



Digitally Enabling  
Oil & Gas Operations

Case Study

# Zero Downtime Achieved Using Predictive Analytics

One of the world's largest energy companies applied the X-PAS™ Operations service to improve the reliability of the oil train on their North-Sea asset. They achieved outstanding results.

**X-PAS™**  
Operations

## Case Study



### The Challenge

With challenging operating performance on a specific asset, our customer (a supermajor) identified key areas for improvement. This was largely focussed on maximising the reliability of critical systems which were the principal contributors to underperformance.

The asset's oil train was initially selected for deployment of the X-PAS™ Operations service to generate meaningful, contextualised insights that would allow the asset operations team to take action to avoid threats to stable operations, improve system reliability and ensure a heightened awareness of the threat level.

**X-PAS™**  
Operations



### The Approach

A number of predictive models of the oil train system were built in collaboration with the customer.

The system envelope comprised of separation, heat exchangers, coalescers and export pumps covering the entire process system.

Continuous analysis of the streamed data was undertaken, with any excursions from modelled behaviour investigated and validated by the team of data analysts and domain experts.

Eliminating false positive alerts was high amongst the requirements of the service, to limit any unnecessary distraction for the customer's resources. This was measured by an insight to intervention ratio which would accurately reflect the quality of contextualised insights.



### Data > Insight > Action > Value

During the first 6 months of service deployment on the oil train system, the customer carried out a number of active interventions which prevented system shutdowns, avoided high cost reactive maintenance and associated repair activities, whilst maintaining equipment availability.

Over this period the customer improved system performance to such an extent that system downtime associated with unplanned shutdowns was reduced to zero.

Coupled with an insight to intervention ratio of >80%, this very focussed, collaborative service was judged to be of high value.

Subsequently the service was extended to other systems on the asset.



### The Impact

The interventions the customer took during this period helped them to achieve the following:

**4**

Oil train shutdowns avoided

**4**

Instances of maintenance or repair avoided

**5**

Optimisation improvements identified

**Zero hrs**

Oil and gas production downtime attributed to the oil train