Production optimization using the Cognite platform
AKERBP’S DIGITAL INITIATIVE WITH COGNITE

**GOAL:** build digital infrastructure and data-driven efficiencies across O&G operations, resulting in lower costs, less downtime, and increased safety

**IN ACTION:** Cognite contributes its technology and participates in Aker BP’s dedicated, co-located agile crews, delivering targeted solutions during 3-4 month supersprints

**RESULTS:** Aker BP seeing significant benefits in OPEX for topside operations
AKER BP AND COGNITE WORK INTEGRATED TO ACHIEVE THE AMBITIONS OF THE EUREKA PROGRAM

**UNDERGROUND**
- INNOVATION LAB
- ARCHITECTURE LAB
- TEMPORARY IMPLEMENTATION LAB
- DATA INGESTION FACTORY

**OVERGROUND**
- PRODUCTION OPTIMIZATION
- DIGITAL WORKER
- SMART MAINTENANCE

Using data to improve decision making across Drilling & Well, Reservoir development and Exploration

Using data to improve decision making across Production Optimization, Digital Worker, Smart Maintenance
KEY INDUSTRY CHALLENGES

Data Access and Discovery
How to move from incoherent search to purposeful discovery?

Scalability
How to scale models from one piece of equipment to many?

Data Quality
How to ensure data quality at all times?

Incorporating Physics
How to leverage the knowledge and laws of physics?

Lack of Accessible, User-Friendly Tools
How might we empower more people to tackle data science challenges?
AKERBP USE-CASES

The use-cases were solved by a cross-discipline team from AkerBP and Cognite
**CHALLENGE**

AkerBP has a significant production loss due to a handful of sudden Chalk Influxes plugging wells every year.

Manually monitoring the wells for irregular behavior in e.g. pressure and temperature have not been successful for predicting nor preventing the costly events.

**SOLUTION & IMPACT**

A live warning system combining data and physics monitor all risky wells recognizing signs of early stage Chalk Influxes, allowing operator to initiate mitigating actions.

**COGNITE PRODUCTS**

- Multiple data sources
- Contextualization
- Asset Data Insight
- Model Hosting
- Write back results to CDF
- Integrated virtual flow meter from partner (simulator)
- Data quality monitoring
- Visualization connector
- Management Console (Data Quality)
Central Control Room – Processing facility optimisation

INCREASED PRODUCTION BY IMPLEMENTING DYNAMIC SEPARATOR CAPACITY LIMITS BASED ON CURRENT FLOW CONDITIONS

**CHALLENGE**

Production limited by separator when one of the separation trains cannot be fully utilized.

**SOLUTION & IMPACT**

Dynamic capacity limits to debottleneck the separator and utilize the actual capacity based on the current flow conditions.

**COGNITE PRODUCTS**

- Multiple data sources
- Contextualization
- Asset Data Insight
- SDK
- Model Hosting
- Connection to physics simulator
- Visualization connector
- Management console (Data Quality)

**COGNITE DATA FUSION**

- Equipment
- Documents
- PI
- Unisim
- Results
THANK YOU