



## ➤ SIGNIFICANT FAILURE RISK MITIGATION THROUGH EARLY STAGE FAULT DETECTION

### Cargo Ship, Two-Stroke Engine – Oil Condition Monitoring

#### Challenge

Any engine failure on a ship is very costly, and undertaking oil sample analysis on a ship is also challenging. Making sure that your oil is always able to effectively and efficiently lubricate your engine is essential to maintaining optimum performance and reliability.

#### Solution

The Tan Delta Oil Quality Sensor (OQSx) was fitted to each engine on a large Cargo Ship. By inserting a simple manifold into the oil filter feed line, the sensor could be integrated into the existing engine monitoring system. This meant that the real-time sensor data was available on the existing engine health dashboard, allowing a central point of reference for all predictive monitoring technologies on board.

#### Benefits

The engine room operatives can now see the oil condition in real-time so whatever the current load on the engine they have the peace of mind that any issue will be seen before it becomes potentially catastrophic. Trend analysis of the data over time has allowed operators to establish the optimal condition of the oil, and they can track accelerated wear in order to pinpoint the optimal time to carry out maintenance.

## ➤ RETURN ON INVESTMENT

Savings in oil and sampling were in excess of £40k per year with an overall project payback within 6 months.

## ➤ COMMERCIAL BENEFIT

#### Help the Environment

Engine efficiency improved on ship. They reduced oil consumption, maintenance activity and costs and helped conserve the environment.

#### Increased Reliability

Detects and reports the early signs of hidden issues enabling remedial action to prevent accelerated wear and unexpected breakdowns.

#### Reduced Service Intervals

Less maintenance and servicing means increased equipment availability and reduced costs.

#### Less Down Time

Ship crews were able to record and trend the oil life in the engine to accurately predict future maintenance.



Prevent the huge cost of unexpected equipment failure

## Service and Support from Tan Delta

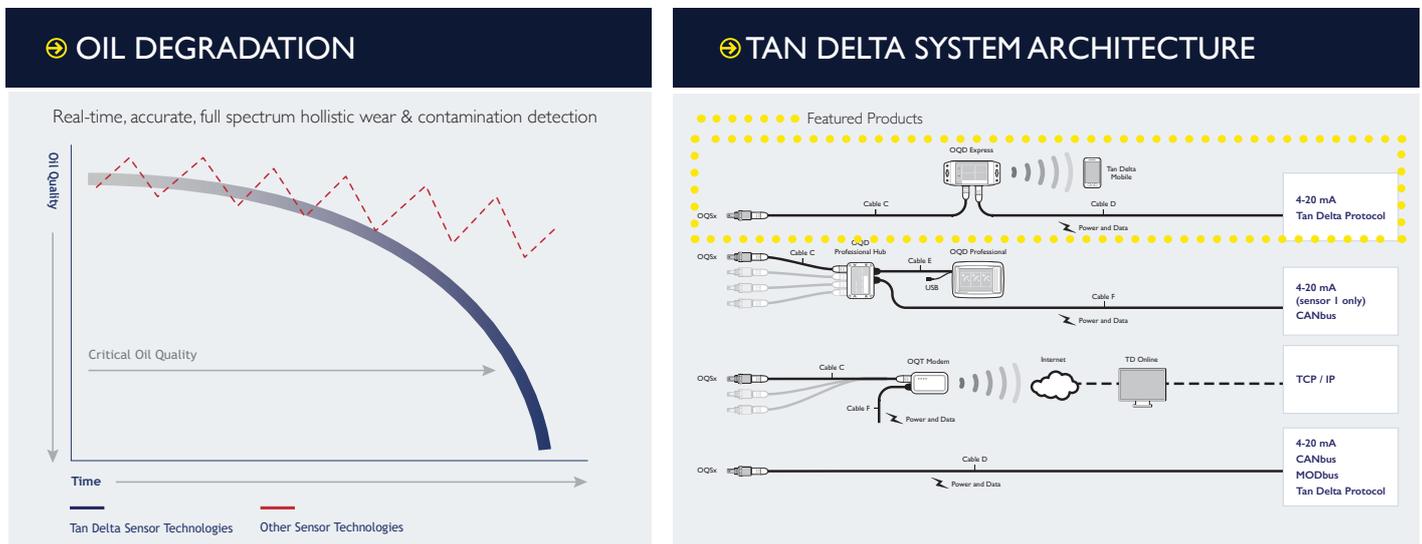
The Tan Delta Customer Support team partners with customers to implement highly effective and commercially beneficial projects. Our experience and expertise enable customers to quickly and smoothly implement successful oil condition monitoring.

- ➔ The evaluation and identification of the commercial benefits that will be derived from the implementation of Tan Delta Full Spectrum Holistic (FSH™) real time oil condition monitoring.
- ➔ Support for the planning and efficient implementation of systems across large estates of equipment, including the integration into existing monitoring systems and operational procedures.
- ➔ Ongoing 24/7 global warranty support, technical support, advice and consultancy to ensure customers maximise the long term benefits of their investment in oil condition monitoring.

## Technology That Makes a Difference

Tan Delta core technologies deliver unique oil condition monitoring performance that directly translates into significantly enhanced commercial benefits.

Tan Delta technology uniquely offers FSH™ oil condition monitoring in real time to a very high degree of accuracy. This ensures that any contamination and or wear, no matter the cause, is detected, quantified and reported in real-time. Nothing is missed.



## About Tan Delta Systems

Tan Delta Systems Limited is a global leader in the development and supply of advanced oil condition monitoring technologies, products and systems.

Its products are trusted by the world's leading industrial and commercial companies to monitor oil condition, helping to optimise equipment productivity, reduce operating costs, thereby remaining competitive in a global economy.

All Tan Delta products are engineered and quality manufactured for long term continuous operation in the harshest commercial and industrial environments. Each product is carefully engineered and tested to withstand the long term effects of extreme shock, vibration, heat, cold, thermal shock, electrical interference and many more factors.



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