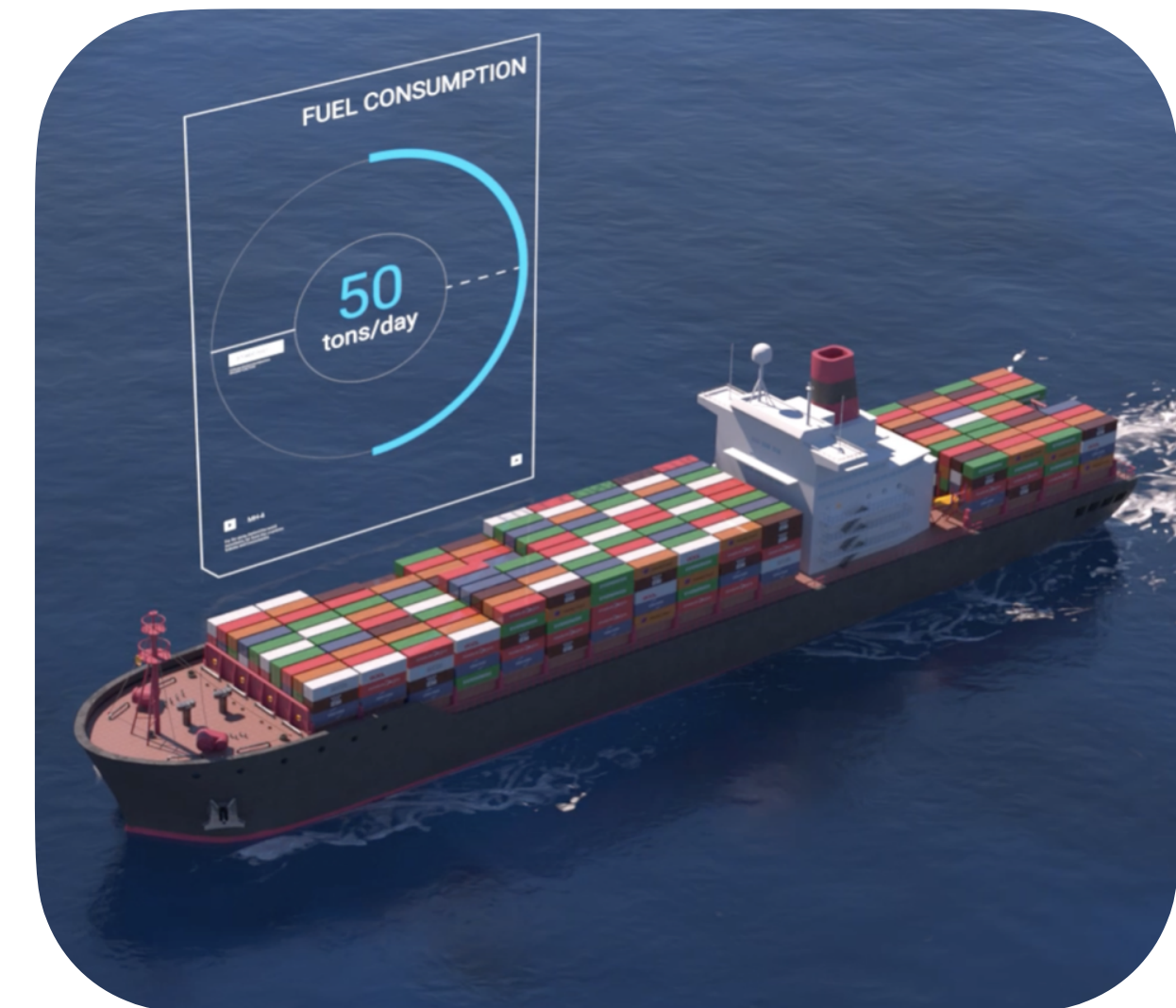
One decade in aerospace and another
as tech entrepreneur and executive
MSc in Aerospace Eng. and MBA

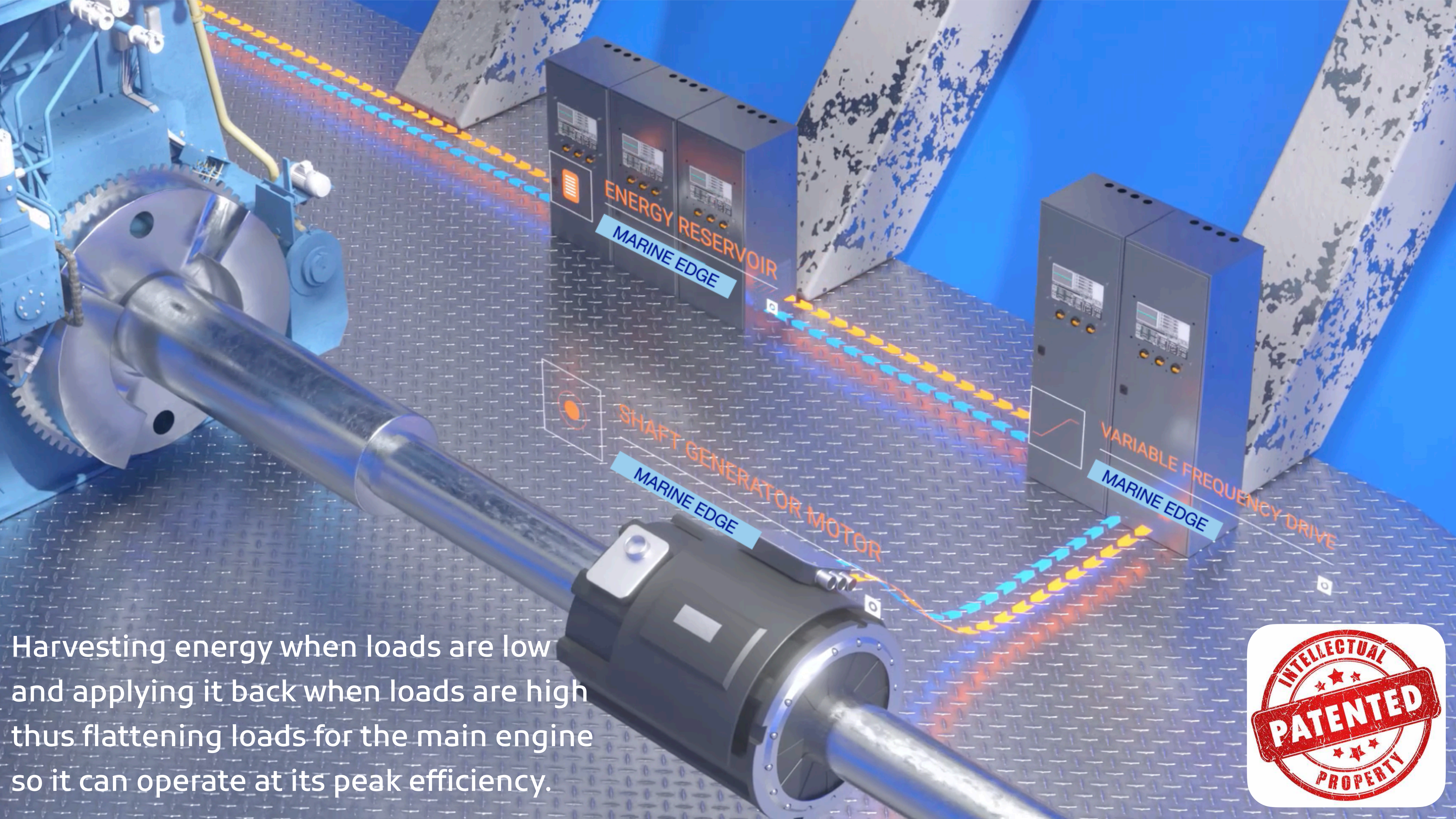


Engine Load Management System (ELMS)

Waves and Fuel economy

Waves cause periodical fluctuations in load to the shaft that diminish the efficiency of the ship's drivetrain hence increasing fuel consumption compared to flat sea





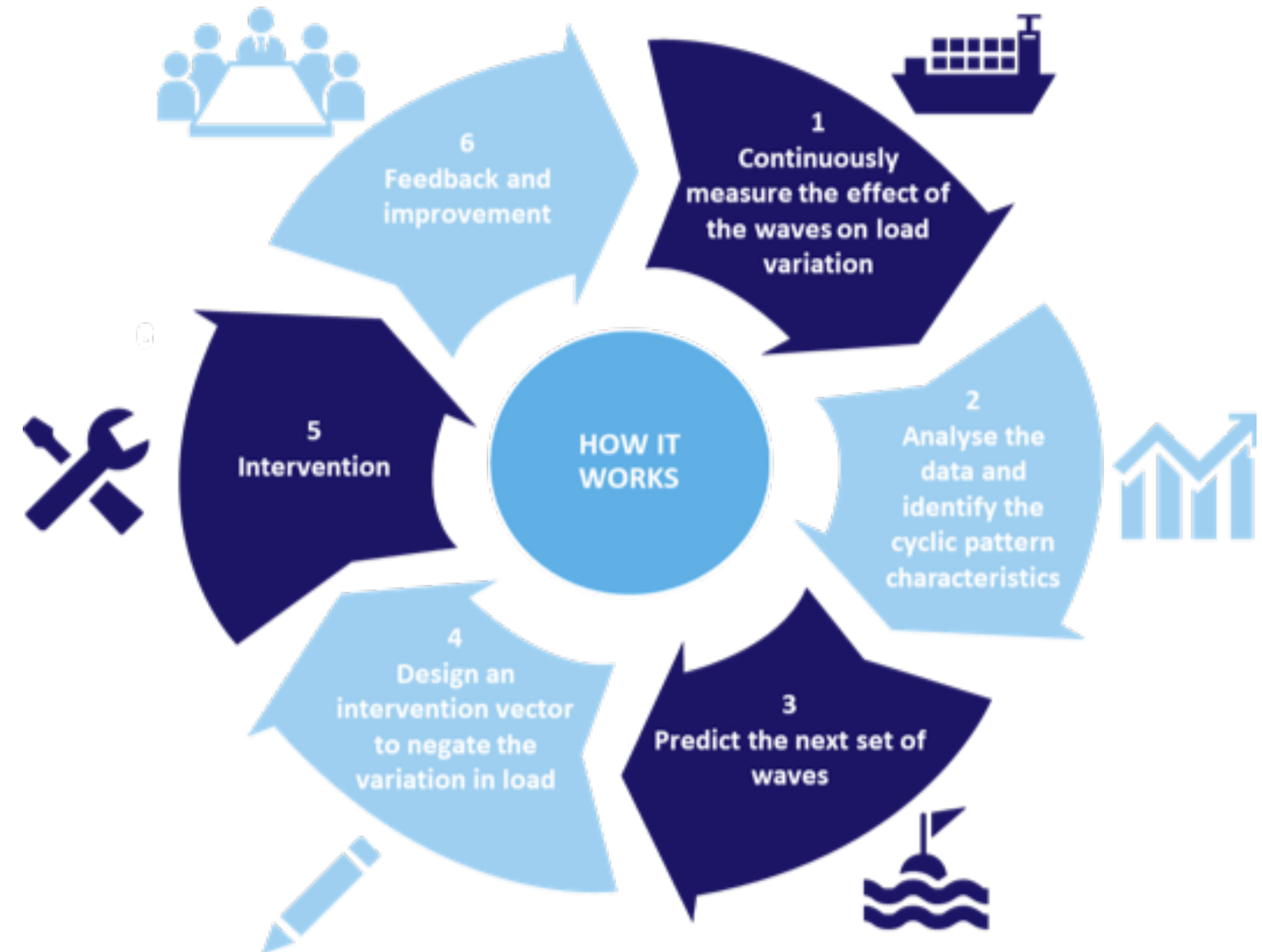
Harvesting energy when loads are low and applying it back when loads are high thus flattening loads for the main engine so it can operate at its peak efficiency.



Engine Load Management System (ELMS)

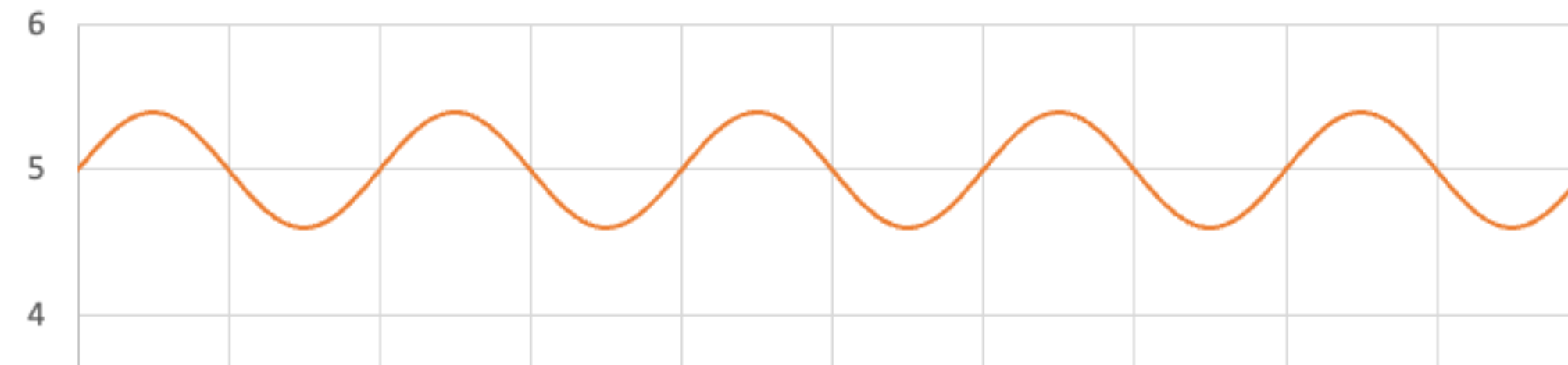
ELMS manages drivetrain load by recording its variation on the shaft, analyzing periodical patterns and applying torque intervention to flatten load variation.

By providing a stable load to the main engine ELMS optimizes its efficiency and fuel economy

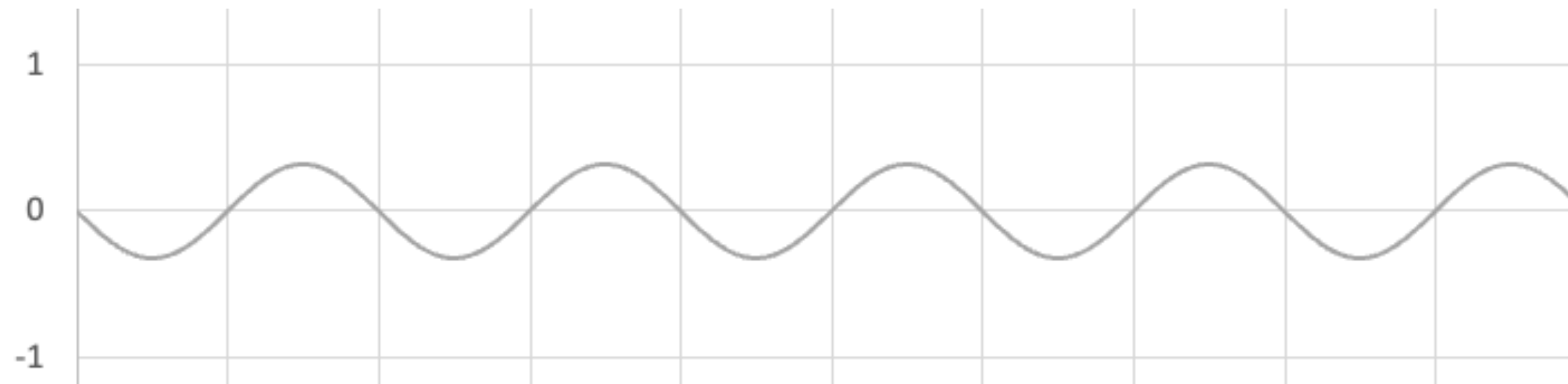


Engine Load Management System (ELMS)

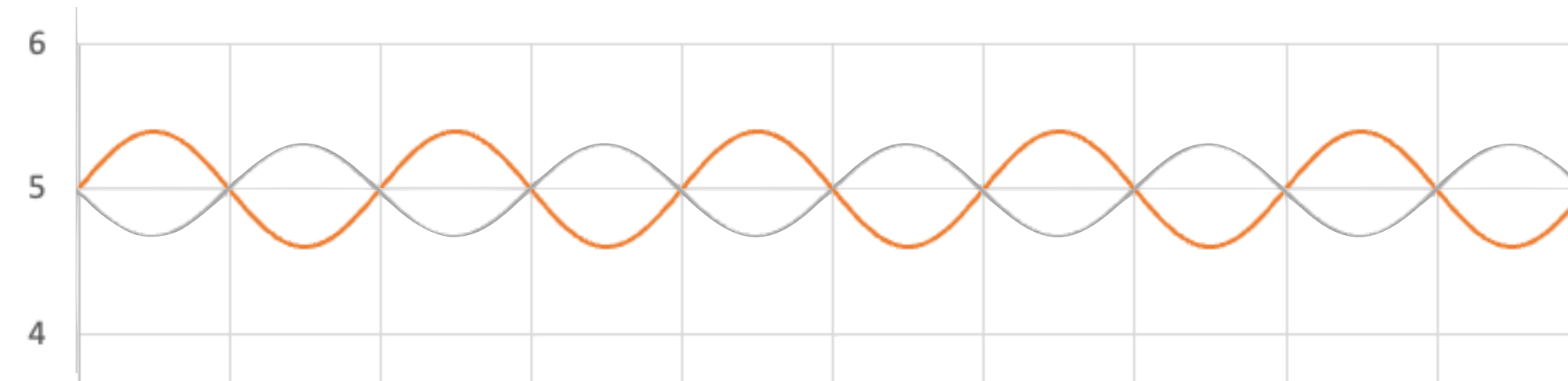
Engine Load
(without ELMS)



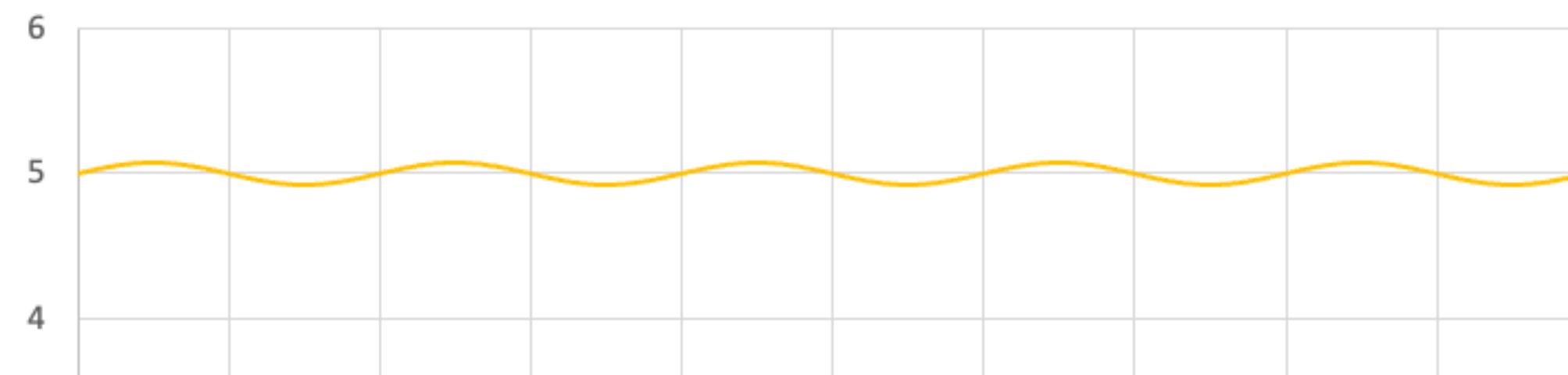
ELMS
Flattening Pattern



ELMS
Mitigating Load Variation

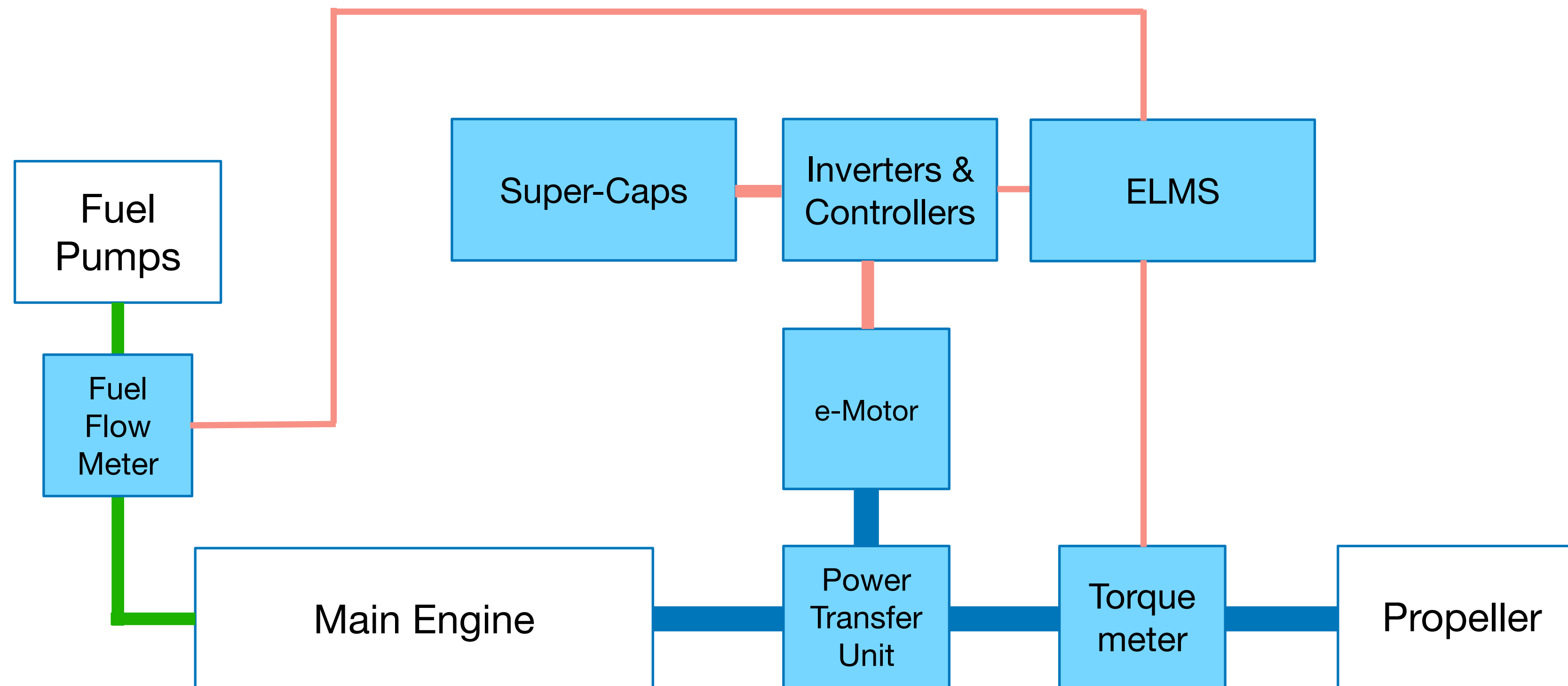


Engine Load
with ELMS



Engine Load Management System (ELMS)

The intervention vector is applied using an electric motor that operates alternately as a generator and a motor to harvest power from the shaft and store it (in super-capacitors) and supply it back to the shaft as additional power when needed



Impact per vessel

Ship Size	Small	Medium	Large
Fuel Consumption (ton/day)	20	50	80
Fuel saving (%)	15%	12%	10%
Fuel saving (ton/year)	750	1,500	2,000
Reduction in CO ₂ (ton/year)	2,250	4,500	6,000
Fuel Cost saving (per year)	\$563k	\$1.1m	\$1.5m
Carbon Tax saving (per year)	\$225k	\$450k	\$600k

Calculated for \$750/ton fuel
250 days of sailing per year

Carbon Tax @ \$100/ton CO₂

Advantages

ELMS is installed internally
it can be retrofitted to any type of ship
agnostic to type of engine and fuel used
and it works in harsh weather conditions

	Marine Edge	Sails / Parachute
Internal install	Yes	No
Fits all ships	Yes	No
Works in poor weather	Yes	No



MEDIA & EXHIBITIONS

Exhibitions

Climate Solution Prize
SNC, KKL, JNF

Electric & Hybrid Marine
Amsterdam

Blue Tech Summit
Haifa

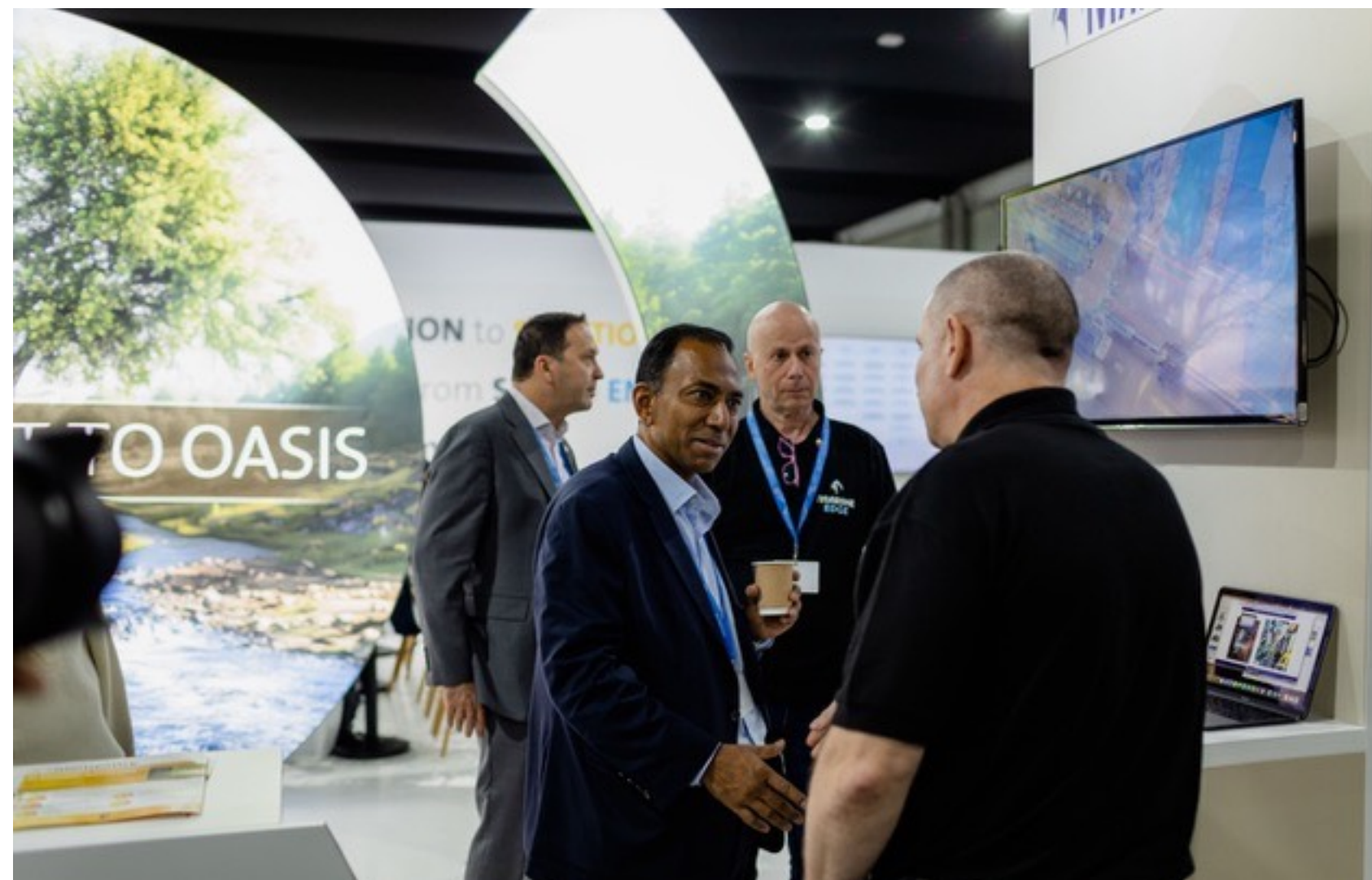
EuroPort
Rotterdam

PlaneTech World
Tel Aviv

COP29
Baku



COP29 in Baku





MARINE
EDGE