



Digitally Enabling
Oil & Gas Operations

Case Study

21 System Trips Prevented in Six Months.

The X-PAS™ service was applied to the gas compression and export system on a UKCS installation.

In the first six months of application we helped our customer to anticipate and prevent 21 system trips. Here's how we did it.

Case Study



The Data

The gas compression and export system comprised of gas turbine driven, flash gas and export compressors with the associated gas dehydration and treatment system.

Data quality and transmission frequency associated with the asset heritage were overcome and allowed for system modelling.



Our Approach

The asset had experienced a sustained period of variable production efficiency largely related to unscheduled shutdowns of the gas compression system and extended downtime associated with impaired equipment.

The X-PAS™ service was implemented to support our customer in system reliability efforts.



Typical Insights

Consistent with what is seen across the range of gas compression systems where X-PAS™ is applied, the following typical insights revealed:

- Dry gas seals
 - Zero flow on the compressor inner seals
 - Reduced supply rate of buffer gas to outer seals due to erratic vales
 - Flash gas compressor suction side inner seal leakage
- High variability of compressor anti-surge valve control leading to system instability
- Numerous instrumentation and control issues leading to system instability



Practical Example

Eliminating instrumentation Problems

Industry reliability data identifies that the principal failure modes resulting in gas turbine driven gas compression shutdowns is through abnormal instrumentation readings.

The escalation period from a degraded state to critical (shutdown) is not linear and hence identification of abnormal excursions from acceptable conditions is imperative to avoid shutdown.

In the course of 6 months, 21 system trips were avoided and 5 of these were related to significantly degraded instrumentation where timely intervention prevented a trip.



The Impact

During the first 6 months of application:

21

System trips prevented

\$26million

Production loss avoided

25

Instances of high-cost equipment damage avoided