



# MariApps Marine Solutions

*smartOps* 

Performance



Operations



Alerts



Monitoring

***smartOps*** is an advanced analytics platform that supports the optimization of vessel operations.

- It utilizes data reported through a state-of-the-art vessel application, telemetry data recorded directly from sensors, as well as position and weather data. Vessels are benchmarked against their own tailored digital twin, with results delivered in a clear and user-friendly manner
- It offers tools to manage decarbonization, while enabling cost and reliability efficiencies through predictive and proactive insights – transparently, ashore, and onboard



## Operations

- MRV/DCS Compliance
- Fuel, Cargo, and Emissions Analytics
- Carbon Intensity Indicator (CII) Toolkit
- Voyage planning and weather routing based on performance / consumption vessel
- Charterparty Compliance Monitoring
- Post-voyage analysis including report generation with CP performance assessment



## Performance

- Hull & Propeller Condition management including predictive inspection advice
- Actual Speed & Consumption calculation in any draught and weather condition
- Engine Assessment including Fault Diagnostics
- Cylinder Oil Optimization
- Auxiliary Engine Utilization
- Boiler Utilization
- Cargo Conditioning



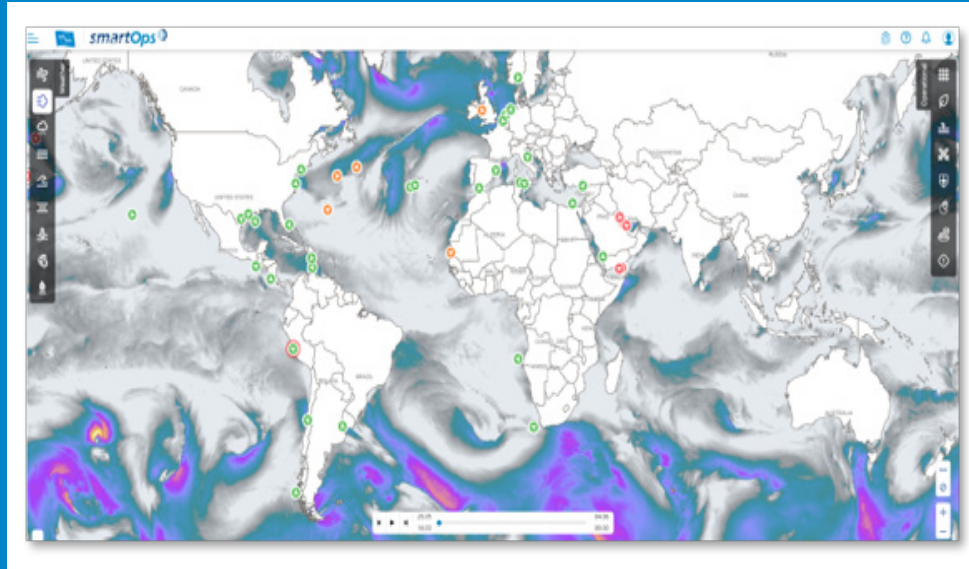
## Alerts

- Triggered by any data source
- Highly configurable
- Automatically escalating
- Escalation speed based on the criticality
- Ship/shore chat function
- User-set geofencing alerts
- Mobile application

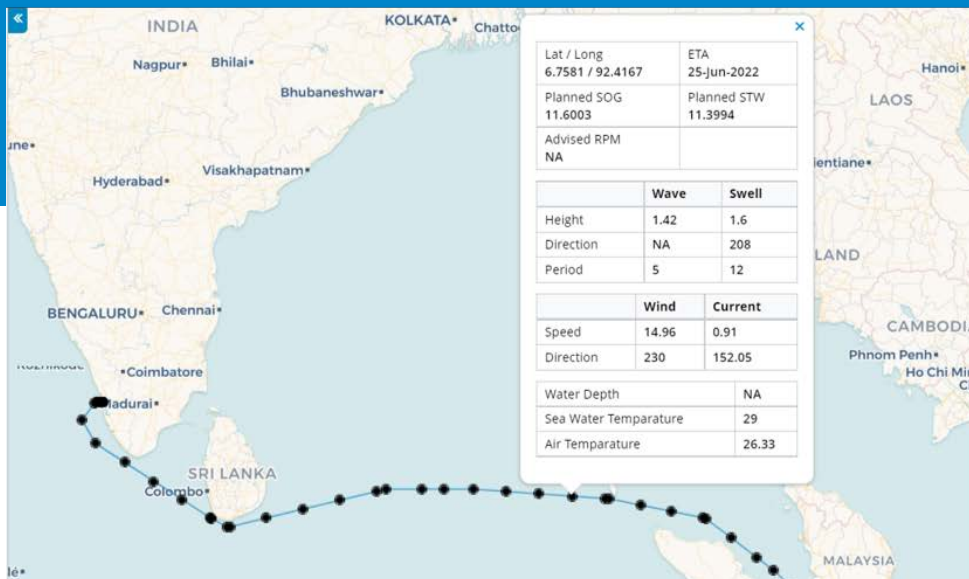


# Operations

Voyage optimization and weather routing:  
improve safety while lowering emissions and costs

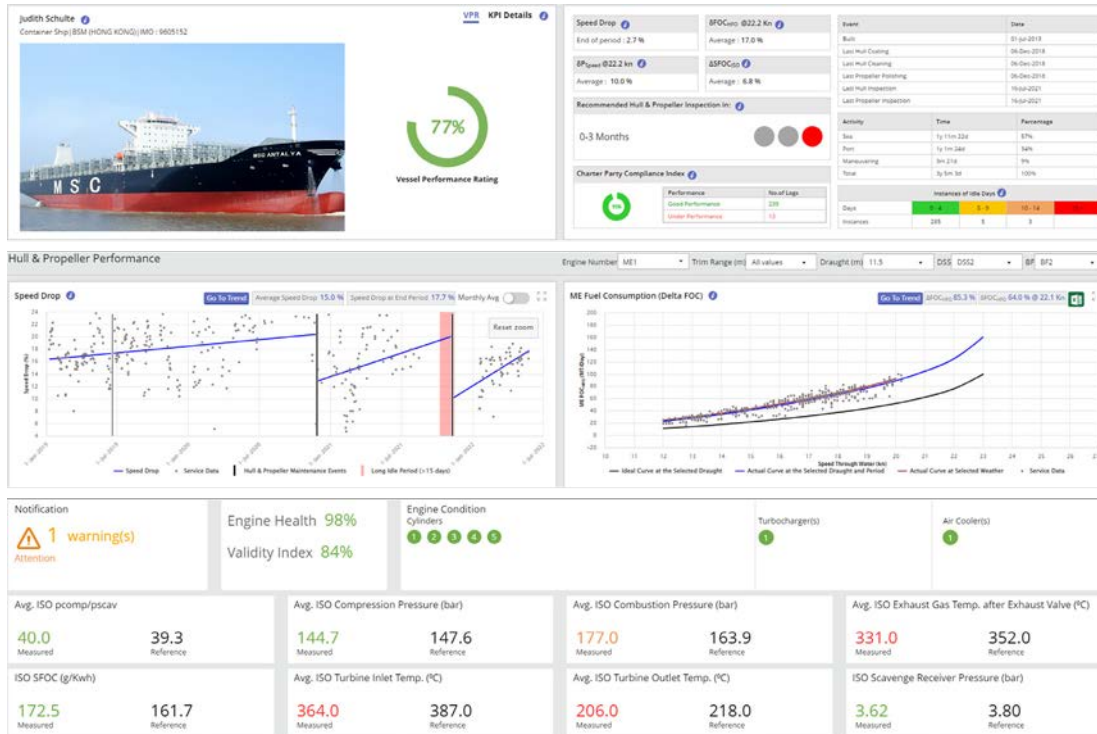


- Global overview including prevailing and predicted weather
- Overlay of constraint areas with addition and proximity controls
- Route and trim optimization
- Fuel consumption per grade and consumer
- Onboard power management at sea, port manoeuvring
- Emissions, cargo, and transport work statistics & KPIs
- CII calculation and future projection on fleet and vessel level



# Performance

Advanced analytics drive the efficiency and reliability of your fleet



- Holistic fleet & vessel performance rating
- Tailored digital twin benchmarking
- Hull & propeller condition analytics including inspection recommendations
- Accurate, actual speed & consumption description
- Charterparty compliance monitoring
- Engine performance analytics including fault diagnostics and prescriptive recommendations
- 2 & 4 strokes, dual fuel support
- Guided, engine-specific cylinder oil optimization

# Alerts

Proactive alerts safeguard your vessel performance

Performance Alerts  
Active Inactive Archive

Severity	Message	Generated On	Alert Triggered To	Details
1	No Voyage logs have been received in the last 17 day(s)	20-Jan-2020	FPC / FD / MD / FM / TSI / MSI / VO	
1	No Voyage logs have been received in the last 30 day(s)	21-Nov-2019	FPC / FD / MD / FM / TSI / MSI / VO	
1	High AE SFOC for last 20 sea logs	21-Nov-2019	FPC / FD / MD / FM / TSI / MSI / VO	
1	No Voyage logs have been received in the last 57 day(s)	21-Nov-2019	FPC / FD / MD / FM / TSI / MSI / VO	
1	High ME fuel consumption for last 20 sea logs	10-Jan-2020	FPC / FD / MD / FM / TSI / MSI / VO	
1	No Voyage logs have been received in the last 19 day(s)	27-Nov-2019	FPC / FD / MD / FM / TSI / MSI / VO	

Low A/E Utilisation for last 20 sea logs

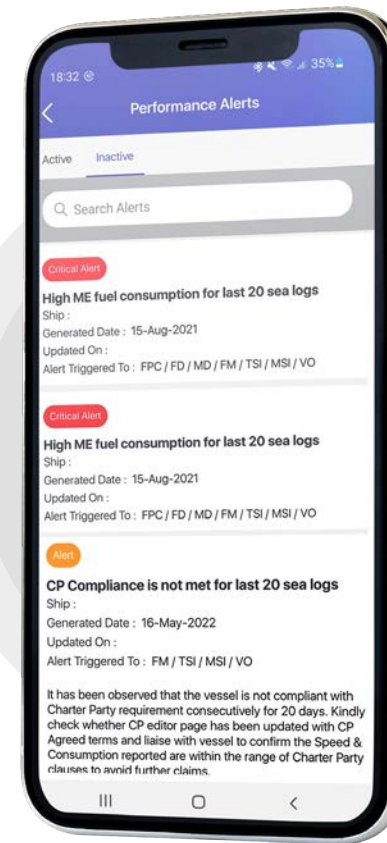


16-May-2020 | Grading: FPC / FD / MD / FM / TSI / MSI / VOPR

The Auxiliary Engine Utilisation is below 30 % for the last 20 Sea Logs (Noon & EOSP). This indicates that the ship is running more Auxiliary Engines than necessary. This in turn means a higher fuel consumption, as well as unnecessary additional running hours on engines with an impact on the ship's OPEX.

Please follow up to ensure that a better practice is followed.

AE Utilisation is a KPI that demonstrates how efficiently the power demand is shared across the Auxiliary Engines, with a higher score (%) being better than a lower one. In practice, this means that for the same value of power demand, a ship that runs two AEs at high load (e.g. 70% MCR) will get a high AE Utilisation score, whereas a ship that runs three AEs at low load (e.g. 45% MCR) will get a low AE Utilisation score.



- Vessel specific, based on tailored digital twin
- Configurable to your requirements
- Automatically escalating based on the criticality
- Delivered on your desktop, as well as on your mobile
- Concurrently available onboard with ship/shore chat function

# Integrations and Data Sources



## Weather route file integration

*smartOps* integrates any route file created by the vessel or provided by the Charterer

## Telemetry system integration

*smartOps* is vendor agnostic and can ingest telemetry data from any onboard installation or ashore directly from a 3<sup>rd</sup> party infrastructure.

## Data sources used by *smartOps* :

- Noon and Hull performance reports from any source
- Main and Aux engine performance reports
- Telemetry Auto Logs (if available on vessels)
- High-frequency AIS data
- Route file for voyage plan from vessel ECDIS
- Weather data
- Any required 3<sup>rd</sup> party interface

# smartOps Vessel Module

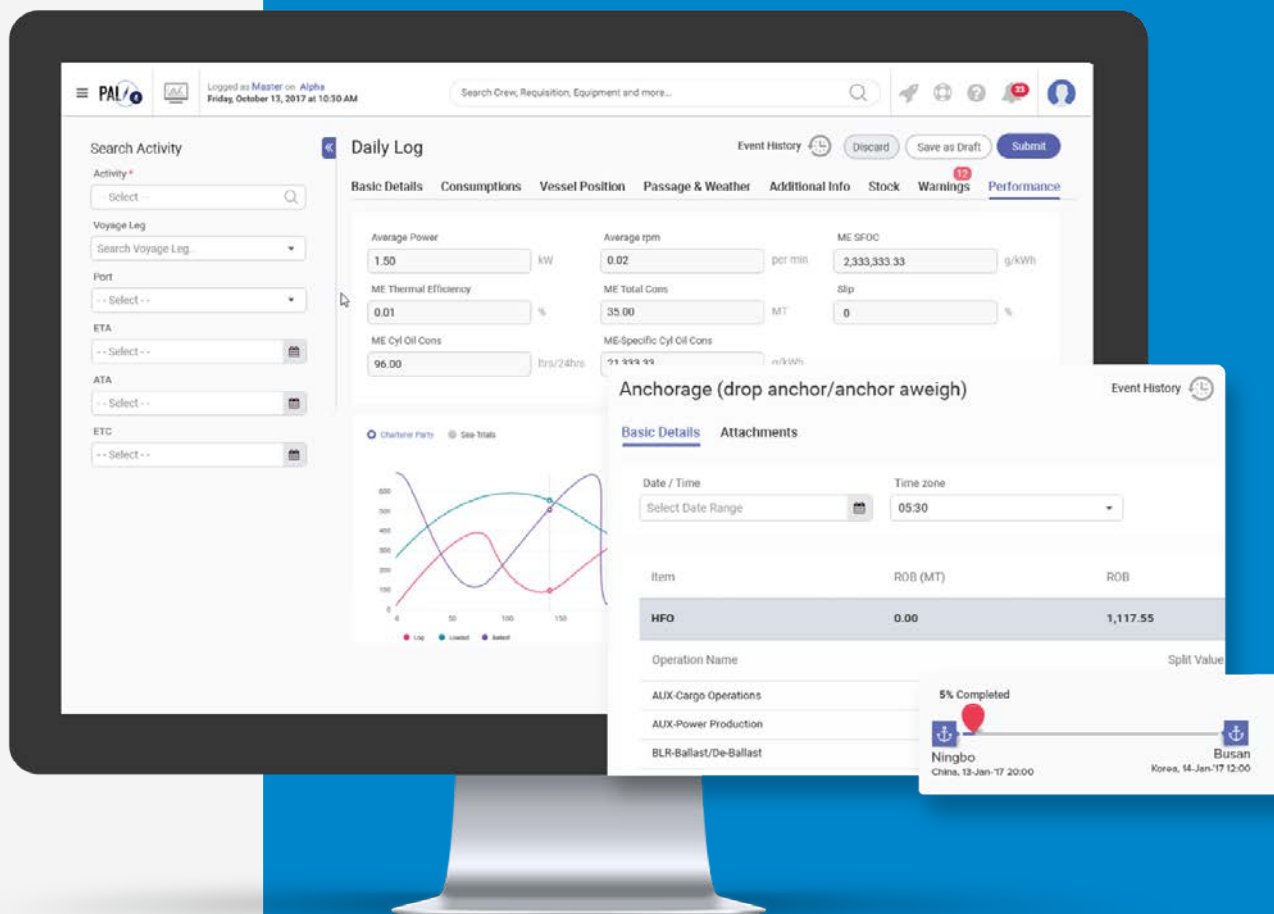
The *smartOps* vessel modules ensures data quality at the point of entry through a comprehensive set of control measures.

## Dynamic forms

- Dynamic forms as per vessel configuration and engine type

## Validations

- 400+ static Validations
- 100+ dynamic Validations
- 100+ cross Validations





# Telemetry integration

*smartOps* can integrate with any onboard telemetry provider and relay live data from the vessel.

Vendor agnostic  
integration

Relay live data through  
Modbus integration

## Our Partners



Telemetry Installation



AIS & Weather Forecasts



Route Optimization

\*We are flexible to work with any other partners of the client's choice

# Fleet Monitoring Centre

The in-house Fleet Monitoring Centre (FMC) offers clients services such as 24-hour operations, digital support, the ability to stream vessel sensor data, remote monitoring screens, infrastructure, and dedicated teams.

FMC activities include:

Navigation, operational, commercial optimization and efficiency assistance are provided to the fleet teams (based on manual reporting and high-frequency AIS data)

Monitoring and reporting of navigational safety including weather warnings, routing, emission area, canal transits, and piracy areas

Real-time monitoring of equipment parameters and utilization (For vessels fitted with telemetry)

Fleet Monitoring Centre





# Services On-demand





MariApps House

## **MariApps Marine Solutions**

- 📍 108 Middle Road, #09-00  
Singapore, 188967
- ☎ 65-8299 7064, +357-9787 9335, +971 55 960 7218
- ✉ [info@mariapps.com](mailto:info@mariapps.com)
- 🌐 [www.mariapps.com](http://www.mariapps.com)