



Refreshing Pipeline Asset Management

A midstream company, like many of its peers, was struggling with asset management lifecycle challenges as its aging infrastructure created competing investment priorities. The company wanted to refocus its program on leveraging data to improve information management, predictive asset management, asset risk management, and asset management planning. Deloitte and the client refreshed multiple dimensions of the program, including strategy, organization, process, people, technology, and information. The team also developed new data-driven/digital asset management approaches using the Internet of Things (IoT), analytics, big data, advanced data visualization, machine learning, and asset optimization.

Our client made immediate investments to support data discovery, management, enrichment, cleansing, and integration; the project team then modeled the data and conducted robust predictive asset management. In addition, the team used asset segmentation, survival analysis, and unsupervised learning data mining to predict asset end-of-life and institute a data-driven governance policy that altered how asset investment decisions were made.

Competing priorities continued to make it difficult for our client to turn insights into actionable information. In response, the project team performed extended modeling to help evaluate and profile the asset risk levels. Probability of failure became the new approach's cornerstone, along with clear indications of an asset's criticality to the overall system function. From this, the team created a risk matrix and risk tolerances to govern future behavior.

Finally, the project team turned to asset management planning. Comparing findings from the data-driven modeling to our client's current asset prioritization schedule provided a more holistic view of the asset strategy. The team also factored in constraints and portfolio optimization, continuing to use data-driven methods to better visualize these items; evaluated a number of scenarios against the insights provided by the analytics; and more clearly articulated full-value life cycle costing to aid in asset management planning.

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