

# Vessel Optimization

## A PROACTIVE APPROACH TO OPTIMIZING VESSELS FOR PROFIT AND PLANET

With a renewed focus on emissions and environmental impact, marine professionals must enhance their understanding of fuel consumption patterns of their vessels.



### STATUS QUO

Increased fuel consumption may stem from technical and operational issues affecting machinery or systems, leading to underperforming vessels. Identifying the precise cause within a fleet is challenging due to many variables and data reliability issues from mainly relying on noon reports.

Traditional performance management prioritizes main engine and hull performance, but CII regulations now demand increased attention to auxiliary equipment. Existing approaches of naval architecture primarily quantify added fuel consumption but leave root cause determination to the end user. This often requires time-intensive manual analysis before deciding on costly actions like hull cleaning or engine maintenance.

### OUR SOLUTION

Our mission is to simplify the process of identifying performance issues, empowering users to take timely and confident action.

We aim to provide marine professionals with the tools and insights necessary to address underperformance efficiently, all while streamlining the path to achieving the desired outcomes.

In doing so, we envision a future where the maritime industry operates at peak efficiency while minimizing its environmental impact.

### KEY FEATURES

- ✓ Main Engine Overconsumption: Understand the main engine consumption pattern and data quality by comparing to fuel model predictions
- ✓ Fuel Model Visualisation: Dive into the ZN fuel model for any vessel, draught or weather either interactively in the app or via exported data
- ✓ Boiler Overconsumption: Follow up on boiler usage for any vessel to identify when to help crew operate more efficiently.
- ✓ Auxiliary Engine Overconsumption: Dive into how auxiliary engines have been used to determine optimal auxiliary engine consumption patterns
- ✓ Automatic Adjustments: A system that requires no manual adjustments post-events, offering a hassle-free user experience.
- ✓ Hull Fouling Trend:
  - Idle Stay Analysis
  - Hull events impact
  - Added consumption due to fouling



### BIO FOULING MODELING

A revolutionary approach that focuses on modeling the biological causes of hull fouling, offering insights grounded in marine biology.

### BENEFITS FOR CHARTERERS, OPERATORS AND VESSEL OWNERS



Improved quality of your noon reports



Review Auxiliary generator excess consumption



Tracking Boiler excess consumption



Managing Idling risk

## VESSEL OPTIMISATION FUNCTIONALITY

Identify where fuel is wasted in the interplay of machinery, hull and the environment.

We prepared a solution to determine the best course of action to improve the efficiency of your fleet outside of the context of individual voyages.

Vessel Status Fleet Overview facilitates seamless navigation, providing daily updates into instances of excessive fuel consumption across your fleet. Users can then delve deeper into vessel-specific data and analytical models, categorized into two dedicated pages, each scrutinizing a distinct facet of vessel performance: propulsion and auxiliary systems.

### PROPULSION

We assemble all insights empowering you to improve how your vessel uses fuel to move from port to port, providing you with an in-depth analysis of the symbiotic relationship between the vessel's environment, hull condition, and the main engine.

Incorporating biofouling data based on a combination of water data, idle stay pattern of a vessel and the cleaning events it has experienced, our model accurately quantifies the impact of fouling on fuel consumption.

This precision facilitates more confident decisions about hull cleanings, markedly improving operational efficiency. Which, in turn, allows users to allocate their time to delve into new complicated performance questions, for example by leveraging our interactive fuel model visualization with robust data export capabilities for comprehensive analysis.

### AUXILIARY SYSTEMS

Shifting focus to auxiliary engines and boilers, the user-friendly interface enables the swift identification of overconsuming vessels compared to baselines, thereby enhancing data quality and revealing further opportunities for operational optimization. From this vantage point, users can effortlessly pinpoint vessels engaged in boiler operation during sea voyages or those exhibiting excessive fuel consumption while using auxiliary engines in port.

This critical information forms the basis for targeted efficiency improvements, ensuring that resources are allocated where they will yield the most significant impact.

## ABOUT ZERONORTH

Climate change poses a serious threat to the planet's future, but ZeroNorth is dedicated to making a difference. As a leading technology developer with a strong foundation and owner support, ZeroNorth offers a leading multi-service platform that harnesses the power of data to create insights that enable voyage, vessel, and bunker optimisation and inform better decision-making for stakeholders across global trade.

By blending cutting-edge data-driven technology with human expertise, the ZeroNorth platform provides solutions that are helping the global shipping industry achieve optimal commercial performance and reduce its carbon emissions.

## The ZeroNorth Platform

Book a demo with our team  
to see ZeroNorth in action.

We'll be happy to share more informations  
and answer any questions you may have.

