



Datum Hawk

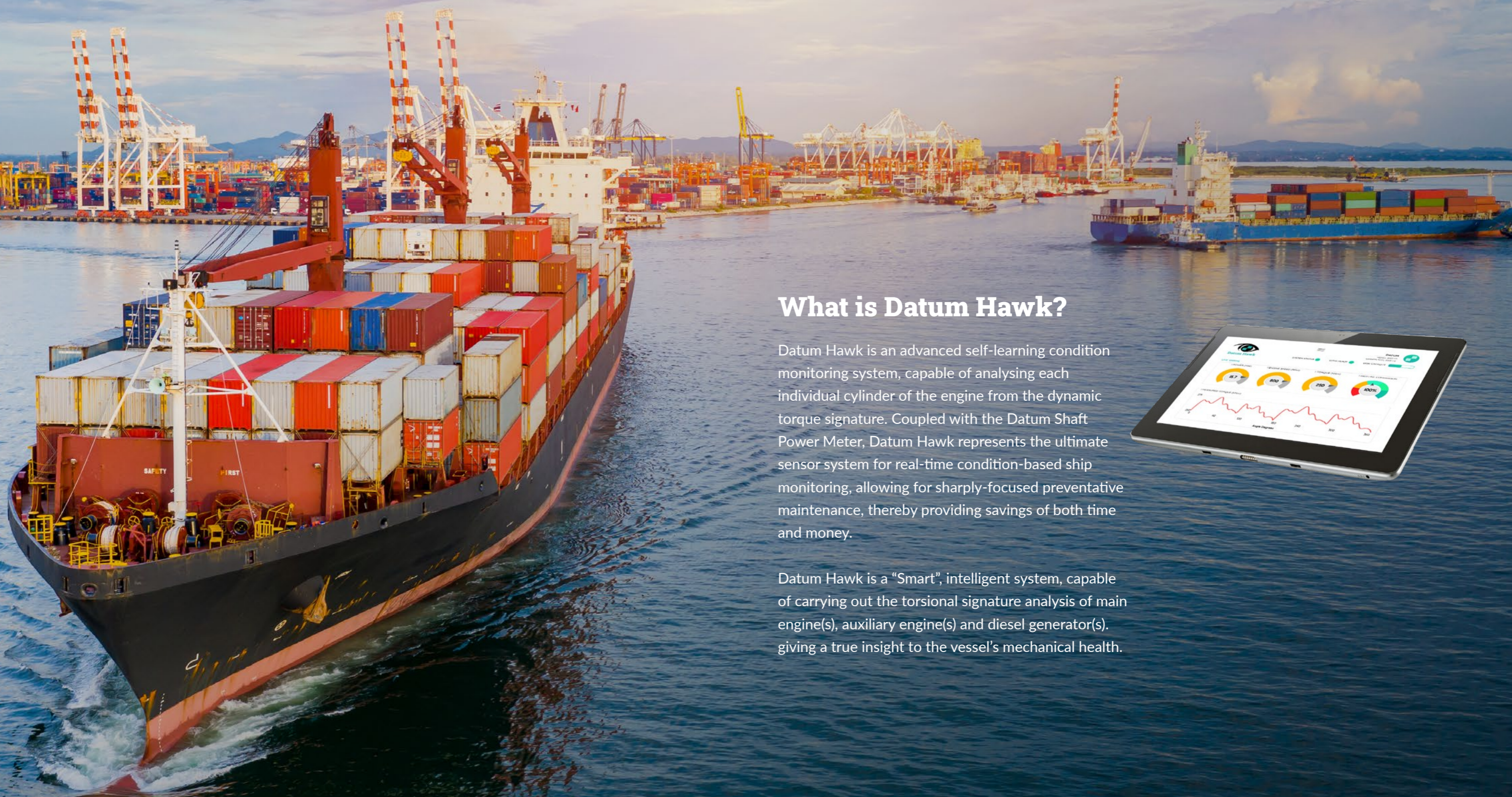
Product Overview

The Market-Leading AI Condition-Based Monitoring Solution

+44(0)1983 282834
datum-electronics.com



Datum Hawk



What is Datum Hawk?

Datum Hawk is an advanced self-learning condition monitoring system, capable of analysing each individual cylinder of the engine from the dynamic torque signature. Coupled with the Datum Shaft Power Meter, Datum Hawk represents the ultimate sensor system for real-time condition-based ship monitoring, allowing for sharply-focused preventative maintenance, thereby providing savings of both time and money.

Datum Hawk is a "Smart", intelligent system, capable of carrying out the torsional signature analysis of main engine(s), auxiliary engine(s) and diesel generator(s), giving a true insight to the vessel's mechanical health.



Features

Datum Hawk analyses the dynamic torque from engine output shafts, identifying and quantifying individual cylinder actions, as well as changes in the engine dynamics, related to potential failure modes.



Predictive Maintenance

Live Monitoring of each cylinder enables defects and changes in the engine performance to be identified before an event occurs.



Engine Profiling

All Engines have their own Unique Profile. Datum Hawk identifies each cylinder & records the Engine Profile from the Torque Signature at 2,000 samples per second.



Fuel Saving

Datum Hawk enables the engine to be run at peak performance, reducing Fuel Usage and therefore Emission Levels.



24/7 Condition Based Monitoring

A quantum leap in shaft power measurement, Datum Hawk enables Live monitoring of the engine 24 hours a day, 7 days a week with data that is simple to interpret and display.



AI & Machine Learning Techniques

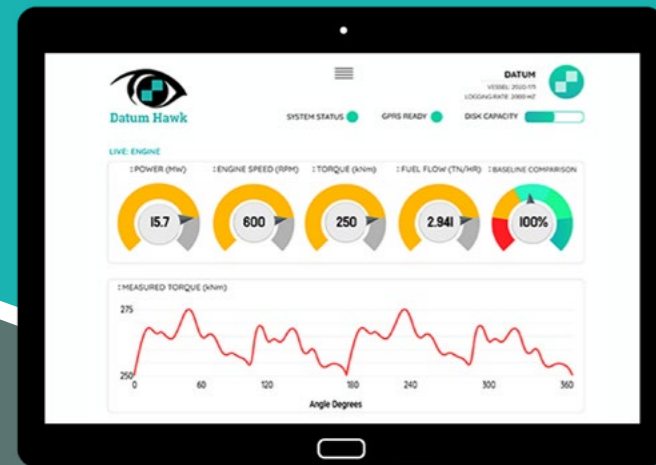
The self-learning methodology, capable of predicting events in advance of any critical failures, is developed to reduce vessel and engine down-time and optimise ship propulsion efficiency.



Fuel Consumption (SFOC)

When combined with Fuel Flow Meters, Datum Hawk can display real-time Specific Fuel Oil Consumption (g/kWh), essential data for optimal vessel performance.

Dashboards



Live Engine Performance

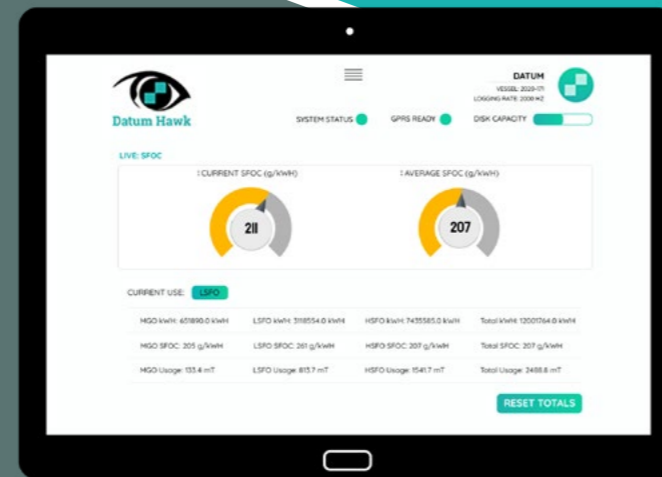
The live engine performance dashboard displays all current data regarding the vessel's speed, power, torque and fuel consumption. It provides visibility of the engine's current performance versus a self-learning baseline, vital for performance optimisation.

Information is transmitted 24/7 to the Touchscreen panel PC, which can be mounted in the Engine Control Room or on the Bridge, giving the crew full visibility of engine condition and performance.

Live Fuel Consumption (SFOC)

Datum Hawk has extensive capabilities, allowing seamless integration with other systems onboard, including but not limited to, flow meters, Canbus systems and other interfaces, to provide a comparison of actual engine power produced versus the fuel delivered to the engine.

The live SFOC dashboard displays Specific Fuel Oil Consumption in g/KWh, giving a true indication of fuel consumption at all times, under any engine load, permitting optimal engine performance and fuel cost-savings.

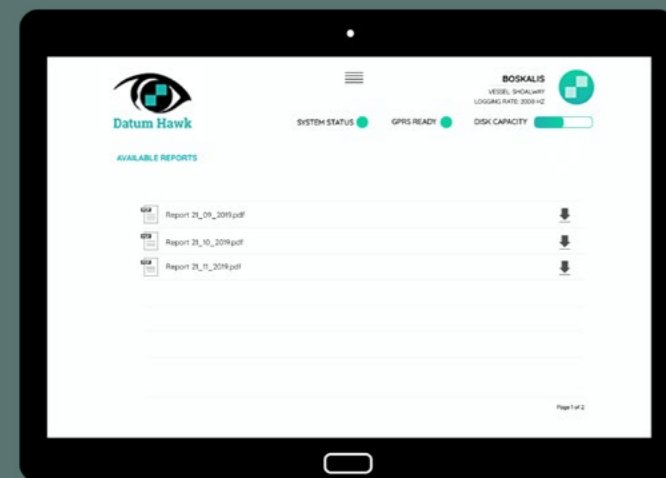


Reporting

The reports dashboard shows information, which includes power, torque, speed and fuel consumption, for a specific date.

These reports can be downloaded on-board or (if integrated into the ship's network) sent ashore for ship owners, fleet operators and Technical Teams to analyse and review.

The reports data is locally stored on the hard drive, which continually archives the data, so that it can be accessed if and when required.



Features

Features	Datum Marine SPM	Datum Hawk Lite	Datum Hawk Ultimate
Contactless & Maintenance Free	✓	✓	✓
Multiple Analogue & Digital Data Outputs	✓	✓	✓
Shaft Diameter: from 140 mm to 1,600mm	✓	✓	✓
Optional Thrust Measurement	✓	✓	✓
Real-time Logging & Reporting	✓	✓	✓
Fast ROI - https://datum-electronics.com/calculate-roi/	✓	✓	✓
Torque Sample Rate: 10-800	✓	✓	✓
Torque Sample Rate: 10-8,000		✓	✓
Fuel Flow Monitoring*		✓	✓
Specific Fuel Consumption (SFOC) Measurements*		✓	✓
Cylinder Pressures Reporting		✓	✓
Cylinder Pressures Health Monitoring			✓
Self-Learning AI Algorithms			✓
Predictive Maintenance Capabilities			✓
Live Engine Performance/ Health Monitoring			✓
Multi-Sensor Data Acquisition/ Analysis:			✓
• Engine room ambient temperature			✓**
• Air temperature after T/C compressor(s)			✓**
• Air temperature at air cooler outlet(s)			✓**
• Water temperature inlet at air coolers			✓**
• Scavenge air receiver pressure			✓**
• Exhaust temperature after cylinder(s)			✓**
• Exhaust receiver temperature			✓**
• Exhaust receiver pressure			✓**
• Temperature before T/C turbine(s)			✓**
• Temperature after T/C turbine(s)			✓**
Dedicated remote technical support package			✓**
Two annual vessel technical support visits			✓***
Enhanced and continuous algorithm upgrades			✓***
Predictive maintenance warning alerting			✓***
* Fuel flow mass meters to be purchased separately			
** Sensors outputs to be made available by vessel operators			
*** Licencing fees apply - EPOA - Contact Sales to discuss			



Modular System



Class Leading Measurement Accuracy



Fully Trained Global Installation Team



SFOC Reporting



UK Design & Manufacture



Delivery Within 2 Weeks



2 Year Warranty



 datum
electronics

 **MADE IN
BRITAIN**

Contact Datum to discuss your needs on:
web@datum-electronics.co.uk • +44(0)1983 282834

datum-electronics.com

