

# Field installation in ATEX zone in the Middle East

# Business case

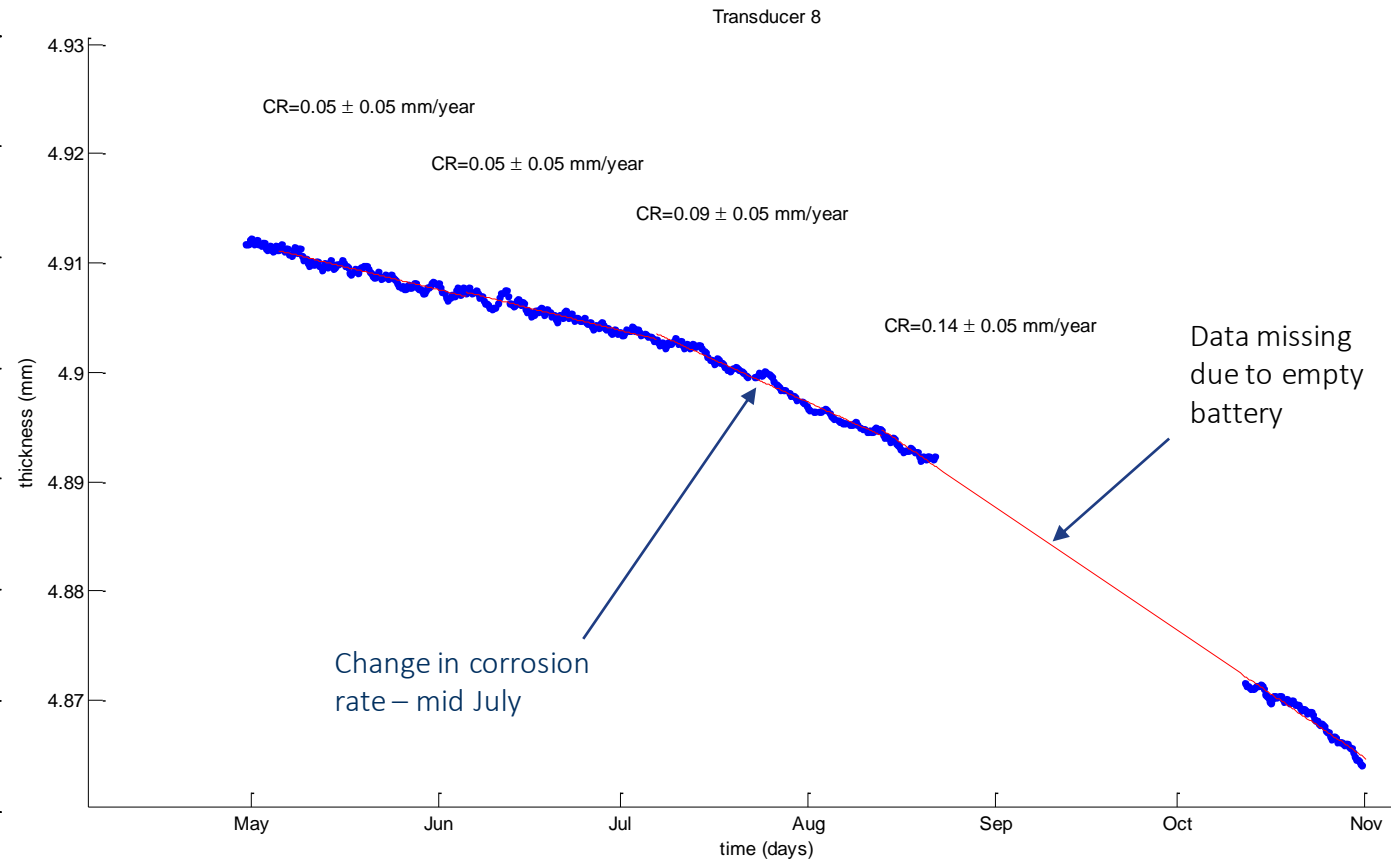
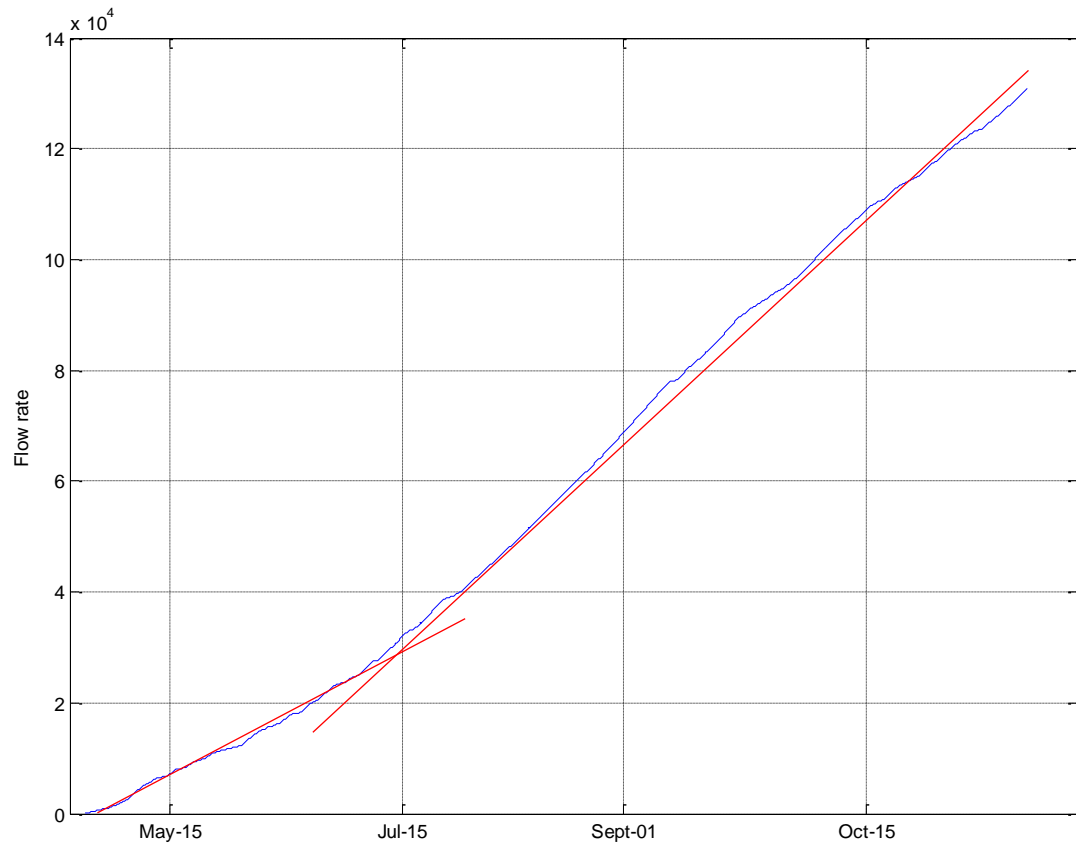
- 6 months field installation on a gas processing plant in the Middle East
- Area of installation: EX zone 1
- Monitor the corrosion rate at the outcome of a bend
- Compare with manual UT performed before and after the test

# Technical solution

- Semi-automatic solution
- Measurement frequency 4 times per day
- Measurement automatically saved locally in data logger unit
- Measurements collected every two weeks
- Analysis performed after each collection



# Correlation between flow rate and corrosion rate

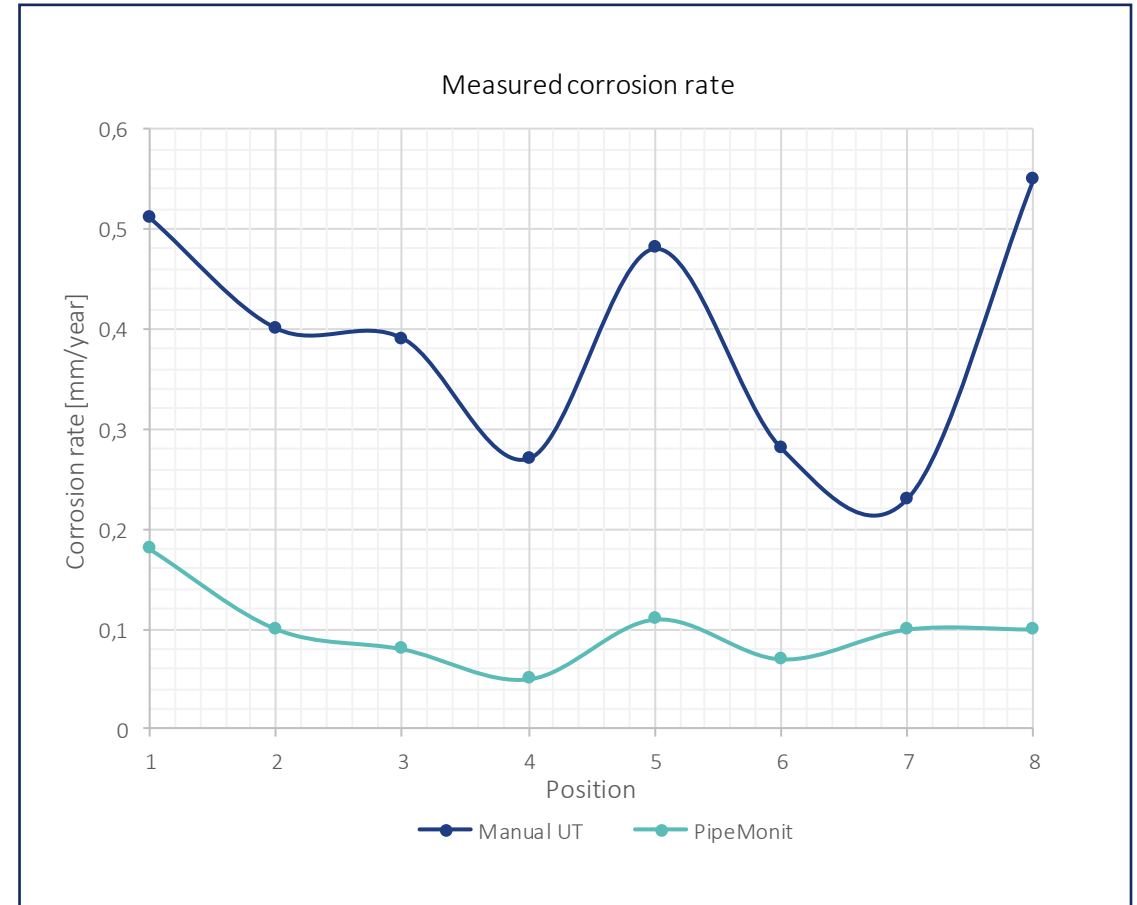


Detected corrosion rate uncertainty is 0.07 mm/year within 3 weeks

# Corrosion rate – manual UT vs PipeMonit

Corrosion allowance: 3.0 mm

Measurement technique	Integrity management activity
Manual UT	Replace pipe after 6 years
PipeMonit	Replace pipe after 16.5 years



# PipeMonit advantages

## **Reduced opex:**

- Reduce cost for inspection programs (such as manual UT)
- Optimise chemical injection program

## **Reduced HSE risks:**

- Substitute for intrusive corrosion coupons and probes

## **Improved integrity management**

- Rapid detection of corrosion rates -> more reliable decision making
- Real time knowledge of exact wall thickness and wall thickness changes

## **Access restricted areas**

- H2S zones, HSE restrictions, elevated pipe

# Conclusion

- Corrosion detected: 0.07 mm/year, 300% better than test specification
- Identified correlation between flow rate and corrosion rate
- Wall loss accuracy in the range 0.4 to 2.8  $\mu\text{m}$ , low enough to be used for chemical inhibitor adjustments
- Comparison manual UT vs PipeMonit: PipeMonit provides far better accuracy -> excellent tool for complimenting manual UT
- Comparison manual UT vs PipeMonit: more precise estimate of pipe life time
- Reduced need for intelligent pigging