

SHAPING THE FUTURE OF DIGITAL SHIPPING

Innovation Powered by A.I. & Machine Learning



| Automated Data Acquisition
Service

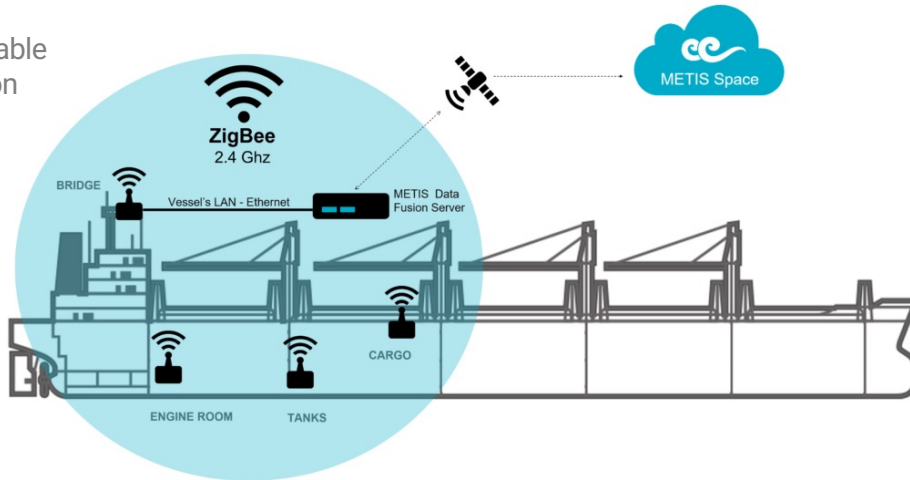
| Operational Intelligence
Services

| Engineering Intelligence
Services

Automated Data Acquisition

METIS is the only company that offers Data Acquisition on a service model. We do not provide just another equipment; we provide an integrated solution and we ensure that the whole process will be working properly for the whole time of our cooperation. With our service we build a solid ground on which we base our further processing and analysis.

Accurate & reliable Data Acquisition service



Collect

METIS fully automated Data Acquisition system collects data from any sensor or measurement equipment installed onboard the vessels, as well as manual measurements from the crew.



Clean

The collected data pass a first level of analysis to verify the validity of the measurement equipment and ensure that each dataset is within a reasonable range for the vessel, at the specific conditions.



Enrich

METIS enriches the collected data with data from 3rd party sources such as weather providers (info from 3 providers), AIS and other shipping company related systems (ERP, PMS, Noon reports).



Synchronize

All data, are synchronized in order to provide a coherent set of data on which METIS can base its further analysis and a shipping company its decision-making process.



Store

The data are transferred through the vessel's satellite connection to METIS Space, where they are safely stored and prepared for the analysis and the extraction of valuable & actionable information.

FOCUS ON YOUR CORE BUSINESS WHILE WE TAKE CARE OF THE REST

Wireless Intelligent Collector

METIS WIC (Wireless Intelligent Collector) is a smart device designed by METIS, that collects all the data from the various equipment onboard (Navigation, AMS, Torque Meter, Flowmeters, etc.), analyzes the signals (analog/digital) and transmits the required output through a dedicated mesh wireless network (ZigBee 2.4 Ghz). The embedded engine of the WIC device provides the processing power to support several operations like the pre-processing of data, the generation of synthetic data for real use case simulation or even the logging of QoS parameters.



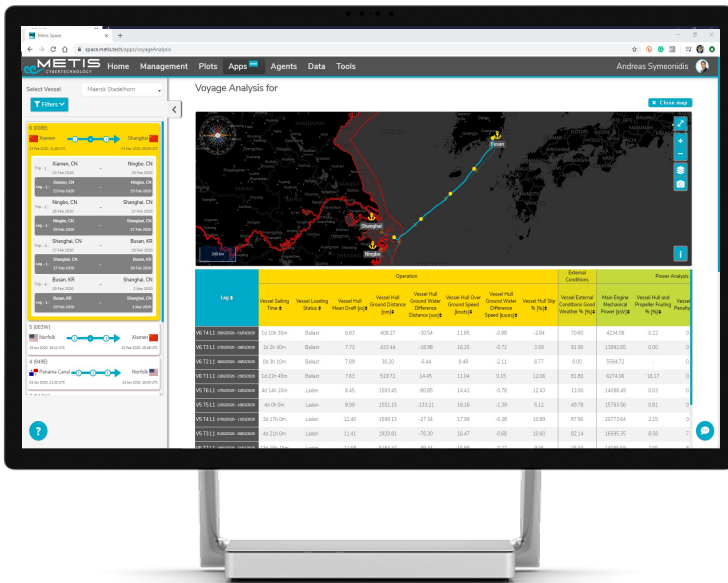
Certified by Lloyd's Register

We are proud to have obtained the unique Lloyd's Register Type Approval Certificate for marine, offshore and industrial applications regarding the whole range of WIC devices we use for the data acquisition service we provide. Our customers can be confident that they get a solution that conforms to recognized industry quality standards, International Conventions and the Lloyd's Register strictest testing procedures.



Operational Intelligence Services

Analysis and services related to the vessel's sailing performance and efficiency



ASSESS

PAST PERFORMANCE

- Measure performance on past voyages
- Provide evidence to understand the reason
- Indicate the areas of improvement
- Estimate the magnitude of the improvement

MONITOR

PRESENT OPERATION

- Online monitoring of the operating status and most significant parameters
- Alerts for critical events & unexpected situations
- Provide information for corrective actions & optimization

PREDICT

FUTURE BEHAVIOR

- Automated reporting at the end of each voyage
- Project the evolution of events in the future
- Provide predictions
- Enhance preventive actions

EVALUATE THE PERFORMANCE OF YOUR FLEET & GET ACCURATE PREDICTIONS TO PLAN AHEAD

DATA-DRIVEN DECISION SUPPORT SERVICES

- Voyage Analysis, Planning & Optimization
- Charter Party Agreements Monitoring
- Predictive Fuel Oil Consumption
- Hull & Propeller Fouling Effect
- Weather Prediction – Routing
- Regulations Compliance
- Bunkering Optimization
- Emissions Reporting
- Claims handling



Engineering Intelligence Services

Analysis and services related to the performance of the mechanical and electrical machinery of the vessel



Live Dashboards

Real-Time Monitoring of all critical machinery equipment onboard

M/E - DGs - BWTS - SCRUBBERS - BOILERS

MAIN ENGINE

- Identify engine overloading
- Injection timing issues and compression deficiencies
- Condition of pistons, piston rings, exhaust valves
- turbocharger deficiencies – fouling
- Quantify the aging effect for each cylinder
- Comparative assessment of all the cylinders
- Identify whether SFOC is within limits as per load

GENERATOR ENGINES

- Identify problems in the Lubrication process for each G/E
- Identify problems in the Cooling system for each G/E
- Identify problems in the Turbocharger system for each G/E
- Monitoring the deviation between the SFOC and the reference to identify whether the engine's consumption correctly as per the load
- Comparative assessment of all the G/Es

OPTIMIZE PERFORMANCE & ACHIEVE OPERATIONAL EFFICIENCY

SCRUBBERS

- Exhaust Gas (Pressure & Temperatures)
- Sea Water (Pressure, Temperature & Flow)
- Critical values according to IMO requirements:
- Operation mode (global / harbor) and evaluation of actual emissions to air (SO₂/CO₂) according to IMO requirements

BWTS

- Operation modes (Ballasting, De-ballasting, OFF, Emergency, etc.)
- System's performance/operation parameters
- Ballast water's parameters (Pressure, Temperature, Salinity)
- System's Alarms

Real-Time Monitoring

Comprehensive Dashboards

Compliance Management

Alerting & Event Handling

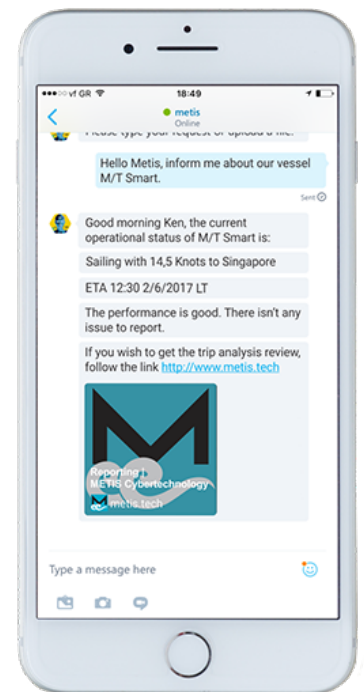
Predictive Maintenance

F.O. Consumption Optimization



VIRTUAL PERSONAL ASSISTANT

Powered by
Artificial Intelligence



Virtual Personal Assistant, is a unique concept introduced by METIS in the maritime industry, helping staff from multiple departments to accomplish their everyday tasks, plan upcoming events, diagnose problems, resolve critical issues and make justified decisions.

The virtual personal assistants interact with the users in plain English and utilizing A.I. technologies, are able to retrieve instantly, any kind of information and provide specialized analytics on operational as well as technical domains.

Indicative queries made to METIS by users

Status of vessel XYZ, position, speed and next port

Weather forecast for vessel XYZ

Give me hull performance analysis

Plot shaft mechanical power vs speed over ground for last week

Consumption analysis, last 10 days

Remaining on board for vessel ABC

M/E analysis dashboard

Plot ME rpm vs power

Consumption analysis, last 10 days

Diesel generator analysis since yesterday

About The Company

METIS CYBERSPACE TECHNOLOGY SA

was established in 2016 and specializes in the field of Data Acquisition, Real-time Performance Monitoring and Intelligent Analytics for the Maritime Industry, utilising Machine Learning and Artificial Intelligence techniques. METIS is strengthened by a team of skillful engineers and researchers with considerable mechanical & naval engineering expertise, technological competence and extensive business know-how in shipping.

The controlling interest of METIS is held by ERMA FIRST, the maritime-focused environmental engineering group. ERMA FIRST is best-known in the shipping industry for its successful Ballast Water Treatment System that was the first of its kind type-approved by the US Coast Guard.



4 Sachtouri str. & 2 Posidonos Av. 17674 Kalithea
Athens - Greece

Tel: +30 213 0075 000
E-mail: info@metis.tech
Web: www.metis.tech

