

# 1 Real Time Asset Monitoring



CHRYSAOR



Oil & Gas Authority

## Applications

- All plant data can be analysed to improve predicative capabilities
- Most plant losses (MER efficiency task force) currently come from the compression system and is a focus area:
  - Industry approx. 14% of total losses due to compression
  - Chrysaor approx. 5% of total losses due to compression
- 3rd Party providers now offer remote AI / machine learning solutions

## Benefits

- Reduce down time due to failures
- Reduce down time due to schedule maintenance – move more to CBM
- Increase the speed and accuracy of RCAs
- Improve intervention planning

## Key learnings

- There is simply too much data to look at by humans on a day to day basis
- Analytic techniques and where possible AI / machine learning can be employed to allow analysis of critical data, consistent quality, accuracy and time efficient analysis of data



# Data Analysis Technology



## Examples

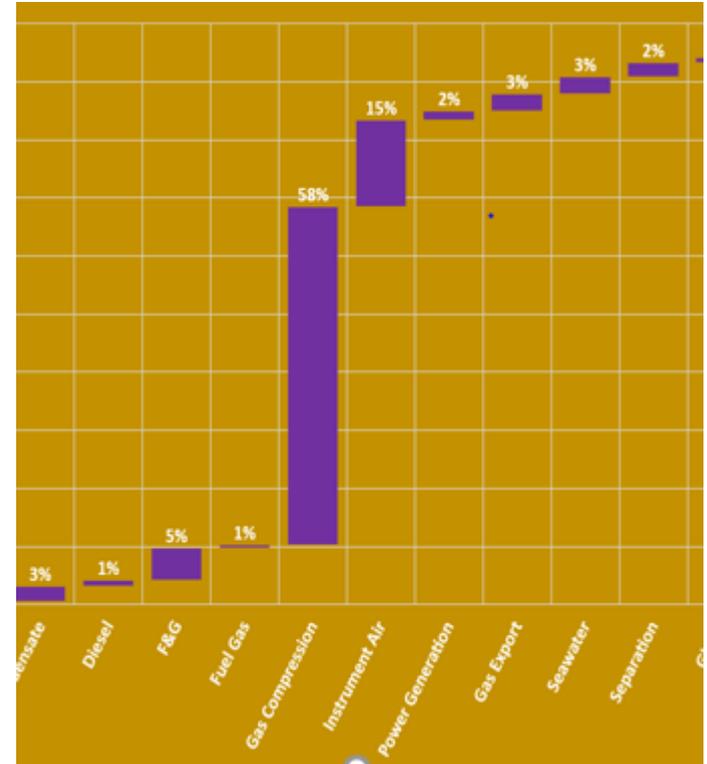
- Trial completed on one export compression package and now deployed across 3 compressor trains

## Success stories / benefits

- 2 interventions during the trial reduced the plant compression deferment by approximately 20%
- Historical data review has helped route cause analysis

## Learnings

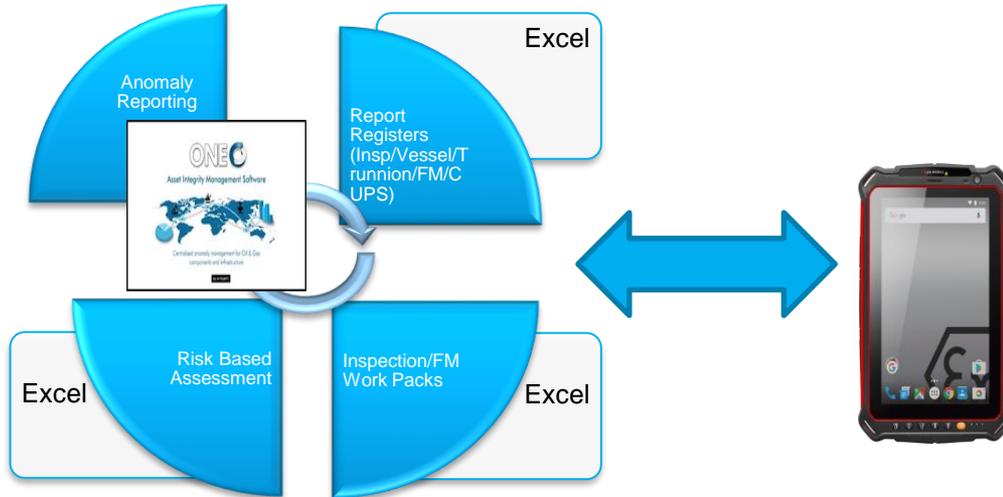
- Relatively straightforward to deploy
- Competitive charging mechanisms linked to production and successful interventions, however still an expensive solution
- Solution has proven to be valuable with identified issues being highlighted to operations early



## 2 Wearable and Wireless Technologies

### Applications

- Inspection & FM data currently spread across multiple formats, transfer all data into ONE database
- Expand the functionality within ONE database to ensure that all parties can interact consistently with the system - Digitisation
- Inspection and FM execution works onshore/offshore digitised via Exlpads etc...



### Benefits

- Reduction in OPEX through improved efficiency
- Enhanced control of anomaly data
- Real time visibility of anomaly data
- At site linkage anomaly and P&ID's
- Pre-defined document entry ensures reporting is minimised, no data duplication, concise, repeatable reporting

### Key learnings

- Benefits from small scale modular roll out
- Core data needs to be cleansed/digitised
- Chrysaor engaged with OGTC to develop ONE further to include 'offline' application
- Close interaction with Inspection and FM contractor required
- Core templates improves consistency

# Wearable and Wireless Technology



Oil & Gas Authority

## Examples

- 4G capability installed on 2 assets
- Offshore/onshore trials completed but not yet deployed
- Bluetooth headset utilised for hands free dictation
- At site documented link between anomaly and P&ID's (digital twin)

## Success stories / benefits

- Trials were successful with manhour reduction, rope access efficiency improvement
- Improved report/data quality
- Enabling data trending and application of future analytics improving RBA's

## Learnings

- Data cleansing required
- If deployed more inspections can be completed within the same constraints
- Improved quality/connectivity between on/offshore, inspection/FM contractor, TA's etc....

Potential Per shift saving	Potential Annualised Saving / per team	Total Field potential 2019 savings / Productivity Increase (8 cross asset teams)
2 Hrs	730 hrs	5840hrs / £292,000