Case Study

Digitizing Plant Operations
Industry 4.0 at scale for US-based Oil & Gas Major

DCP is the only American Energy company to be included in the World Economic Forum Lighthouse Network for adopting Industry 4.0 at scale.
Business Challenges

- Long cycle times for business decisions
- Limited visibility of real-time asset performance and associated accuracy of production reporting
- Inability to identify production losses & foresee unplanned downtime
- Inability to effectively utilize data for production optimization

Solution Highlights

- Legacy equipment instrumentation for effective data capture
- Creating an asset hierarchy for a connected ecosystem
- Leveraging advanced historians for data aggregation, visualizations & simulations
- Digital twins and AI/ML algorithms for enabling predictive maintenance
- Correlating OT data with Enterprise (Financial, Back-office) data for decisions

Bringning End-to-End Visibility in Operations

Integrated Collaboration Center

- Operation
  - Plant Availability
  - Unit Health Monitor
    - Asset Health
  - Field Service
  - Energy Cost
- Asset Manager
  - Engineering
    - Compressor Optimization
  - Leak Detection
- Production
  - Gas Control
  - Energy Optimization
  - Declined Curve Analysis
- Finance
  - Cost of Operation
  - Margins

Digitizing plants globally by interlinking critical operational assets and data with enterprise data for end-to-end operations visibility & decision making.
Meeting market demand at right price with cost optimization by linking real-time & modelled data to provide current & potential value of plant operation.

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<th>Outcomes Delivered</th>
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<td>Creation of ICC to provide centralized, integrated &amp; real-time visibility, workflows &amp; data-on-the-go across plants nationwide for optimized operations.</td>
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<td>Availability of real-time high-quality data enabling modern maintenance paradigm – predictive &amp; risk-based maintenance.</td>
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Business Benefits

We have successfully delivered USD 13 million of margin improvement & an overall value of USD 50 million + ROI.

Some of the key KPI improvements:

- **50%**
  Improved uptime, & reduced ad-hoc maintenance

- **20%**
  Reduction in operating costs

- **70%**
  Reduced field crew inspection miles & 28% lower repair visits

- **12,500**
  MMBTU average volume gas wastage saved per month w/ improved track & trace