InnovationLAB

Accelerating the Shift to Performance-based Pipeline Integrity Management

Bringing innovation to pipeline integrity management is not just about adding flexibility and efficiency to support regulatory compliance. It can open up new possibilities for going beyond the baseline of compliance while also boosting productivity to a whole new level.

Operators are eager to adopt new practices, but developing them can take time. OneBridge Innovation Lab is a cloud-based platform that can make this shift happen faster, while increasing confidence in pipeline health and reducing costs.

oneBRIDGE Flow Forward™

Design and develop the next innovative Data Science and Machine Learning solution.

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Innovation Lab Addresses the Need for More Knowledge about Pipelines

OneBridge Innovation Lab is working with operators, partners and Microsoft's Azure cloud computing technologies to fast-track and scale new data science, machine learning, and predictive analytics. Using OneBridge's Cognitive Integrity Management (CIM) as the engine makes it possible to analyze huge data sets collected from pipeline inspections. The resulting data-intensive risk assessments and analyses can more effectively prevent failures through:

- Smarter inspection scheduling
- More effective inspection tools
- Earlier anomaly detection
- Better performing dig programs

The increase in analytical capacity resulting from AI comes at almost no increase to marginal costs, and also results in better financial planning and resource allocations.

Moving Pipelines Toward Digital Twins

Digital twins are a digital replica of physical assets, processes, and systems that are created for in-depth real-time analysis. In the oil and gas industry, the use of digital twins has optimized facilities and up-stream infrastructure by integrating IoT, artificial intelligence, machine learning, and spatial networks to creative simulation models. These models are more dynamic because they can be updated and changed as their physical counterparts change.

Dynamic Digital Twin

Innovation Lab is working to move the industry toward the capability of creating an exact digital replica of the operator's entire pipeline system. A working 3D model will:

- Alert operators to problems
- Mitigate opportunities for failure
- Integrate all data sets, including spill and Geographic Information System (GIS) data

Strategies for Adopting Transformative Approaches

Innovation Lab uses a "Test Fast, Learn Fast, Scale Fast" methodology to work collaboratively with industry leaders and systematically develop a new approach to pipeline integrity management. This four-to-six week process accelerates an innovative collaborative process and ensures the development of innovation in a controlled way.

The "Test, Learn, Scale" approach facilitates innovations on a smaller scale to allow hypotheses to be tested around key performance indicators (KPIs). Lessons learned can then be applied to an incrementally larger segment, with a feedback loop that allows for adjustments and scaling as needed.

To manage an agile approach to developing new strategies, Innovation Lab employs the customer-centric KanBan approach to project management. This enables visualization of workflows to maximize efficiency, collaboration, and transparency.

How You Can Learn More

For more information about OneBridge Innovation Lab and how you can leverage machine learning and data science toward adopting a performance-based integrity management system, contact OneBridge Innovation Lab at innovationlab@onebridgesolutions.com.

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