



Digitally Enabling  
Oil & Gas Operations

Case Study

# Optimising Power Generation Reliability.

Working closely with our customer's asset team, OPEX helped to improve the performance of the power generation system on a major North Sea asset. Here's how we did it.

## Case Study



### The Data

Operational data was taken from the customer's power generation system including the gas turbines and fuel supply system.

Every day over 1million data points and 50,000 data relationships were analysed by OPEX's data scientists.



### Our Approach

Using predictive technologies, data science and oil and gas domain expertise we focused on helping this customer to:

- Solve specific power generation problems
- Slash their diesel costs
- Maximise the performance of the power generation system



### Typical Insights

Some examples of the types of issues we helped to identify on this system:

- Increased rate of filter fouling identified in wet screw compressor system correlated to number of start-up attempts
- Early detection of issues in plant heat exchanger via monitoring of WHRU performance
- Oil leaks identified through increased rate of oil consumption, allowing planned service to be optimised
- Emerging instrument issues identified quickly through leading indicators such as instrument drifts, offsets, etc.



### A Practical Example

#### Identification of Vibration Probe Failure

During daily analysis, a vibration probe fault was identified with the standby fuel gas supply compressor.

Following our recommendation the operations team inspected the probe, and finding it to be faulty as suspected, replaced it with a new unit.

Through early identification and notification of this hidden threat, the asset was able to effectively start-up the fuel compressor and avoid trips and delays to bringing power online.



### The Impact

During the first 12 months of application:

**25**

Actionable insights provided by OPEX

**10**

Power generation system trips avoided

**65**

Hours of downtime prevented

**\$91k**

Diesel savings