Petrabytes

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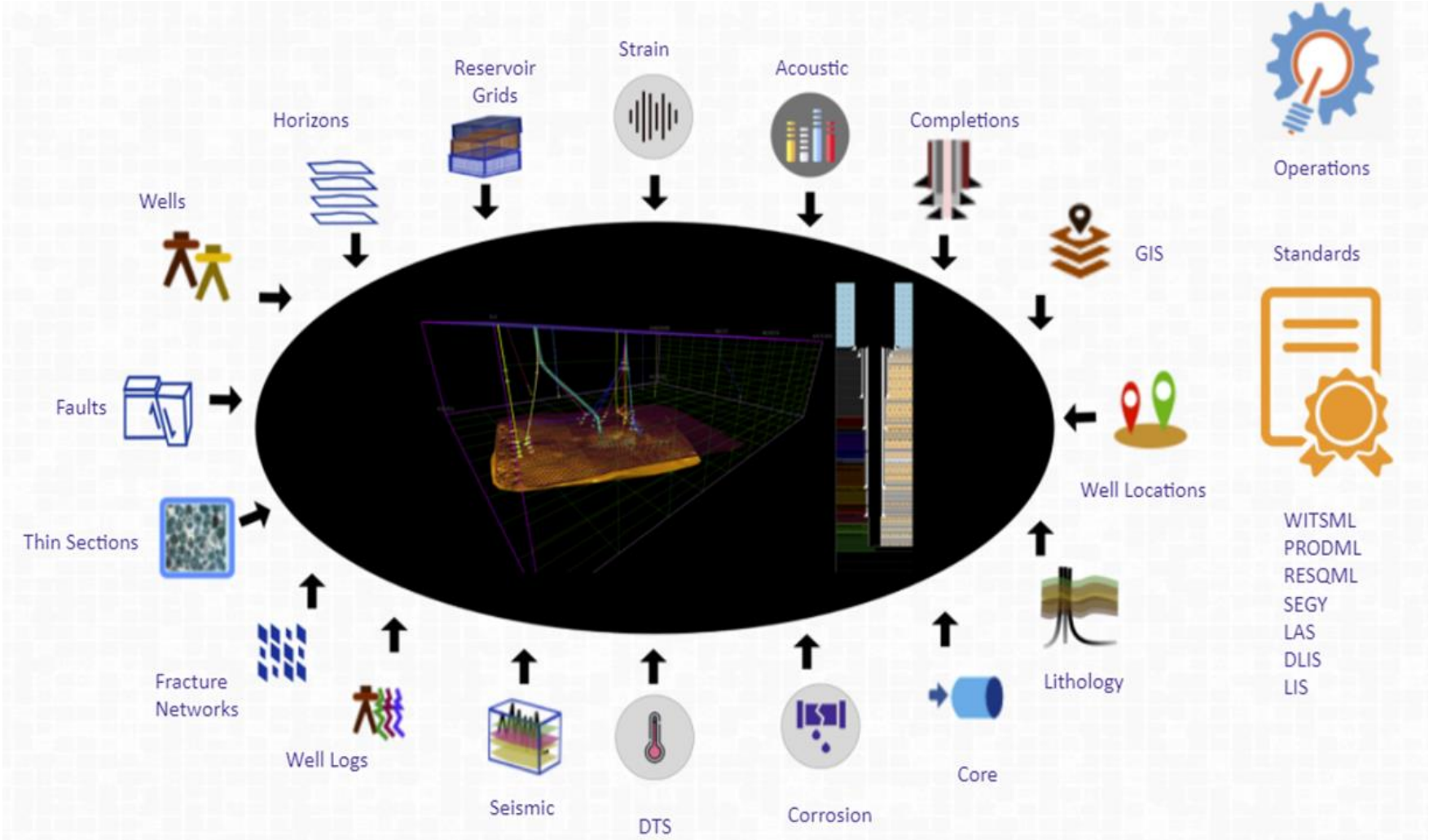
# Enriching OSDU Energy Standards with Edge Analytics, FogLAMP, and AVEVA Data Hub

Sashi Gunturu

CEO, Petrabytes

AVEVA

# Open Subsurface Data Universe




- Data Standards for Upstream Energy Datasets
- Expanding to Other Energy Sources
- OSDU is Cloud Agnostic

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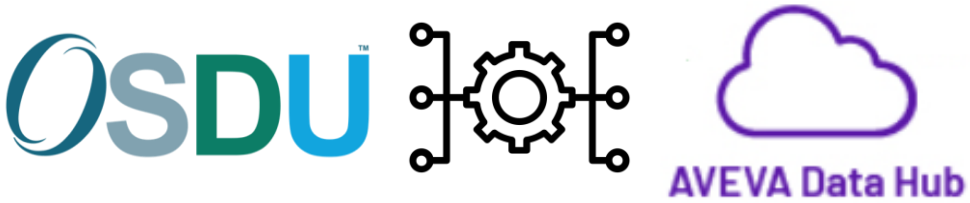
## Enhanced Business Value - Integration




- OSDU Platform is currently supporting Exploration Drilling and Production Domain. Operators want to analyse OSDU data with real time Operational data.
- ADH provides a centralized repository for all operational data and continuously updated in real time.
- Extensive APIs for IO into ADH. Seamless integration into OSDU
- OSDU Integration with ADH enables
  - Complete Operational insights
  - Predictive Maintenance of Drilling and Production Assets

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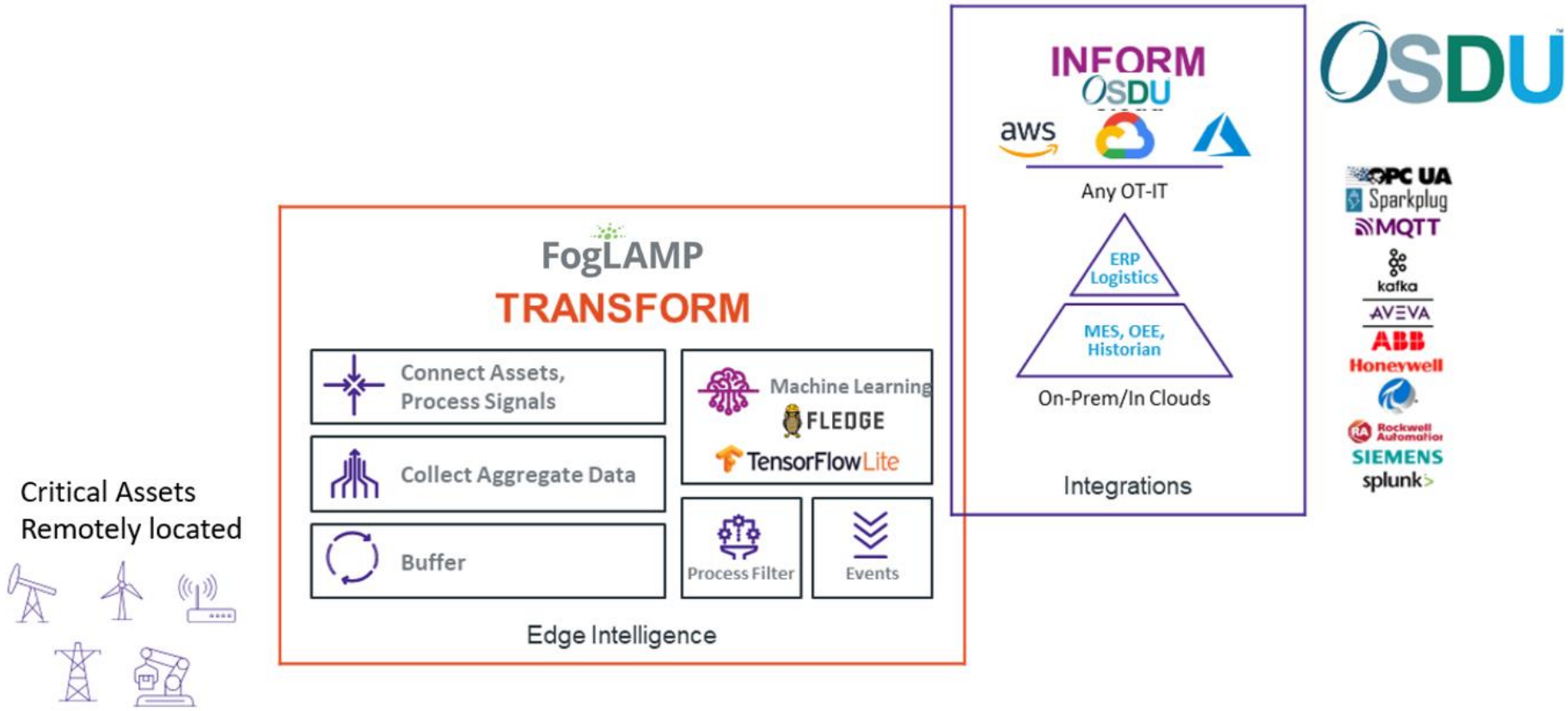
## Enhanced Business Value - Edge Integration

- Fledge brings in real time data with variety of protocols
- Enables Edge Intelligence
- Support Drilling & Production, Process Control Domain

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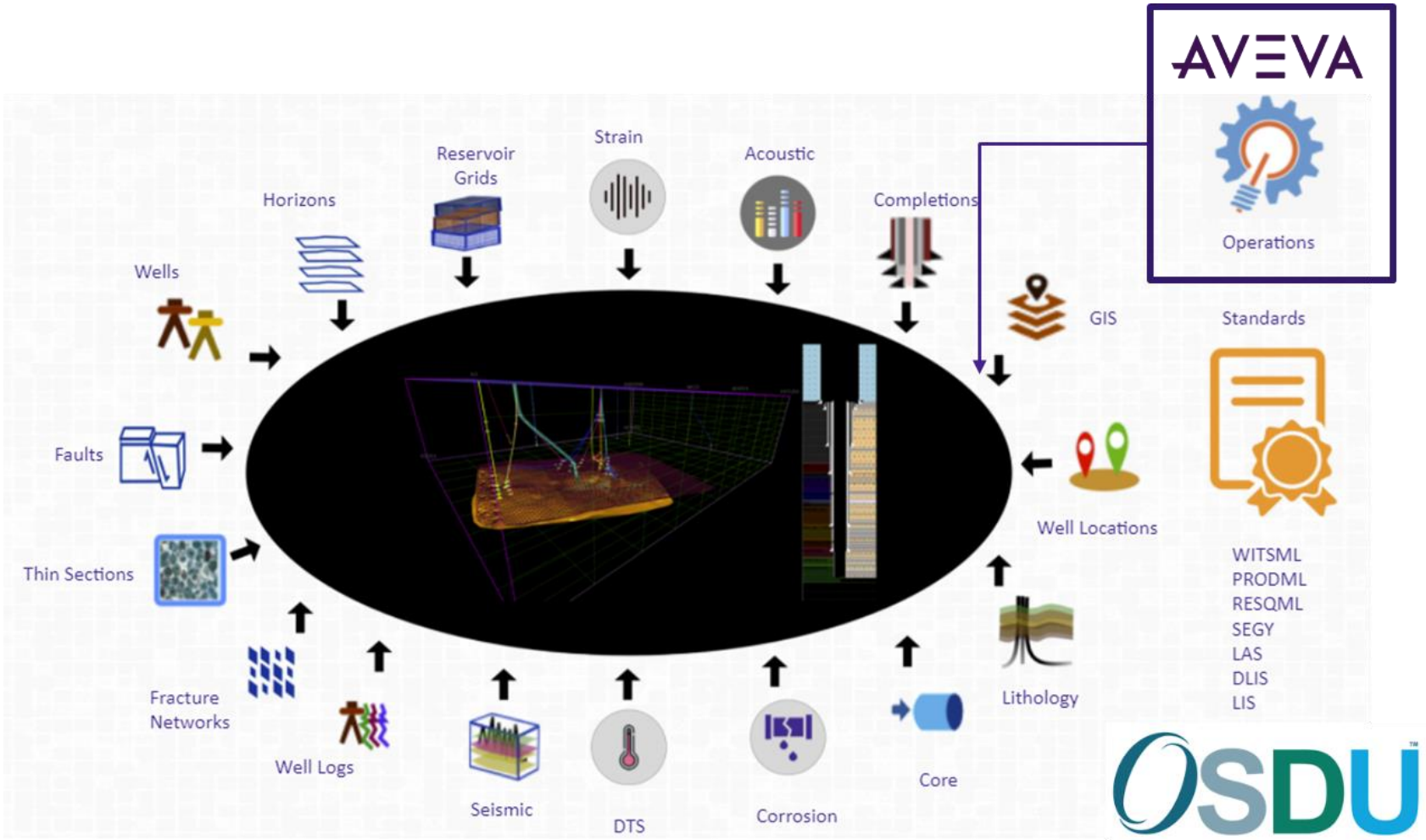
# Enhanced Value with ADH Integration




- ADH brings in Operational Data
- ADH enables Operations Insights
- Cloud Architecture and ADH APIs enables easy Integration

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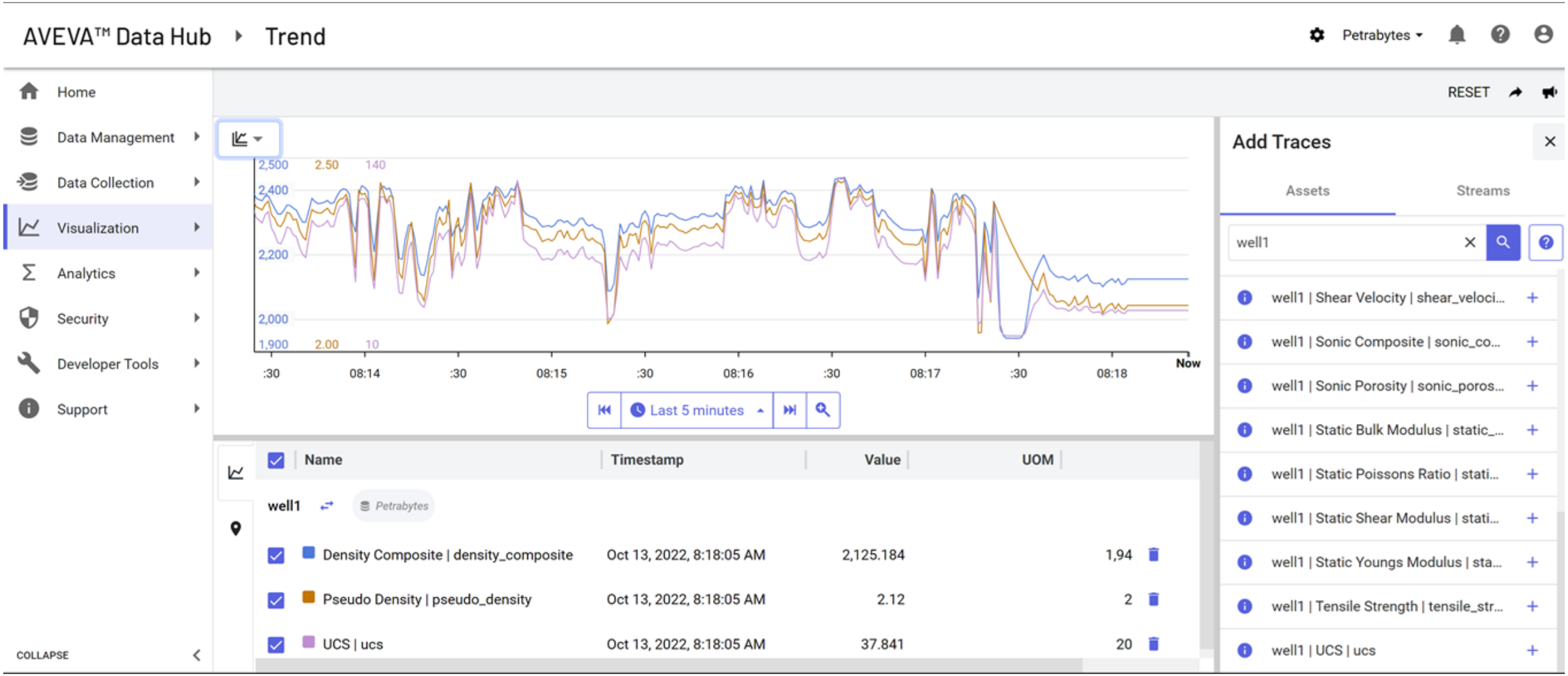
# Real-Time Data Drilling Data Aggregation in ADH

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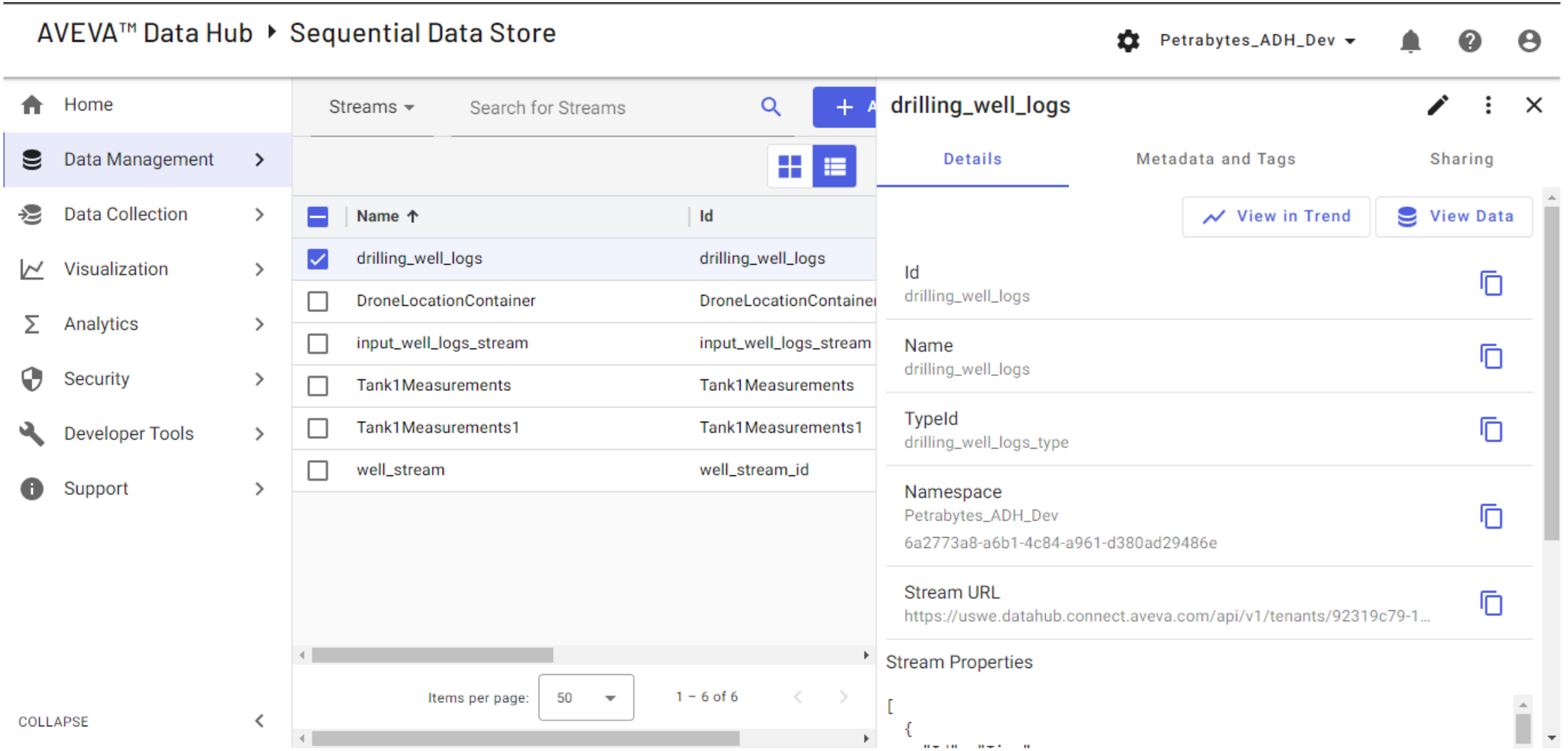
# Example of Streaming Drilling Data - Metadata

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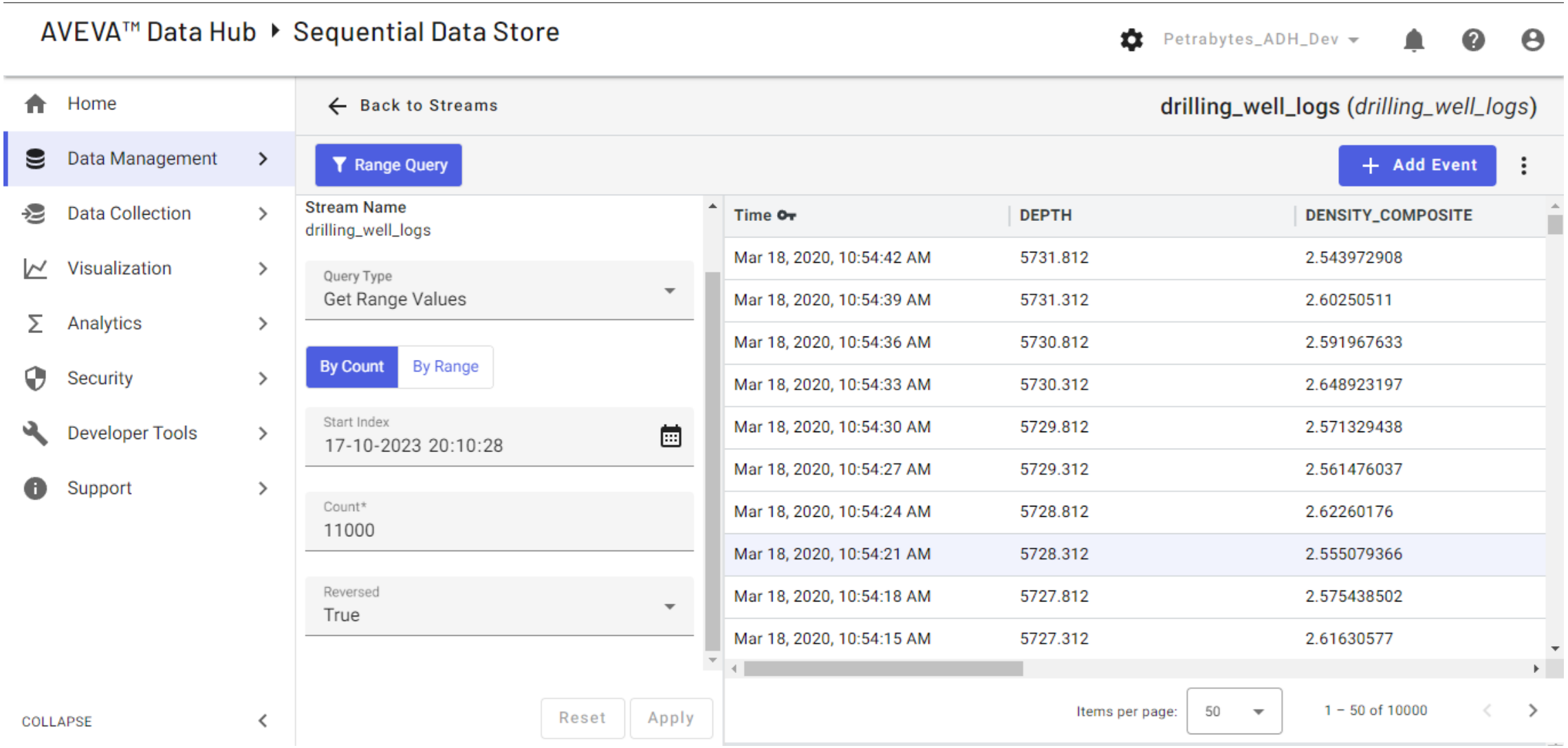
# Example Drilling Data Stream in ADH

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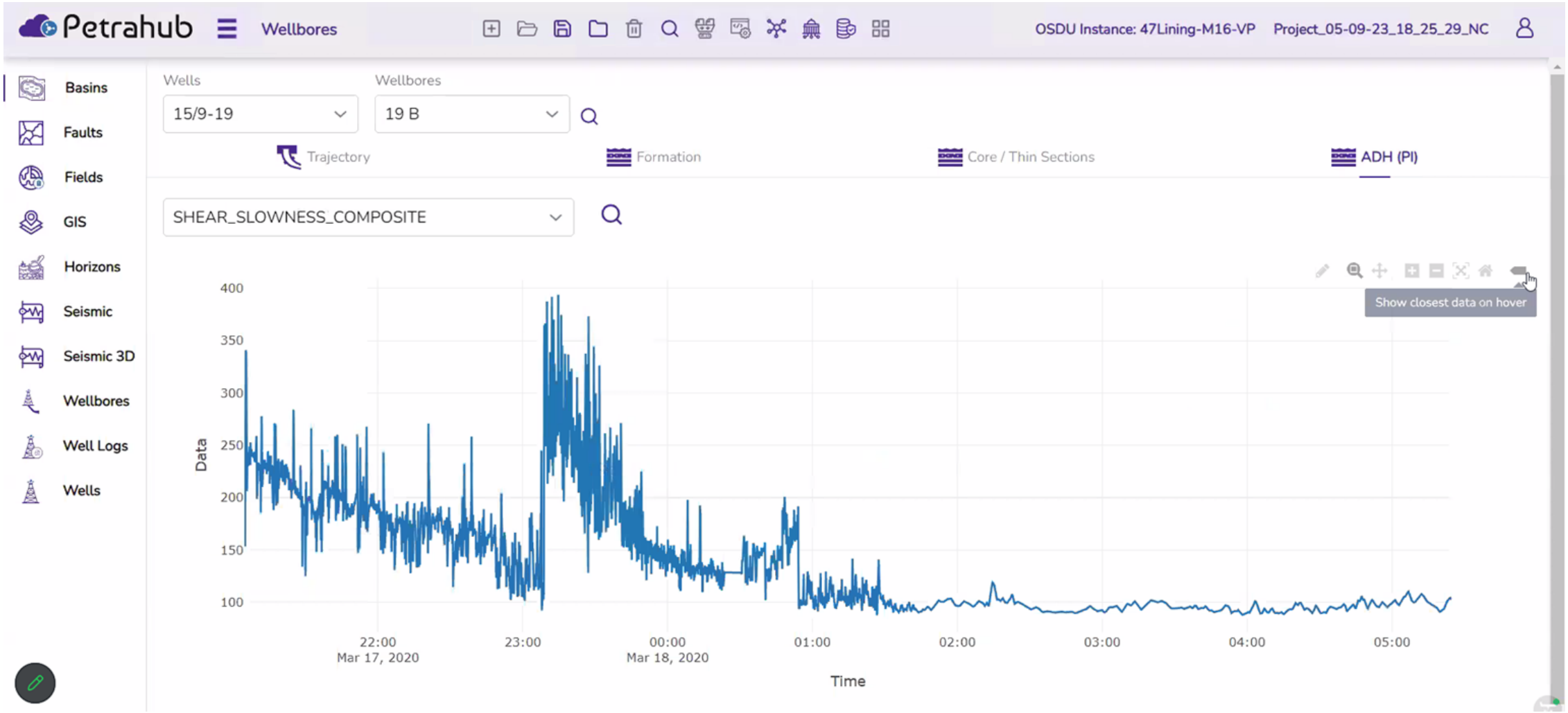
# PetraHub Energy EDM Platform - Query data from ADH

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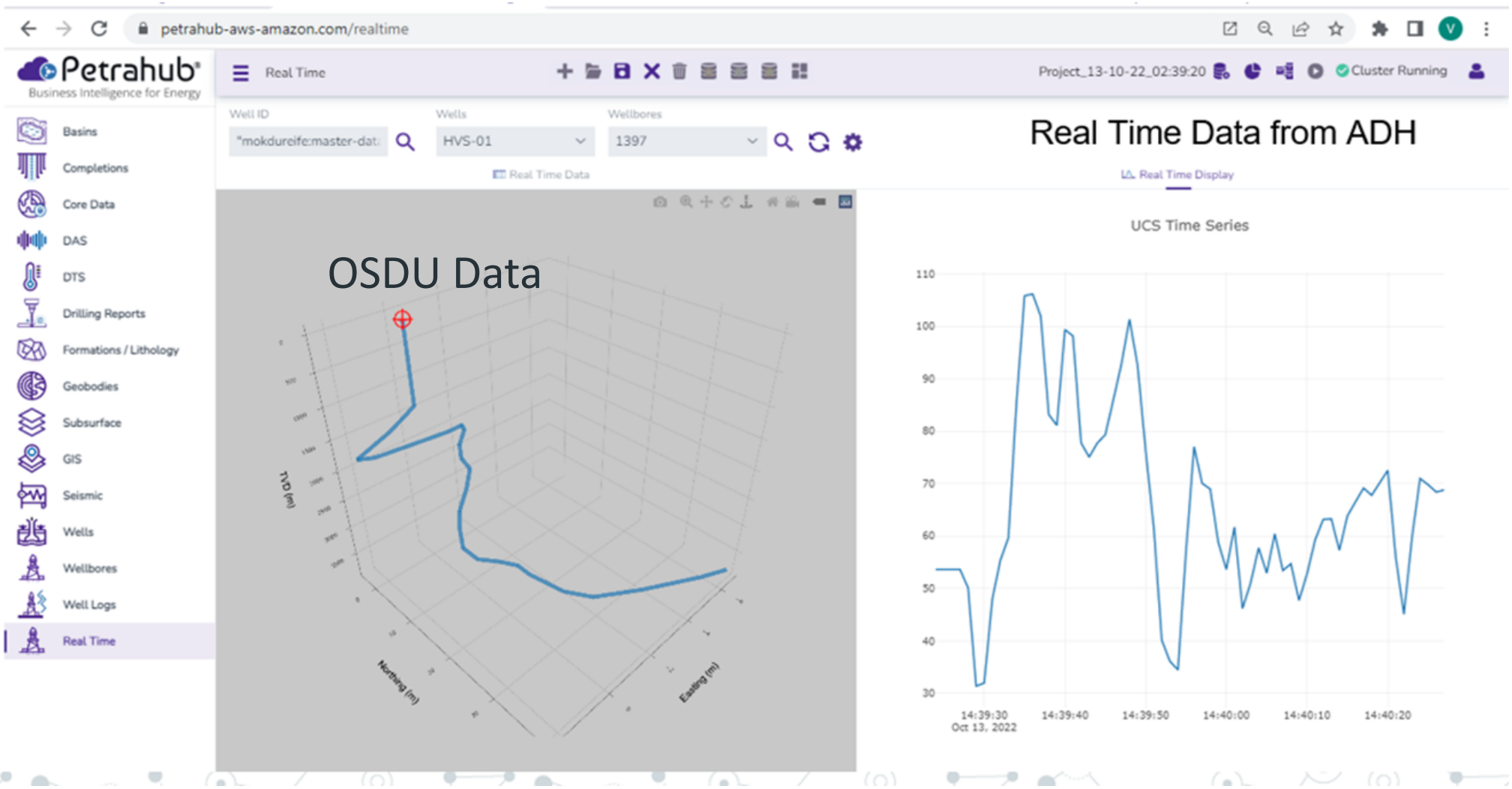
# Data Federation - Contextual Analysis OSDU Data with ADH

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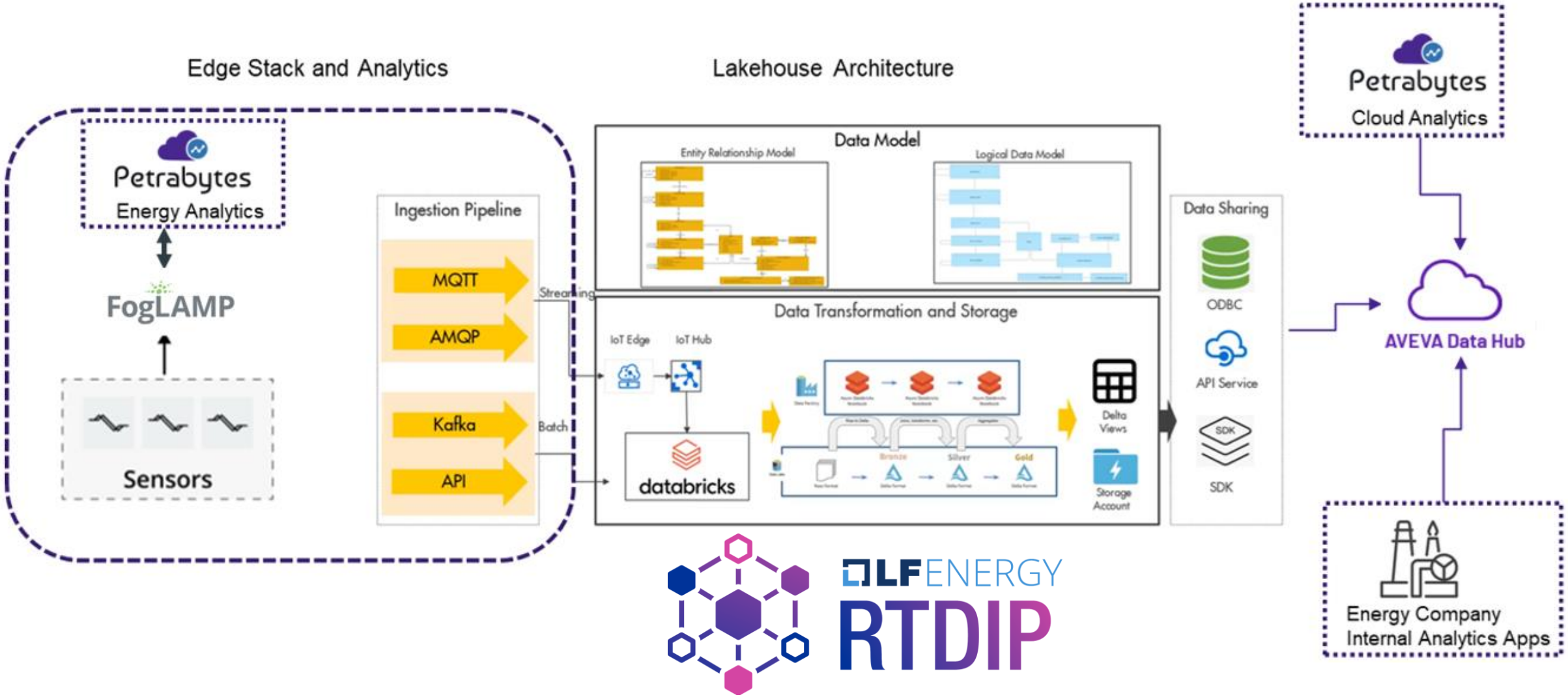
# Edge & ADH Integration with Real Time Data Ingestion Platform

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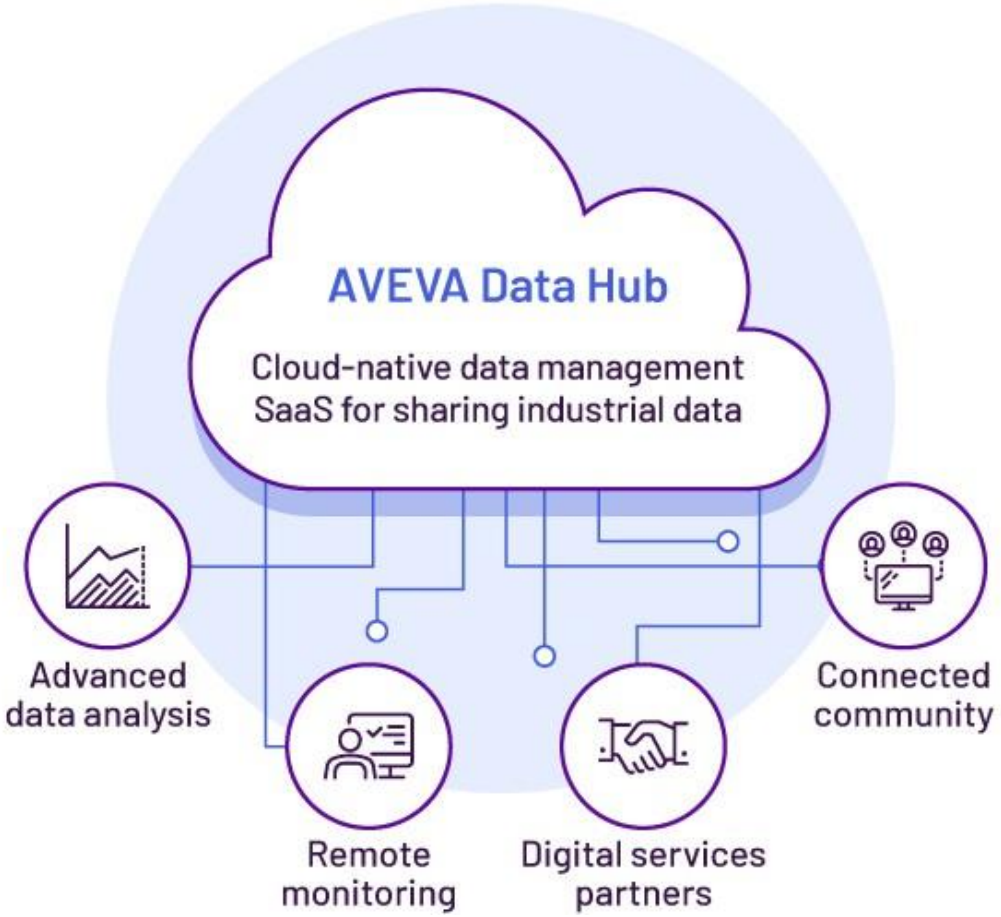
# Use Cases - Upstream & Midstream



# Mitigation Drilling Risks with Failure Predictions

ADH Provide Real Time Drilling Measurements – WOB, Torque, MWD Logs to enable real time wellbore stability calculations

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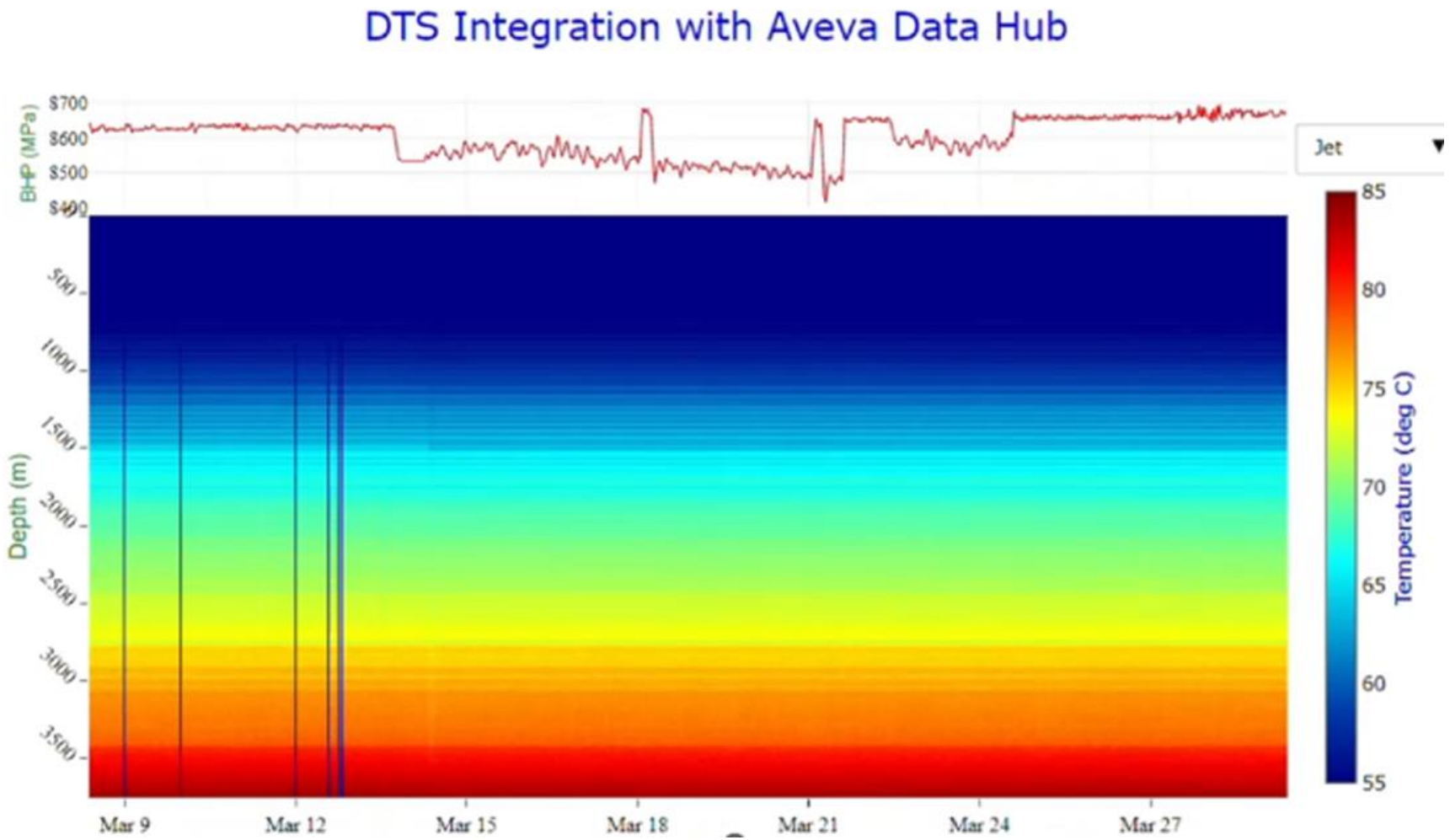
# Real-Time Bottom Hole Sensor Data with Fiber Optic Sensing Data (Distributed Temperature Sensing)

DTS

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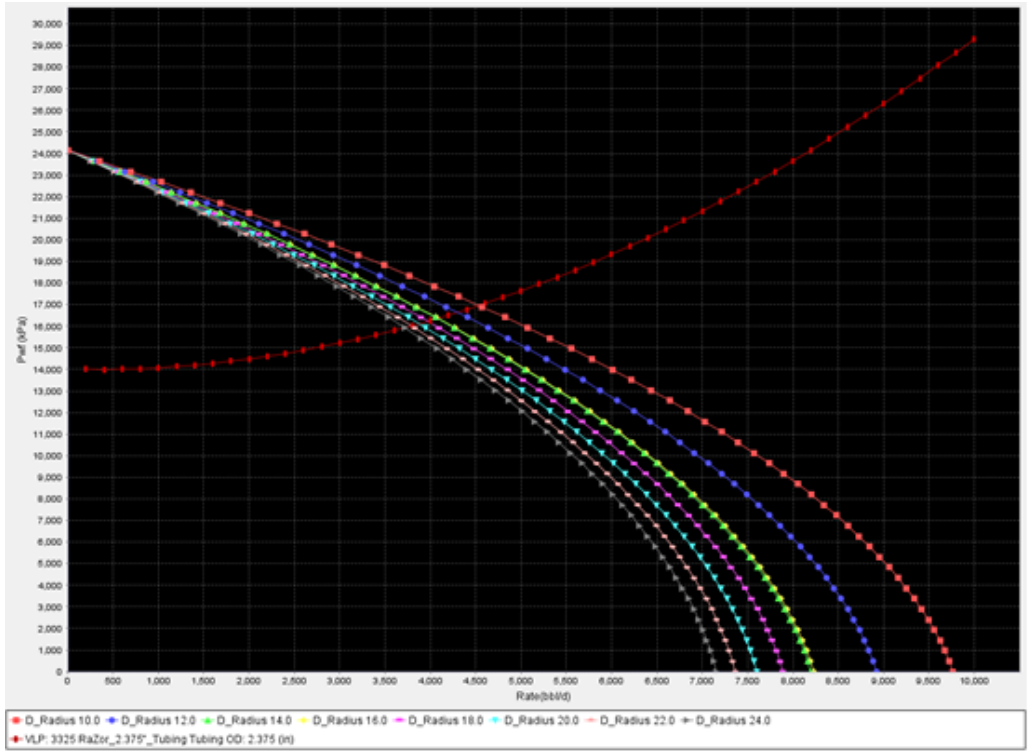
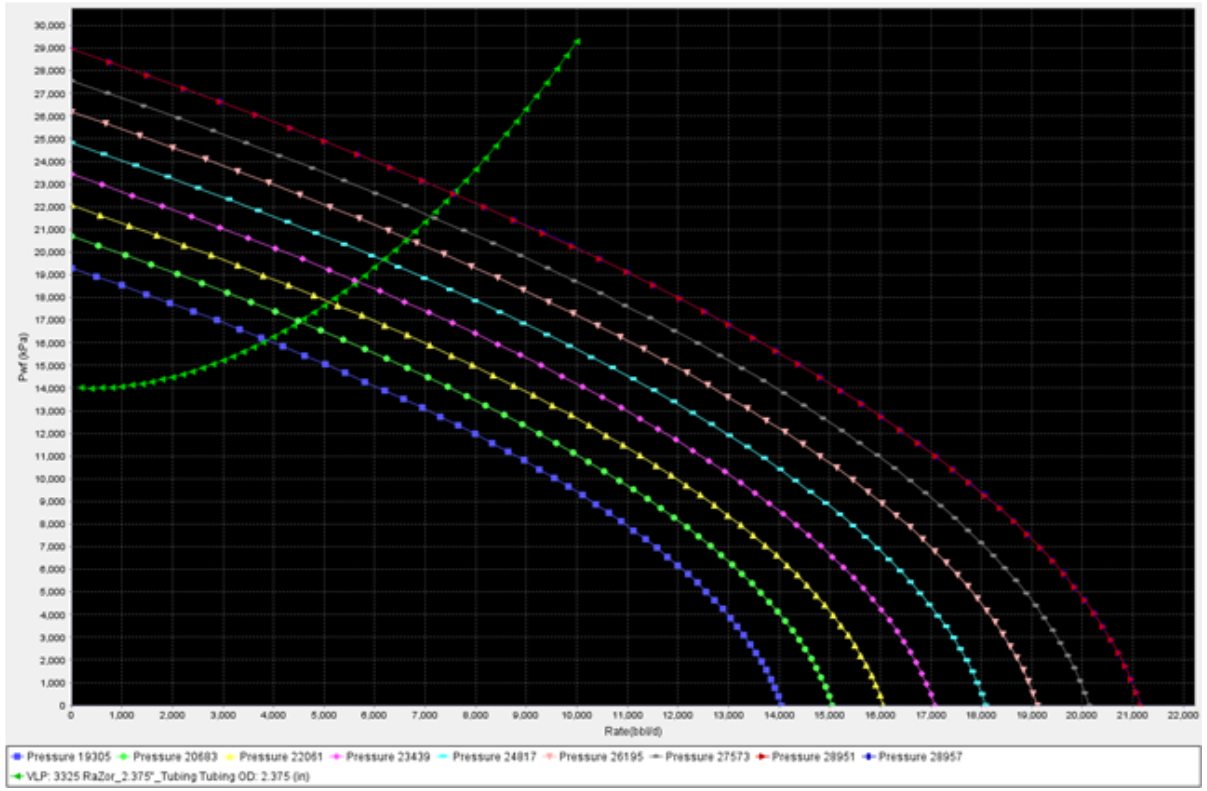
# Prediction of Optimal Completion Design
# Integration of Real-Time Data from ADH (OSI PI Data BHP, BHT etc.)




Static Model




Updated Reservoir Flow with Real Time BHP, BHT from ADH

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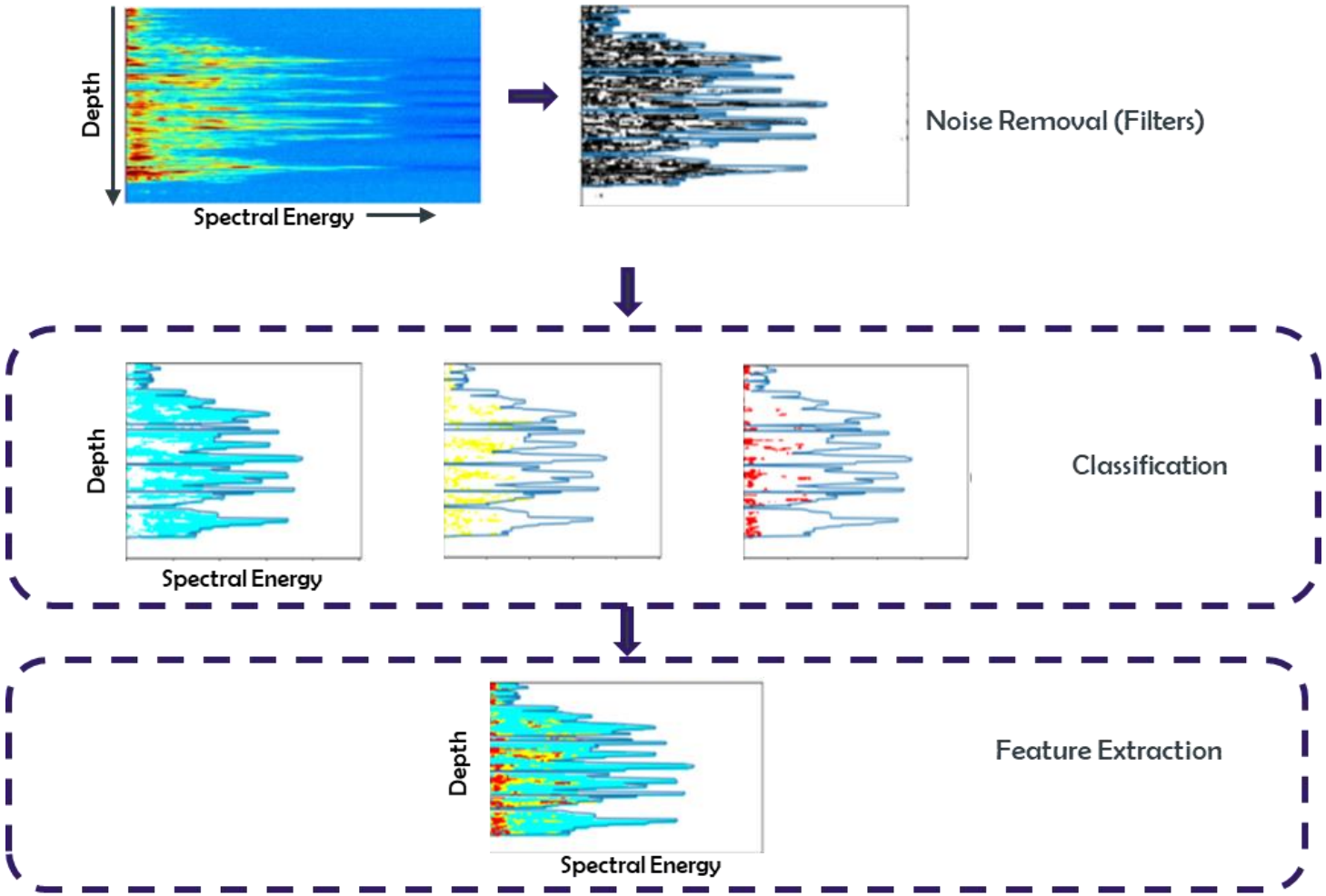
# Distributed Acoustic Sensing - Machine Learning on the Edge

Production Surveillance, Frac monitoring, Asset Monitoring




Wellbore Event Features

Spectral Energy

FogLAMP

Fiber Optic Interrogator

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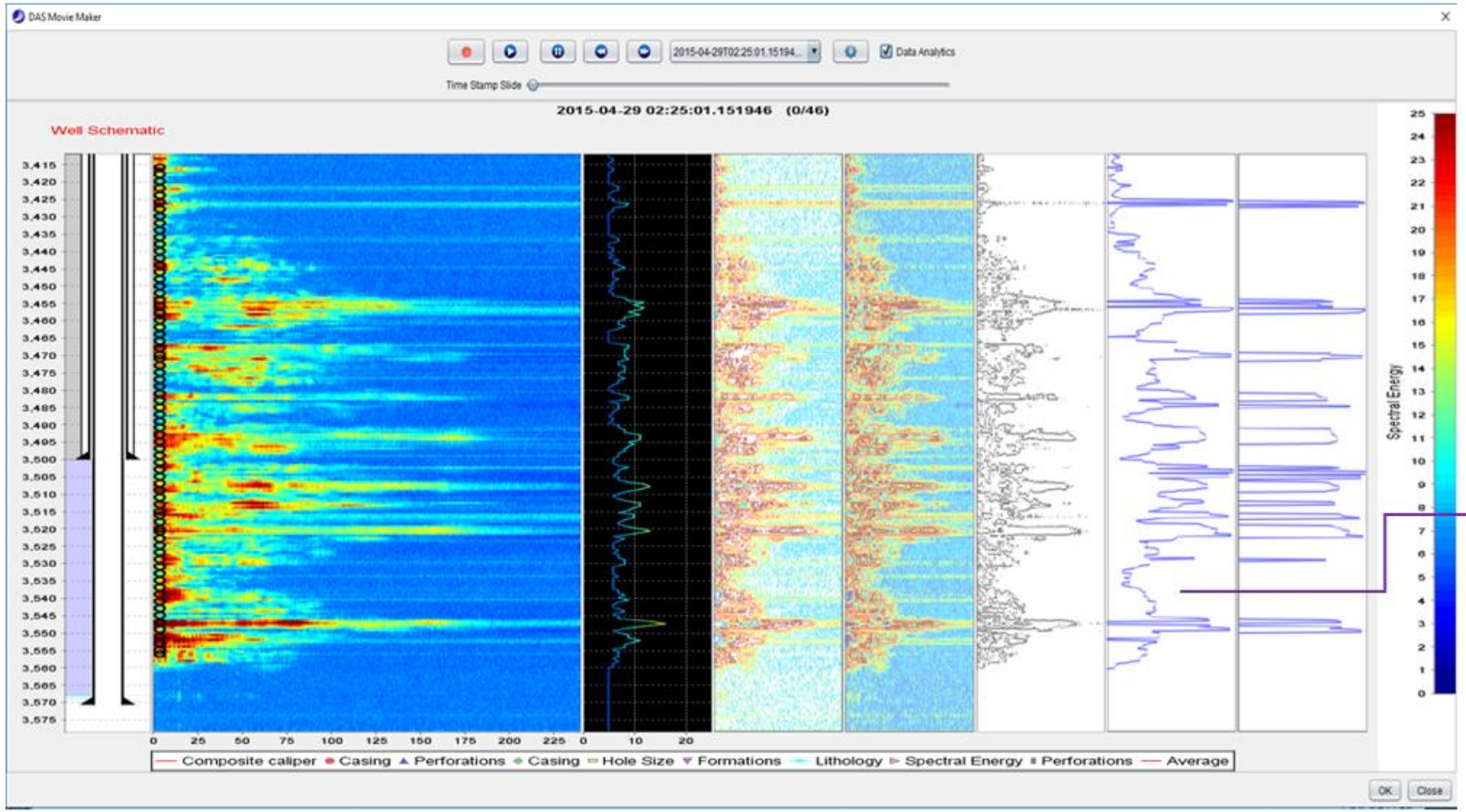
# Distributed Acoustic Sensing - Processing on Fledge and aggregation in ADH

Production Surveillance, Frac monitoring, Asset Monitoring



FogLamp Ingests Real Time DAS Profile into ADH

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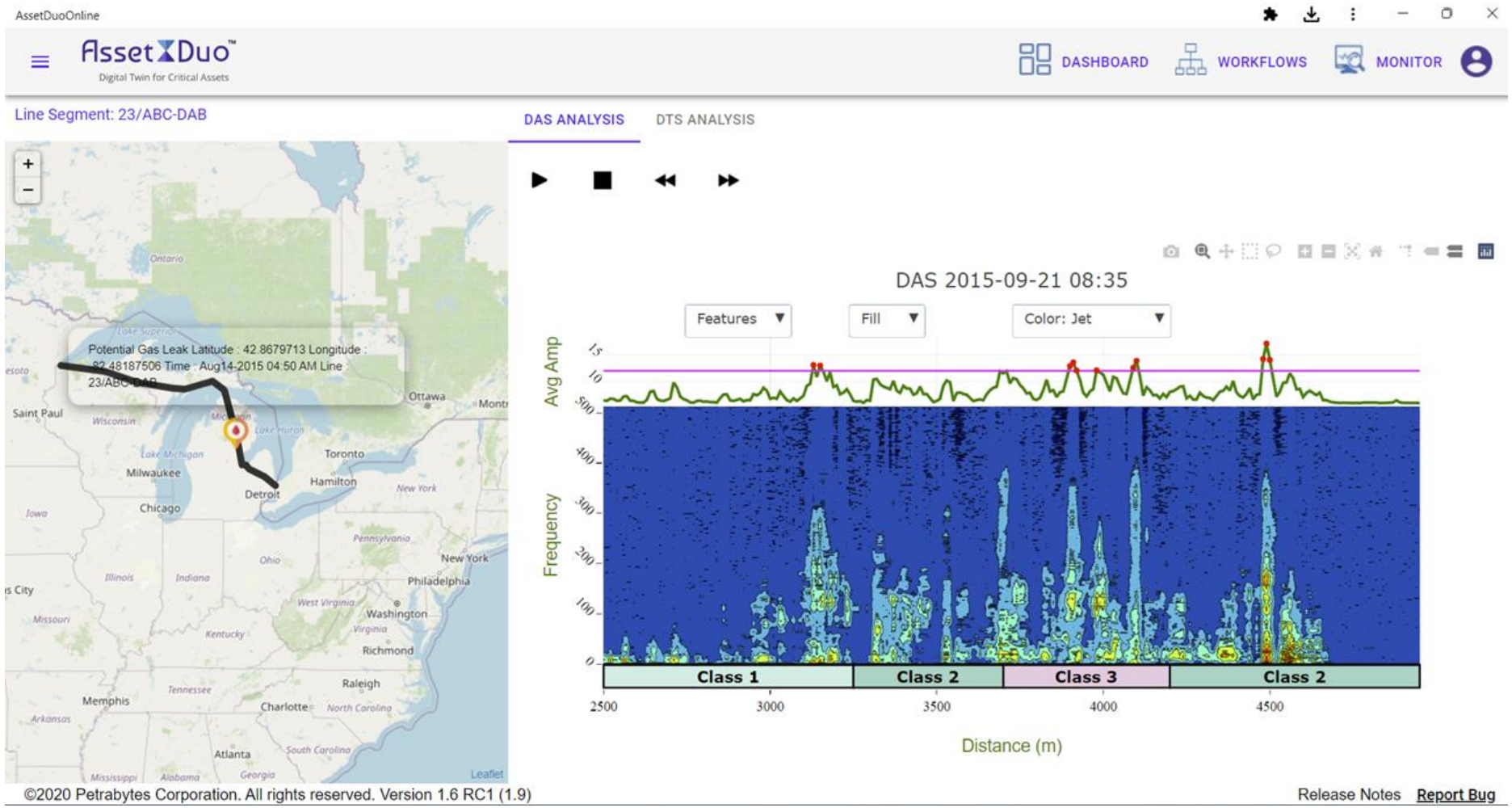
# Pipeline Monitoring with DAS (Acoustic Sensing)




FogLamp ingests Real Time DAS profile into ADH to detect events on pipelines with continuous monitoring

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# Sashi Gunturu

## Founder and CEO


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