



Cetasol.

Intelligent Maritime Sustainability.



Cetasol



In-house developers: 11

Business team: 7

Common goal: Make sustainability a simple choice

Uniqueness: Deep knowledge of drivelines, focus on Data Science and Mass market

Installations - Globally





MHO-Co A/S



Berge Rederi AS



SJÖFARTSVERKET



Brim Explorer



KST MARITIME



LAURO.IT
viaggi



STROMMA



BLIDÖSUND
HÅRÅGÅRDEN STOLTSET LEDAR 1911



PSA MARINE



THOR



MF Shipping Group



THUNBOLAGEN
— ERIK THUN AB (publ) —



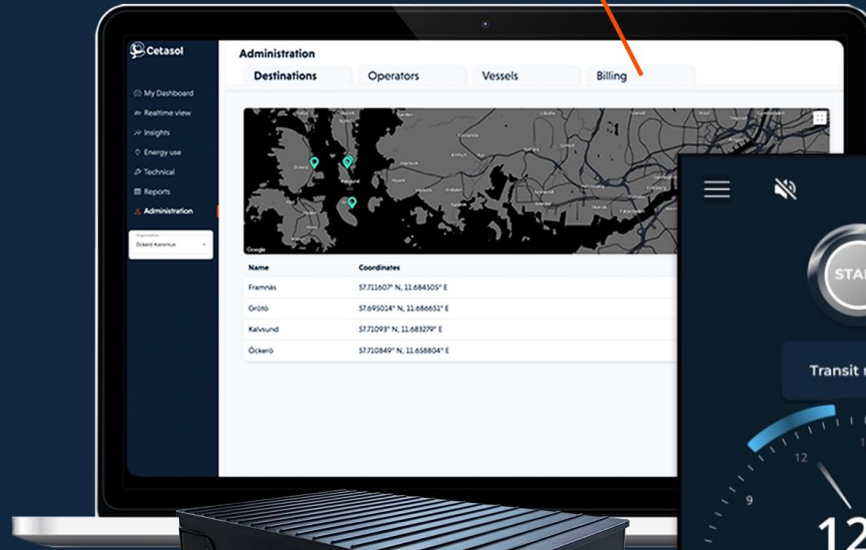
SVITZER

Cloud dashboard can be accessed anywhere with internet connection.

Captain display with real-time actionable insights for optimal operation.

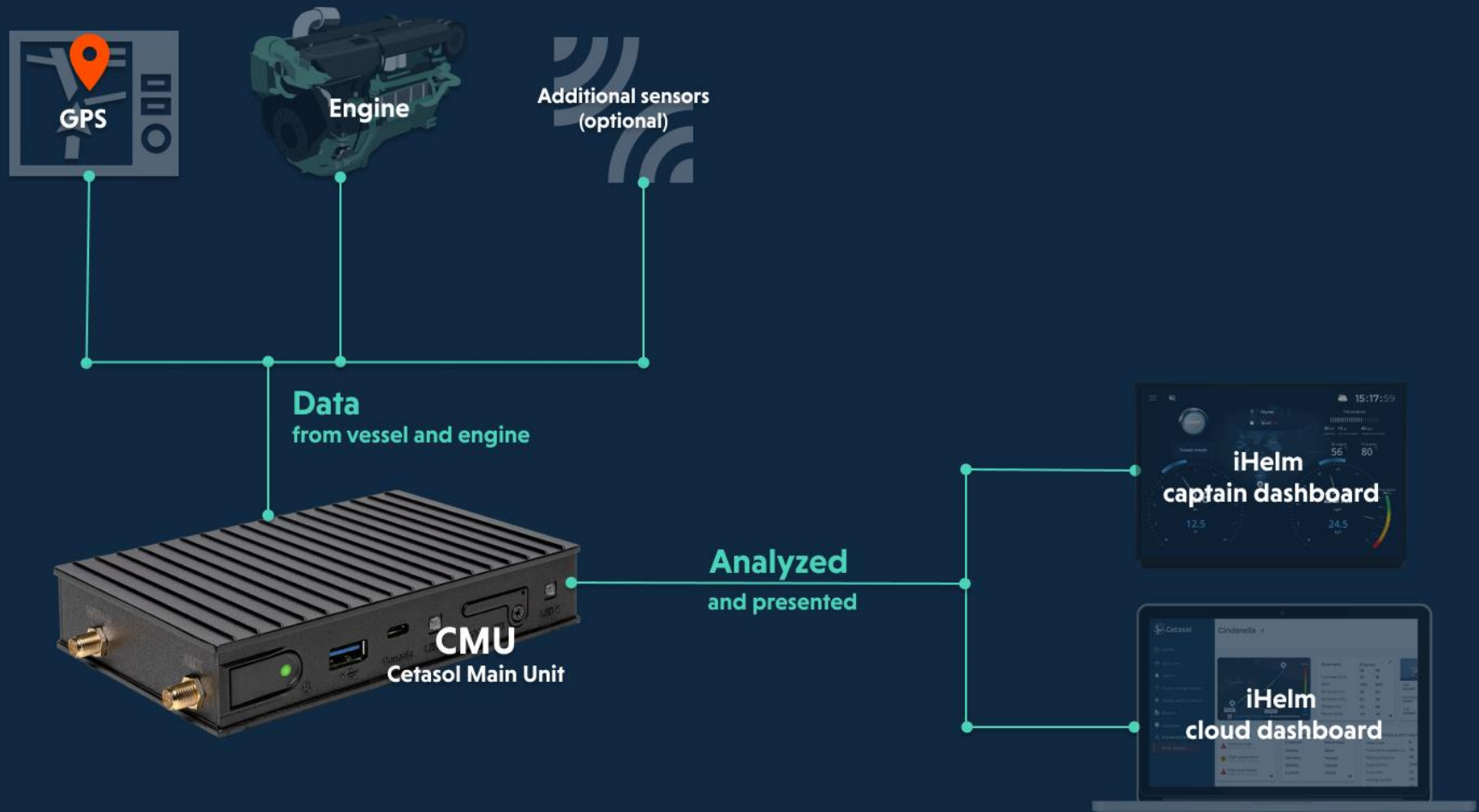
iHelm

intelligent decision support



Cetasol Main Unit (CMU) our flexible, small and powerful PC.



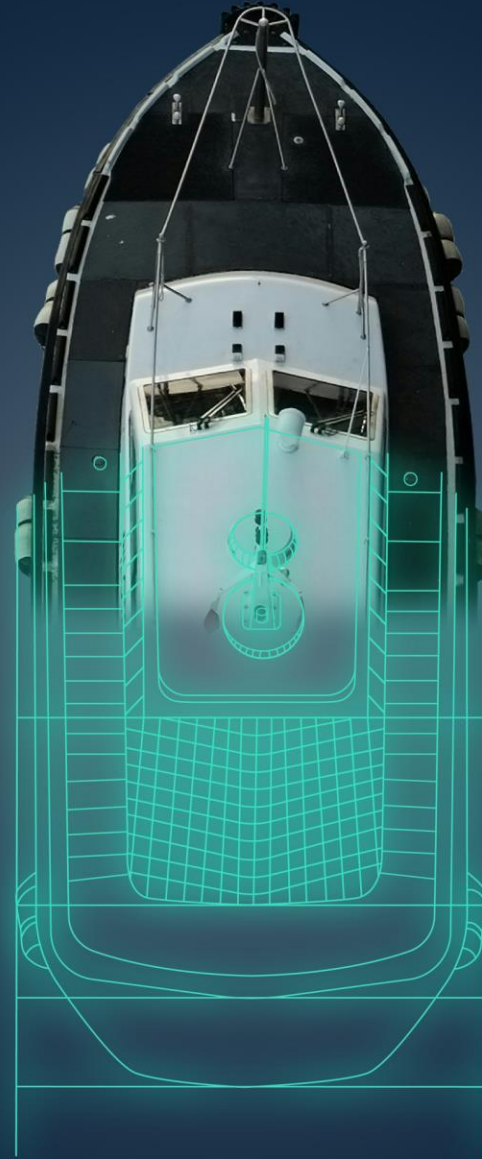


B

Digital Model of Vessels



A



Energy Optimization

Predictive Maintenance

Redesign

Alternative Energy

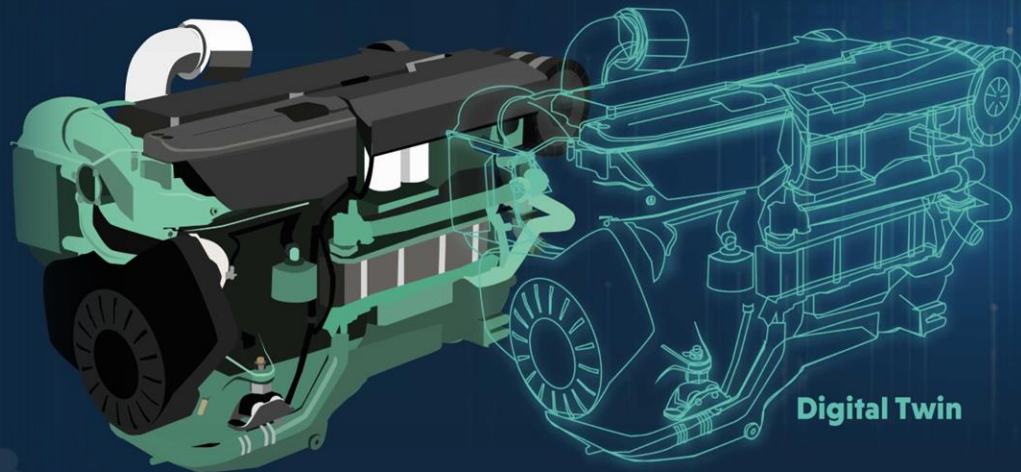
Route Planning

Fleet Level Optimization

Situational Simulation

CetaFuel

Your virtual fuel reader – fuel reading without complexity.



Cetasol patent

- **No physical flow meter.**
- **97-99.5% accuracy.**
- **Connecting all engines.**



**INTERNATIONAL
MARITIME
ORGANIZATION**

EEDI ENERGY EFFICIENCY DESIGN INDEX IMPROVING THE TECHNICAL PERFORMANCE OF NEW BUILD SHIPS



Ships which are **designed and constructed today** must be **MORE ENERGY EFFICIENT** than the baseline, thus reducing their carbon intensity



1



Performance targets are stringent and ambitious, thus **REQUIRING** continuous improvement



2

There are **DIFFERENT GOALS FOR DIFFERENT TYPES OF SHIPS**, recognizing the specificities of different types of ships



3

For example, **THE LARGEST CONTAINER SHIPS (>200,000 DWT)** built after 1 April 2022 must be **50% more efficient** than the baseline



4

EEXI

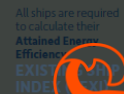
ENERGY EFFICIENCY EXISTING SHIPS INDEX IMPROVING THE TECHNICAL PERFORMANCE OF EXISTING SHIPS



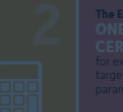
The requirements for EEXI certification **ENTERED INTO FORCE** on 1 November 2022



1



All ships are required to calculate their **Attained Energy Efficiency** and **EXISTING SHIP INDEX (EEXI)**



2

The EEXI is a **ONE-TIME CERTIFICATION** for existing ships targeting design parameters

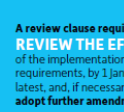


3

There are a variety of technical means to **IMPROVE THE CARBON INTENSITY** of existing ships and **achieve the Required EEXI**



4



A **review clause** requires **IMO to REVIEW THE EFFECTIVENESS** of the implementation of the EEXI requirements, by 1 January 2026 at the latest, and, if necessary, **develop and adopt further amendments**



5



CARBON INTENSITY INDICATOR (CII RATING)



IMPROVING THE OPERATIONAL PERFORMANCE OF EXISTING SHIPS

Each year, ships of 5,000 gross tonnage and above **collect and report fuel consumption data**. On the basis of this data, **A CARBON INTENSITY RATING IS ASSIGNED TO THE SHIP, FROM A TO E**



1

There are a variety of operational means to **IMPROVE THE CARBON INTENSITY OF EXISTING SHIPS** and achieve the Required CII, e.g.:

- Ship speed optimization
- Weather routing
- Just-in-time arrival
- Trim, draft, and ballast optimization



2

Poorly rated ships **have to implement A PLAN OF CORRECTIVE ACTIONS**, and the company is regularly audited incentives may be provided to best rated (A/B) ships

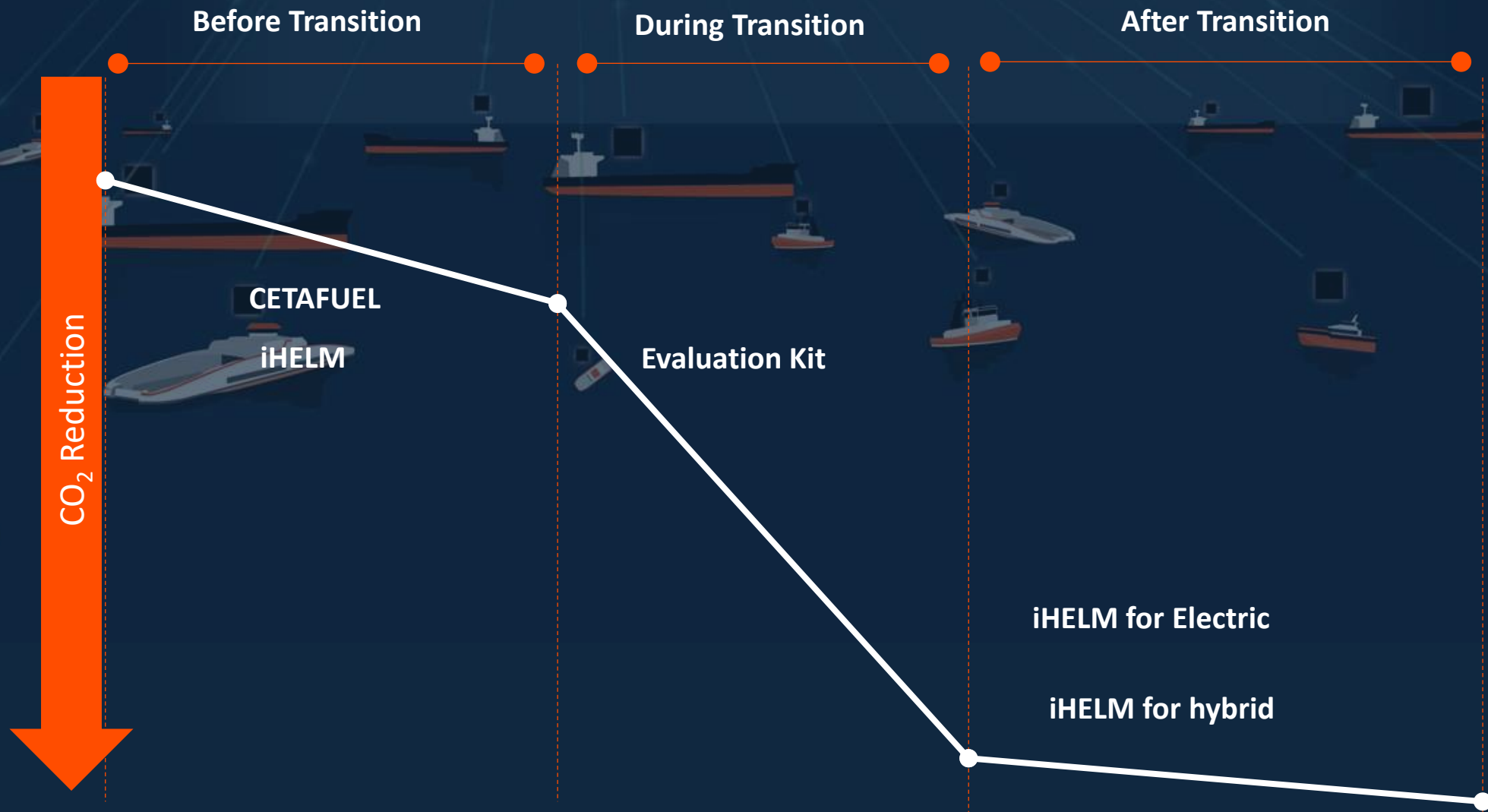


Requirements for CII rating **ENTERED INTO EFFECT** on 1 January 2023



4







NEWS - 18 JANUARY 2024 09:57

Are you not the owner of your marine operations data? An unfortunate reality of Maritime Business.



Ethan Faghani

CEO and Founder of Cetasol

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January 15, 2024

The Problem



1: Blocking Integrator



2: Costly Adaptation



3: Fixing the System



4: Electric Driveline

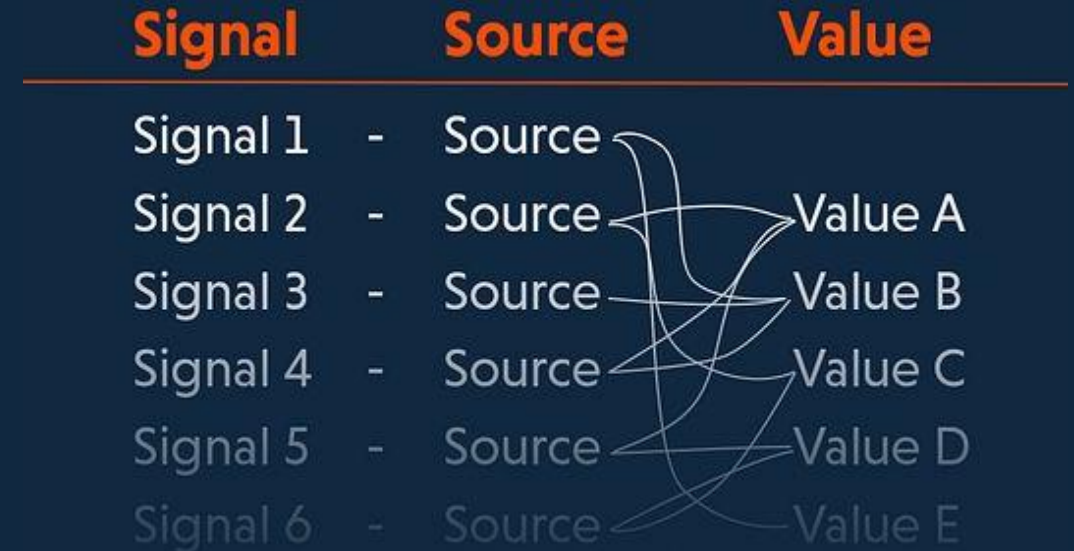
A Workshop

- Do not start with what you have
start with what you need.
- Start with what data is most critical for
your operation.
- Identifying the most critical data for your operations,
involving various departments
- **20% of the signals provide 80% of the value**



The outcome

- Signal Mapping to Values
- Signal Mapping to Available Systems
- Create a Data Pipeline Drawing
- Evaluate the Technical Debt:
the gap between what you need and what you have



Synched Quality Components

Synched Certified



1. Dedicated Port
2. Standard Protocols
3. Data Sample
4. Translation file
5. Data Quality Sample
6. Complete Signals
7. Updates
8. Add it to the Contract

Legal Contract

- Data Ownership
- Data Sharing
- Cost aspects
- GDPR Clause



Final Words

It is up to the customers to demand standard solutions and quality data to build their digitalization solutions.

Cetasol

Home of iHelm – Your optimization tool.

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Cetasol.