UKOPA
United Kingdom Onshore Pipeline Operators' Association

UKOPA Member Meeting 2024

UKOPA
United Kingdom Onshore Pipeline Operators' Association

3. Digitalisation in the Energy Sector

www.ukopa.co.uk

Digitalisation in the Energy Sector

Digitalisation

What is it?

Drivers

AI

Typical applications for pipeline operators

UKOPA members' experience

Digitalisation

Using digital technologies to change a business model

Typically, end-to-end digital process

Not digital “paper”

Not “more spreadsheets”

Example: Bank transactions (payments)

Pipeline examples…from the audience??

Drivers

Cut costs; improve efficiency; reduce emissions; improve resilience

Supply meeting demand

Resilience of Critical National Infrastructure(s)

Climate change adaption

Future fuels

Future employee expectations - the 4th industrial revolution

Wider industry aspects

- Digitalisation same urgency as decarbonisation
- Enabler for Net Zero – supply & demand e.g. real-time monitoring and control
- Crucial for integration of new fuels and gases
- Hydrogen embrittlement; weakens metals in pipes, valves, compressors & other equipment. Necessitates enhanced monitoring and analytics across distribution networks
- Future Liquid fuels – management and segregation e.g. SAF, HVO and others (ammonia?) moved by pipelines
- Leaders and Laggards

UKOPA activities

Communications – web, members centre, networks

Improve resilience

- Predictive maintenance (prognostic model)
- PIMS (Pipeline Integrity Management Systems)
- GIS (visualisation)
- Field Information (Data)
- Identify & mitigate hazards (e.g. aerial image analysis, planning)
- Climate change adaption

Reduce emissions

- Hydrogen & CO2 (pipeline integrity)

AI (accurately) predicts pipeline safety; addresses 3rd party impacts (leak detection); corrosion rate calculation – AI needs access to data

Wider stakeholders: NIS versus data discovery; NUAR; Ofgem