

# geoperform

VESSEL PERFORMANCE &  
EMISSIONS MANAGEMENT



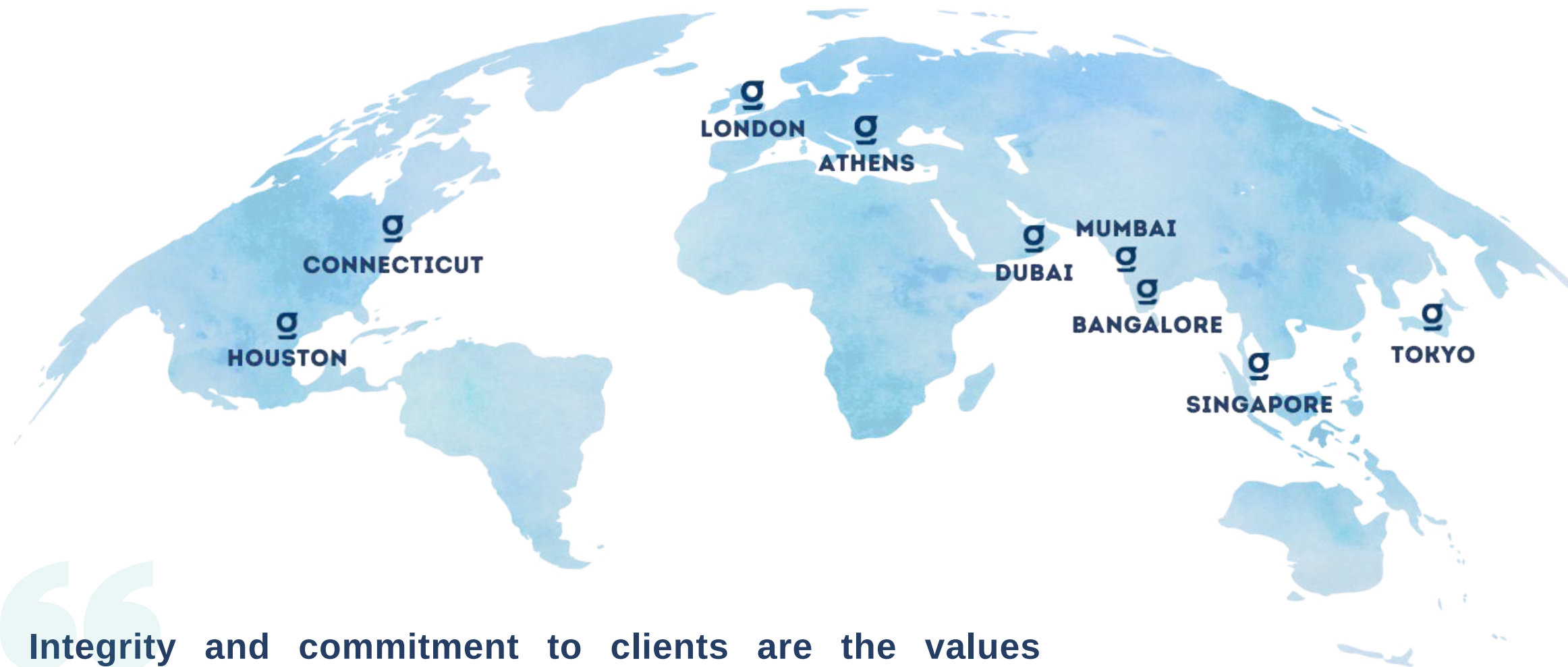
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# ABOUT GEOSERVE



Founded in 2019, GeoServe is a service-driven organization committed to delivering integrated commercial management solutions for the maritime industry. Our expertise lies in providing technology-enabled services that empower vessel operators, owners, and managers to optimize every stage of a voyage – from pre-fixturing planning to voyage execution and post-fixturing analysis. Headquartered in Dubai, with a global presence across eight locations, GeoServe operates with a commercially focused approach, combining deep industry expertise with cutting-edge technology. At the core of our offering is a suite of integrated solutions designed to support vessel operations through domain expertise and innovation, seamlessly integrating into a unified maritime ecosystem for our users.



“Integrity and commitment to clients are the values central to us. True to our name, GeoServe, we exist and are here, to serve with a determination to deliver.”

# PERFORMANCE DESK



We provide simple, reliable and actionable end-to-end vessel performance management services to vessel operators, charterers and ship-owners.

## OUR SERVICES

Our mission is to allow your operations and technical teams to focus on larger issues whilst we take care of the wake abaft your vessels.

### PERFORMANCE & CLAIMS MANAGEMENT

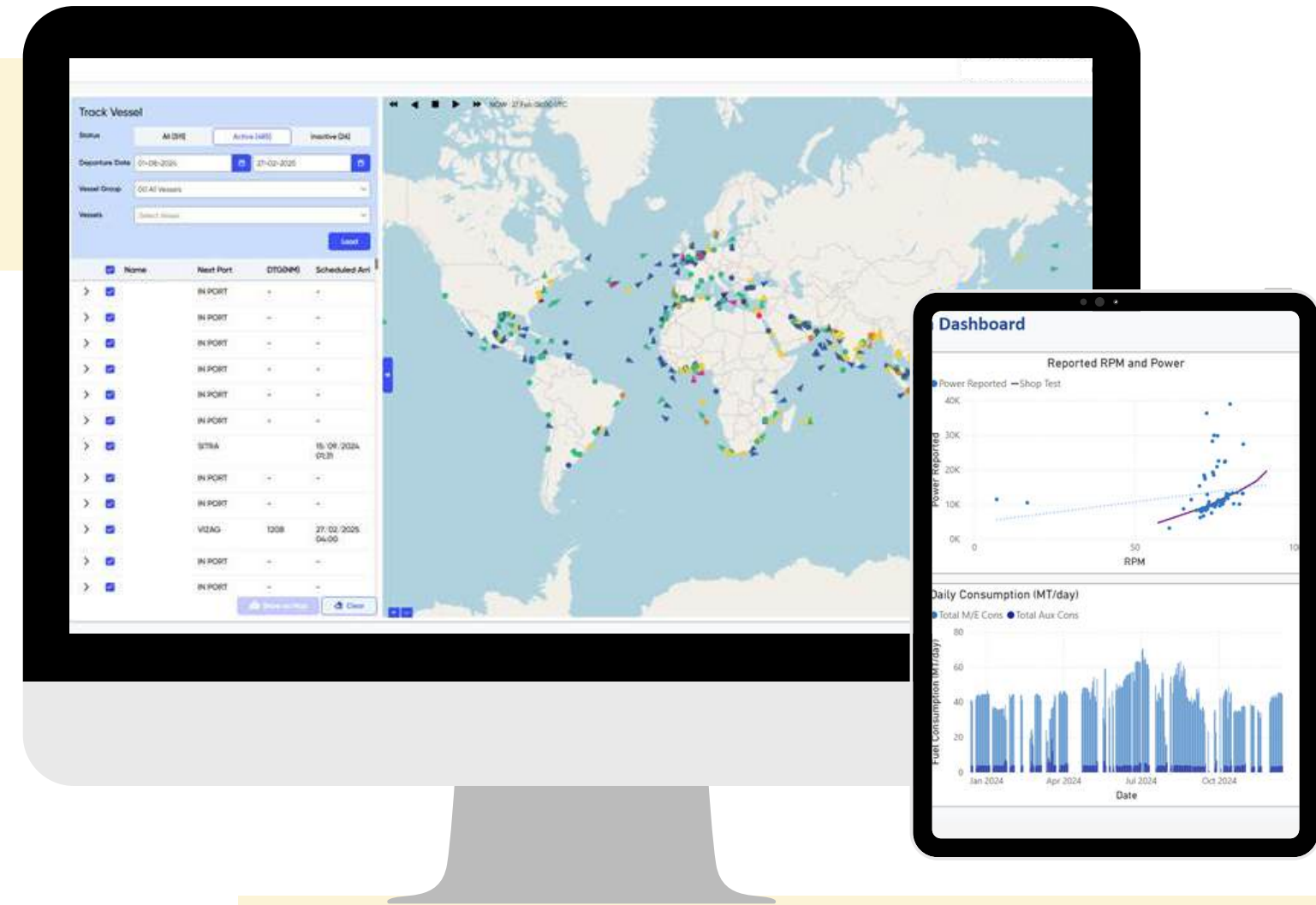
- Pool performance assessment
- Trip and period charter performance assessment
- Claim recovery and defense services

### VESSEL PERFORMANCE OPTIMISATION

- Daily voyage and Port performance optimisation
- Hull and Engine degradation assessment
- Predictive analysis using high frequency data
- Weather routing and voyage optimisation

### REGULATORY & ENVIRONMENTAL COMPLIANCE

- EU ETS Management & EUA Procurement
- CII Management
- FuelEU Maritime
- Bio-fuels/alternative energy management & advisory services



*Proprietary Vessel Performance Management Platform and customisable vessel reporting management.*

# VOYAGE OPTIMISATION



We partner with the most reputed weather routing service providers for weather forecasts. We provide a dedicated PIC who assists your team on a daily basis to improve operational efficiency by optimising route and speed for the entire passage.

Our algorithms are tailored to your needs whether that be for optimising voyages for cost efficiency, just-in-time arrival or minimal fuel consumption.



## ROUTING BASIS VESSEL MODELLING

Routing guidance based on ship specific digital twin and not generic vessel parameters.



## SHADOW OPERATOR

Dedicated operator to co-ordinate with Master & Ops. 24 x 7 Meteorologist and support team available on call.



## DEVIATION MONITORING

Proactive alerts in TC performance monitoring for timely intervention given the upcoming Emission regulations.



*Expert team of Vessel Performance Analysts, Master Mariners and Naval architects to manage your routing guidance.*

### CASE STUDY:

Vessel sailing from India to West Africa

Hire Rate	Bunker Cost	Distance
\$35,000 /day	\$615 /MT	8,100 nm

**1.8 MT/DAY**  
FUEL SAVED

**6%**  
COST SAVED

**25%**  
SPEED INCREASE

# TECHNO-COMMERCIAL PERFORMANCE



Apart from the reporting errors, voyage optimisation does not identify if the vessel is technically underperforming based on her capability. This in most cases is not analyzed or reported due to "safety cushion" in warranties given by the technical managers.

## OUR SERVICES

### SHIP-SPECIFIC DIGITAL TWIN

Data driven identification of hull or engine underperformance using ML based normalization ensuring a high accuracy predictive model.

### HULL CLEANING CONTRACTS

Global contracts to manage cleaning and repair services.

### DATA INGESTION FROM VESSEL

Garbage in garbage out. Not just basic validations. Technical analyst comparing reports to machinery data.

### CLAIMS MANAGEMENT

Expert team of analysts and seasoned maritime lawyers who will interpret, manage, and negotiate any claims that arise.

## Sample health check-up report

### MT ABC

Age of the vessel (in years)	14.2	Scrubber installed	No
New delivery/Last dry dock date	30 <sup>th</sup> September 2020		
Time since new delivery/ last dry dock (in years)	4.0		
Vessel degradation factor	20%	Scrubber manufacturer	N/A

Last UW Service date: 8<sup>th</sup> April 2024

Prolonged Port Stays: Long Beach: 11-Feb-24 to 22-Feb-24 (11 days); Rosarito Terminal: 15-Jan-24 to 26-Jan-24 (11 days)

Recent consumptions (16<sup>th</sup> August 2023 to 31<sup>st</sup> October 2023):

Ordered Speeds	Laden							
	Avg. SOW (knots)	Avg. Draft (m)	Avg. Reported Consumptions (MT/day)	Avg. Predicted consumptions (MT/day)	Avg. Baseline M/E warranty (MT/day)	All Wx consumption (MT/nm)	Predicted consumption (MT/nm)	Fuel Loss/Saved (MT)
13.0*	12.2	12.2	29.2	25.1	N/A	0.104	0.087	38.0
13.0	12.9	11.4	25.3	25.3	N/A	0.081	0.081	-
13.5	13.1	11.7	27.7	26.4	N/A	0.089	0.085	12.0

\*Before hull cleaning

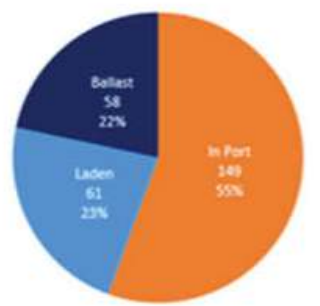
Ordered Speeds	Ballast							
	Avg. SOW (knots)	Avg. Draft (m)	Avg. Reported Consumptions (MT/day)	Avg. Predicted consumptions (MT/day)	Avg. Baseline M/E warranty (MT/day)	All Wx consumption (MT/nm)	Predicted consumption (MT/nm)	Fuel Loss/Saved (MT)
13.0*	12.8	7.4	20.3	17.3	N/A	0.069	0.059	26.1
13.0	12.7	7.4	20.9	18.6	N/A	0.068	0.061	50.0

\*Before hull cleaning

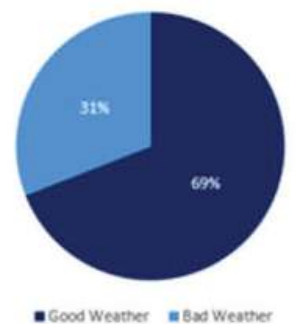
#### Comments and Remarks:

- The vessel was mostly operating within the speed range post hull cleaning.
- Reported consumptions improved in laden condition post hull cleaning.
- Reported consumptions in ballast are higher than predictions. No significant improvement is noted in performance post hull cleaning.
- It was noted the SFOC reported in ballast condition is higher than SFOC in laden condition indicating bunker misreporting in ballast condition.
- Vessel is **Under Observation**.
- Suggest performing a BIS for bunker misappropriation.

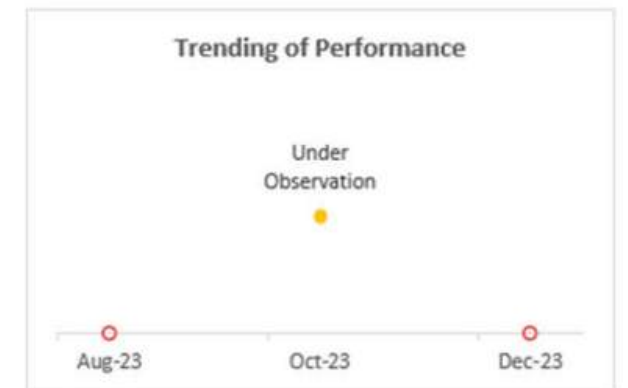
Vessel Utilization



Good Wx vs Bad Wx



Trending of Performance



# OUR DIFFERENTIATION



Weather Routing/Voyage Optimization has been used by shipping companies for several years. Now marketed as a new flavor with emissions - old wine in a new bottle. Generally, ship-owners/operators look at consumptions purely from a Speed and Consumption table.

In most cases, Vessel Performance is not measured through the vessel's technical capability, thereby missing out on the largest potential of fuel leakage observed in reporting and/or underperformance identification.



## FLAT REPORTING / FUEL DUMPING

Reporting based on S&C tables. Anything outside of warranted speed is not accounted for.



## BINARY REPORTING (LADEN & BALLAST)

No difference in consumptions at different densities of cargo.



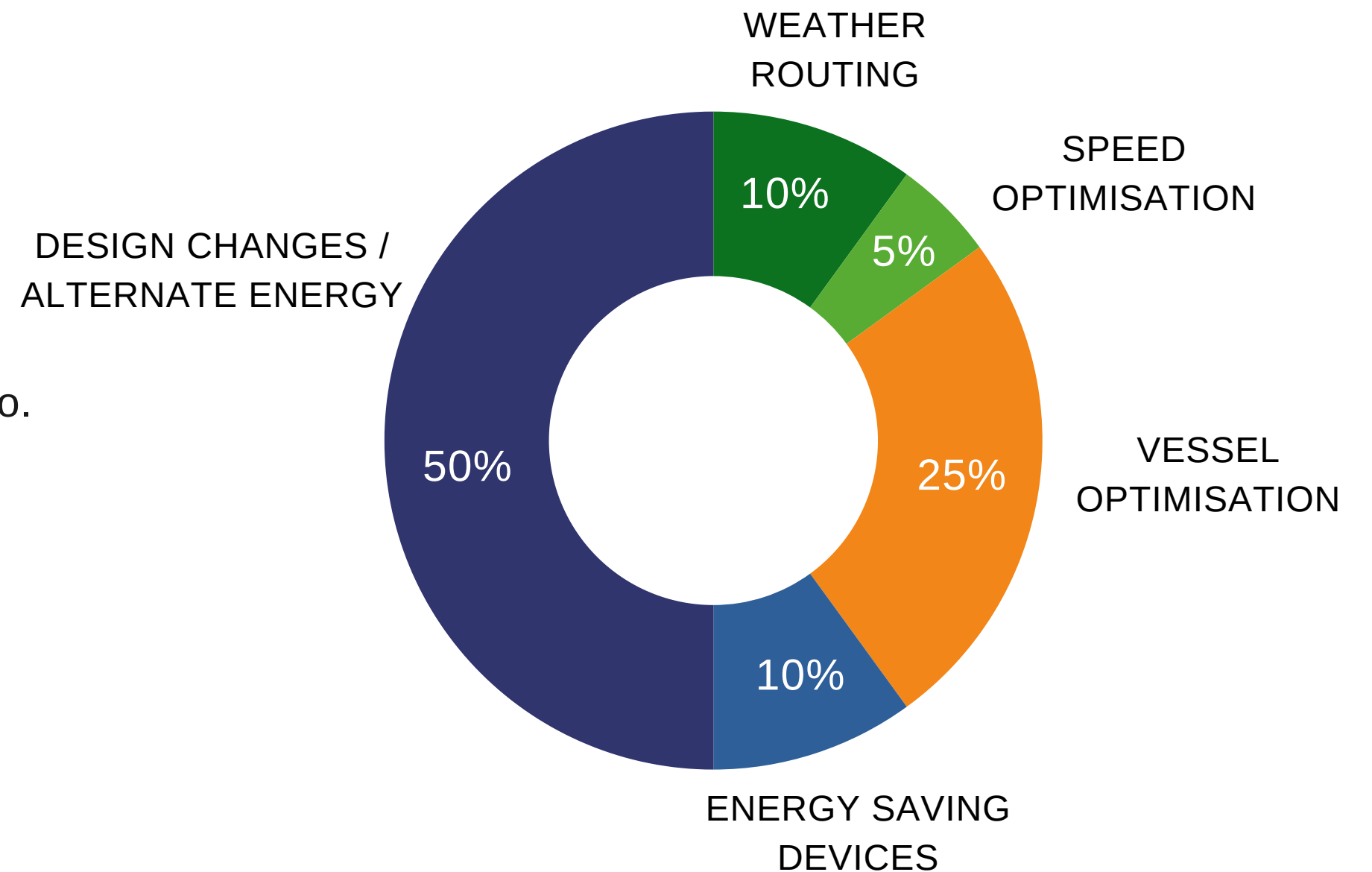
## PORT PERFORMANCE (30-40% TIME IN VOY)

Excess generator consumption, additional idle load.



## ADVERSE WEATHER FUEL DUMPING >BF4

Excess consumption reporting during adverse weather to accumulate fuel.



*Efficiency Potential for Fuel Optimisation*

*\*Source: IMO GHG Strategy*

# VESSEL REPORTING



Smart solution that streamlines data management by reducing the number of forms the vessel needs to fill. Using the one vessel one form approach, our customizable services are designed to capture various events, remove duplications and improve data quality.

## SENSOR BASED MONITORING -

PULSE is a techno-commercial solution that harnesses the power of predictive analytics to drive efficiency, cost reduction and performance through big data management, seamless integration and real time decision making.

## MODERN DATA MODELLING TECHNIQUES

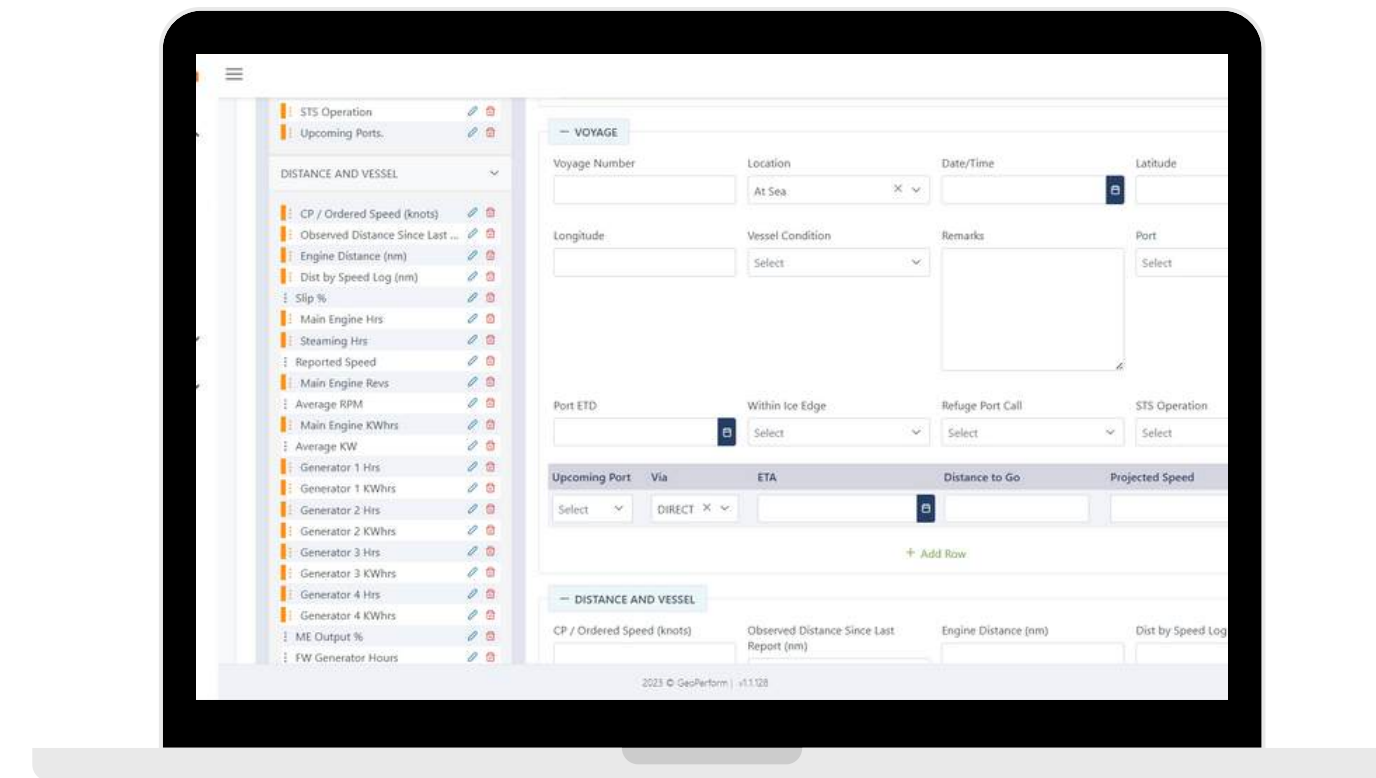
Using machine learning techniques to derive actionable insights and identify data discrepancies.

## SEAMLESS SENSOR INTEGRATION & MONITORING

Our partners ensure an efficient installation and unified integration process.

## GEOFORMS - HTML BASED REPORTING

GeoForms is an intelligent vessel reporting system designed to aid data gathering, validation, and error-free reporting at the source. By utilizing vessel-specific HTML files, it ensures accurate and comprehensive data collection, streamlines the reporting process, and reduces the risk of errors during data entry and validation.



# EMISSION MANAGEMENT



To help our customers monitor, estimate, account and facilitate actions to reduce their carbon emissions. Empower your sustainability journey with our comprehensive end-to-end emission management solutions.

## OUR SERVICES

Our service empowers you to track your GHG footprint and achieve maritime sustainability goals through effective emission management, regulatory compliance, and optimization solutions.



### COMMERCIAL MANAGEMENT

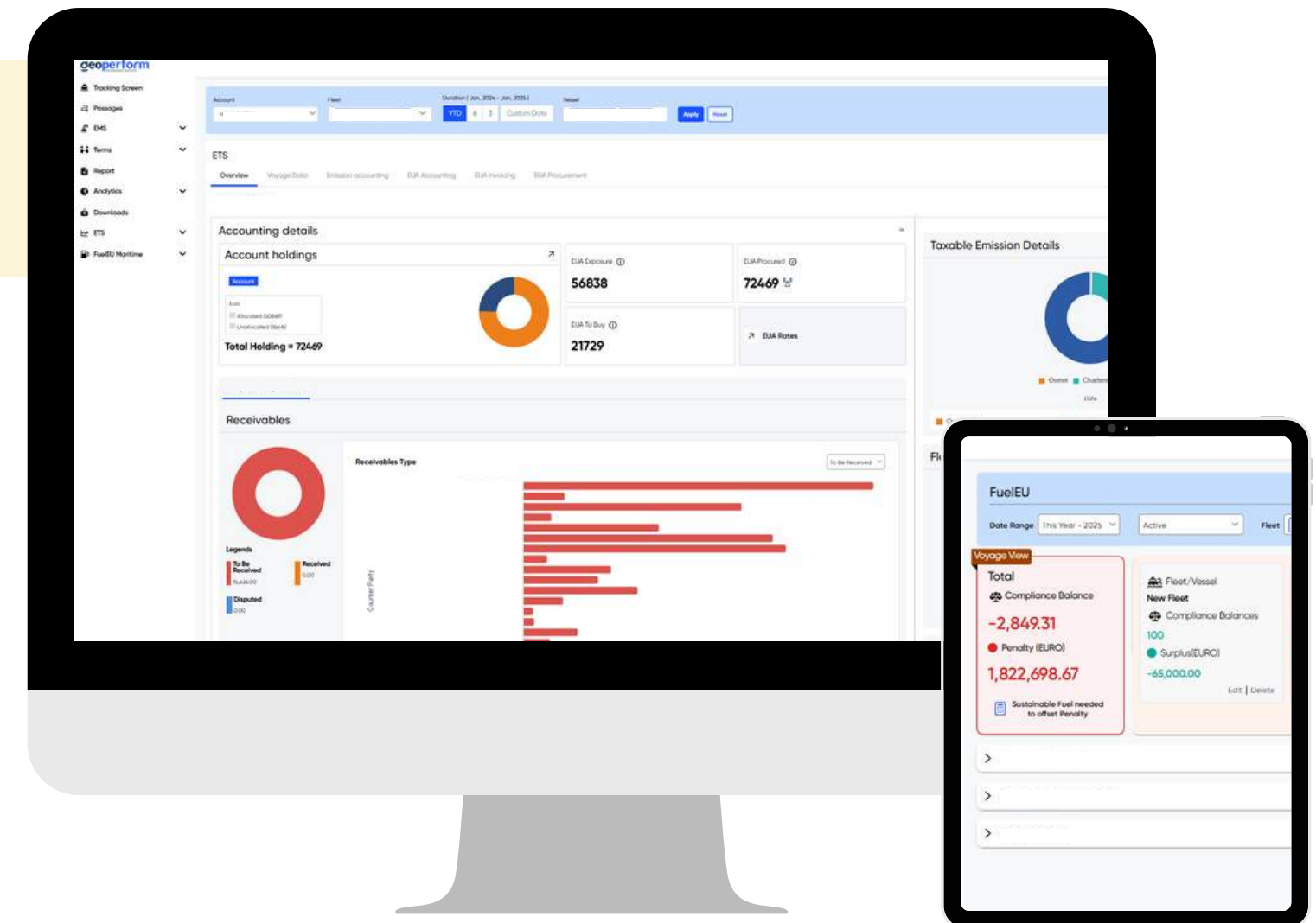
- Data gathering, emission monitoring and accounting
- CII Management for CP Compliance
- EU ETS Management
- FuelEU Maritime - Exposure estimation / monitoring and mitigation planning

### REGULATORY & ENVIRONMENTAL COMPLIANCE

- IMO DCS, CII and EU MRV assessment
- Sea Cargo Charter and Poseidon Principles reporting
- Carbon offset advisory services
- FuelEU Maritime

### EMISSIONS OPTIMISATION

- Actionable emission insights for freight decisions
- Hull management
- Bio-fuels/ alternative energy management & advisory services



Proprietary module to meet EU/UK MRV, IMO DCS and CII requirements.

# EU ETS AND FUELEU MARITIME MANAGEMENT



## EU ETS - END-TO-END EUA MANAGEMENT

- ▶ **EUA Procurement** - Ability for spot or nomination basis for Euros / US\$
- ▶ **Voyage Endorsement on Demand** - Independent verifier VoV
- ▶ **Alignment for Future** - To incorporate CH4/ N2O & hybrid fuels
- ▶ **Emissions Data Management** - Monitor & correct data for regulatory compliance
- ▶ **MOHA Management & EUA Accounting** - Managing EUA receivables & payables

## GeoServe ETS & FuelEU Maritime Management



## FUELEU MARITIME SERVICES

- ▶ **Regulatory Compliance** - FuelEU maritime
- ▶ **GHG & Penalty Calculation** - Monitoring fleet for GHG intensity & fossil fuel penalty calculation
- ▶ **Voyage Estimator** - Penalty estimator along with impact on voyage commercials
- ▶ **Penalty Mitigation Advisory** - Pooling/ Borrowing/ Banking// Sustainable fuel
- ▶ **CP Support** - Ability for bespoke emissions clauses and claims management



**20+ Years of  
Commercial Management**



**Collaboration &  
Transparency**

**Reliable Emissions Application & Team at GeoServe Emissions Desk**

# FUELEU MARITIME - A COMPLETE SOLUTION



## FUELEU MODULE

- ▶ Voyage level, Vessel level and Fleet level calculations
- ▶ Option to add additional Fleet/Vessel for Pooling



## FUELEU ANALYTICS

- ▶ Overview of Penalty, Surplus, and Compliance Balance for the selected fleet/vessel.
- ▶ Overview of various types of fuel consumed for optimal bunker planning



## FUELEU REPORTS AND STATEMENTS

- ▶ Voyage level statement generation
- ▶ Vessel and Fleet level Report generation



## BDN BASED REPORTING

- ▶ GeoForms equipped with BDN-based reporting for managing sustainable fuel intake onboard.



# VISION

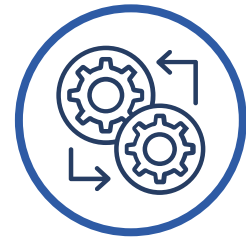


## INTEGRATED VOYAGE PLATFORM

Our aim is to deliver an end-to-end approach to commercial voyage management through integrated workflows which optimise decision making across pre-fixturing planning, post fixture execution and post voyage analysis.



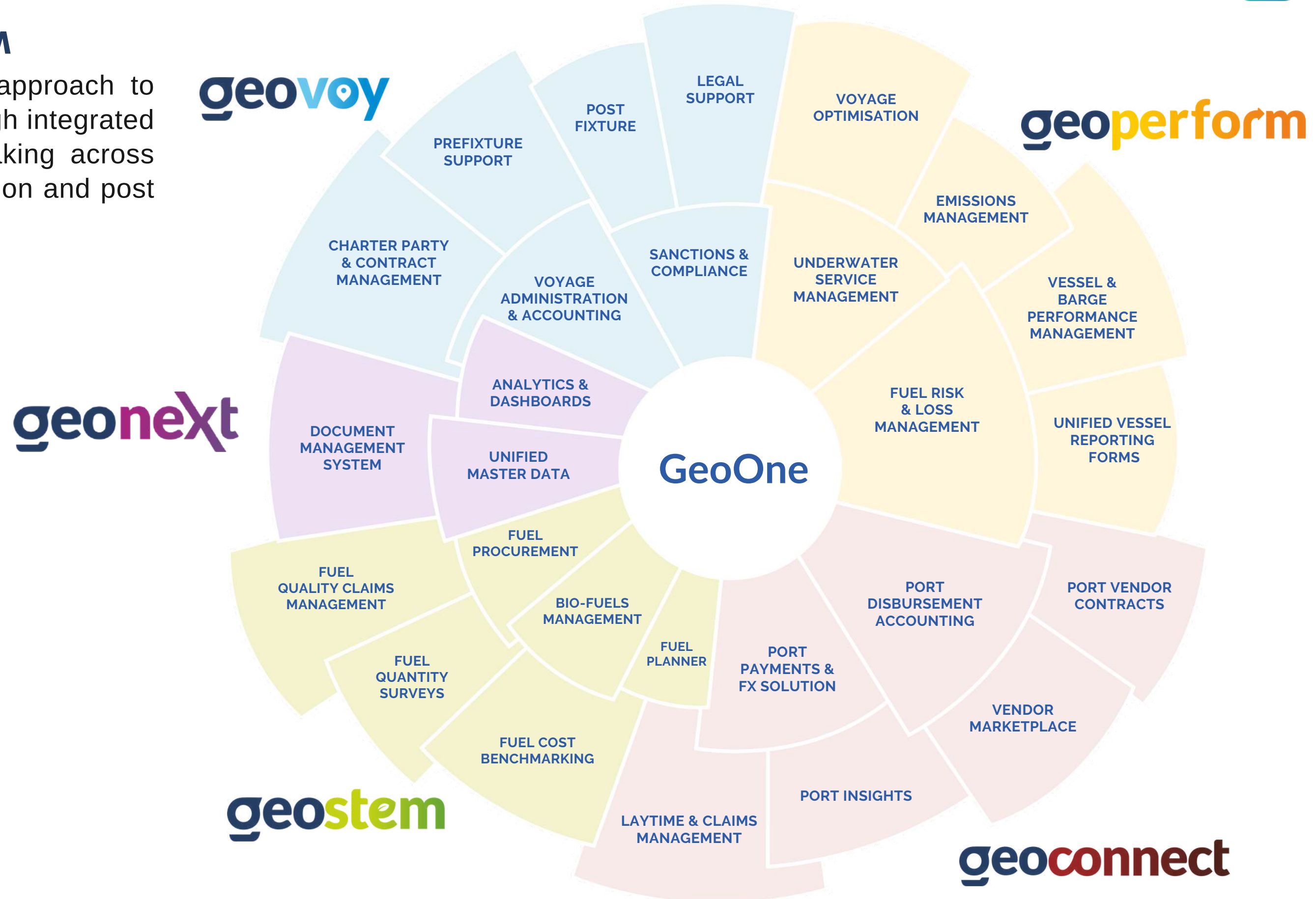
UNIFIED VOYAGE VIEW



INTEGRATED WORKFLOWS



DATA DRIVEN  
DECISION-MAKING



**THANK YOU**

**[contact@get-dmcc.com](mailto:contact@get-dmcc.com)**

