

Digitalisation

*Asset Integrity – Lost In Data Management
A Story of Improvement through Digitalisation*

Darren Stoker, Chief Technical Officer

Asset Integrity Digitalisation

RSRUK Asset Integrity – Sense of Scale

- **411** Years old
- **15,111** Planned Inspection
- **212,959 tons** Steel weight in platform construction
- **52,423** Registered T/S Pipe Spools
- **2,651,189** Inspection T/S test point locations
- **280** Pipelines at a total length of 2085km



Thurso to Southampton and back

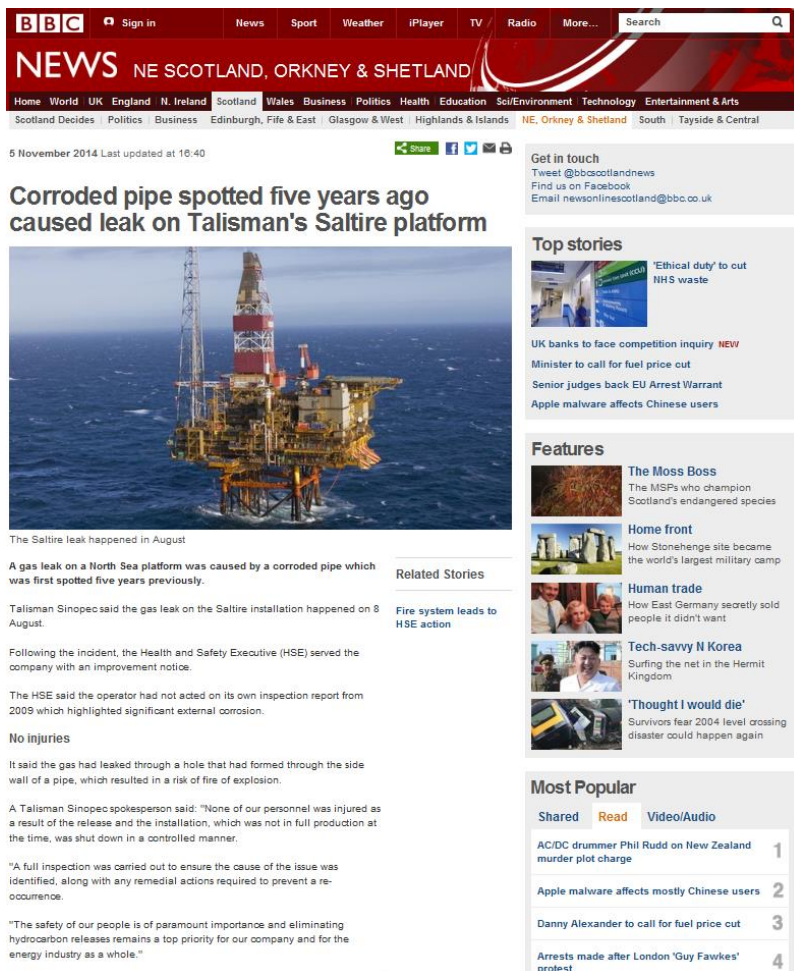


LOST IN DATA MANAGEMENT



Asset Integrity Digitalisation

Gas Failure – Lost In Data



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5 November 2014 Last updated at 10:40

Corroded pipe spotted five years ago caused leak on Talisman's Saltire platform

The Saltire leak happened in August

A gas leak on a North Sea platform was caused by a corroded pipe which was first spotted five years previously.

Talisman Sinopec said the gas leak on the Saltire installation happened on 8 August.

Following the incident, the Health and Safety Executive (HSE) served the company with an improvement notice.

The HSE said the operator had not acted on its own inspection report from 2009 which highlighted significant external corrosion.

No injuries

It said the gas had leaked through a hole that had formed through the side wall of a pipe, which resulted in a risk of fire or explosion.

A Talisman Sinopec spokesperson said: "None of our personnel was injured as a result of the release and the installation, which was not in full production at the time, was shut down in a controlled manner.

"A full inspection was carried out to ensure the cause of the issue was identified, along with any remedial actions required to prevent a re-occurrence.

"The safety of our people is of paramount importance and eliminating hydrocarbon releases remains a top priority for our company and for the energy industry as a whole."

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5th November 2014

A GAS LEAK CAUSED BY CORROSION WAS SPOTTED 5 YEARS AGO



Investigation Findings:

- ▶ Lengthy Paper Workpack Documents
- ▶ Duplication of Inspection Review – 220 work documents in IRS for one line, all reviewed by the OIE offshore and onshore – **Anomaly lost in data**
- ▶ Significant time lag before defect found and assessment - **Overall integrity cycle can take 3 months to complete**

Asset Integrity Digitalisation

Transformation Overview – 6 Pillar Plan

OBJECTIVE

Enhance Integrity Of Every Asset

In Housing MOC	Integrity Procedures	Inspection Services	Software and Systems	People	CLEANOP
Potential £xxm	Risk Reduction Compliance	Potential £xxm	Potential £xxm	Risk Reduction	Est 40% reduction of work 130,000hrs £xxxm
<ul style="list-style-type: none"> Pipelines ✓ Job Descriptions ✓ Data Transfer ✓ TUPE ✓ Training and Comp ✓ Office set up ✓ Internal Comms ✓ Transition ✓ Contractual/ legal Obligations ✓ HR Plan ✓ Cost model ✓ Mentorship during transition ✓ 	<ul style="list-style-type: none"> Philosophy ✓ Work Flow ✓ IMS ✓ NII Approach ✓ Topside Integrity ✓ SIMS ✓ SISC ✓ Specifications ✓ Process Documents ✓ Guidelines ✓ 	<ul style="list-style-type: none"> Contract award ✓ IDC Role MOC ✓ Find and Fix ✓ Reporting ✓ Work packing ✓ Call off framework ✓ FM Philosophy ✓ Technology Plan ✓ 	<ul style="list-style-type: none"> Upgrade COABIS ✓ - Topsides ✓ - Structures ✓ - Pipelines ✓ - FM ✓ Remove IRS ✓ Refresh RBI ✓ Develop Integrity HUB ✓ Training Program ✓ 	<ul style="list-style-type: none"> Develop Org Charts ✓ Job Description ✓ Assess Indivual ✓ Recruit for roles ✓ Train and Develop plans ✓ Work force Engagement ✓ Graduate Program ✓ 	<ul style="list-style-type: none"> Tartan ✓ Arbroath ✓ Montrose ✓ Claymore ✓ Piper ✓ Bleo holm ✓ Clyde ✓

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Asset Integrity Digitalisation

New Asset Integrity Cycle



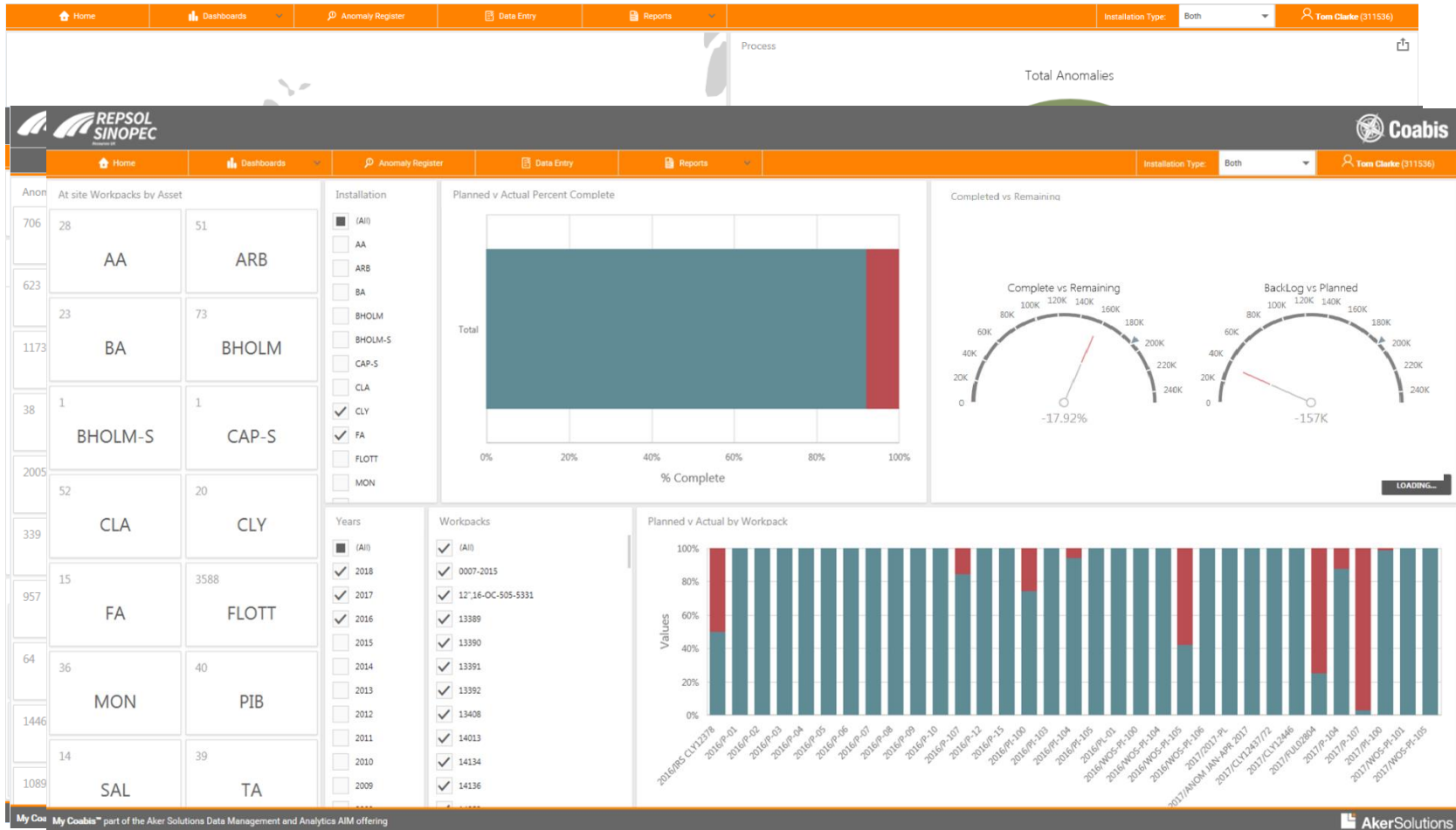
COABIS Upgrade Project (4 month Project)

- ▶ Results now directly input into COABIS on site during the inspection (No Paper)
- ▶ Removes 4 layers of duplication in assessment
- ▶ Development of a component based anomaly management system
- ▶ Anomalies raised and passed onshore for assessment in minutes, rather than days
- ▶ All Workpacks are now created electronically within COABIS and are live digital documents – reduces 4 steps into 1
- ▶ Inspection cycle time has been reduced from months to days
- ▶ Critical defects no longer lost in data

New Integrity Management Cycle



COABIS – Leading the way in Asset Integrity Analytics



Asset Integrity Digitalisation

Digital Transformation Activities



Integrated Operations Centres

