



In a complex energy supply chain, data automation and transparency help unify commercial strategy



In today's volatile commodity price climate, oil and gas companies are searching for ways to extract more value from hydrocarbons as they move from the wellhead to the end customer, and they are increasingly turning to digital solutions to help maximize this value chain. One of the largest global companies in the industry took this challenge head-on when it set out to modernize the many manual analytical processes used to coordinate data, including market conditions, contract terms, and trading activity. Virtually all decision making was segmented, despite

the material impact each choice had on the rest of the value chain. The company needed to make a strategic shift to achieve system-wide visibility across business units and marketplace silos so it could unlock the potential of interconnected data, anticipate and leverage supply and demand fluctuations, and make value-based decisions in real-time. After evaluating off-the-shelf offerings and considering in-house applications built with on-premise hardware, the company opted to develop an end-to-end cloud native solution it could reuse for future needs across all facets of the business. ▶

What happened next

The company recognized the value end-to-end cloud architecture could provide, but it remained sensitive to the balance between short-term costs and the need to design for a future that would require dynamic reuse and significant scalability. To address these needs, the company and Deloitte used pair programming to move from user-centered design to Agile development. Working with the digital organization and IT, the joint project team collected insights from commercial traders, schedulers, and value chain coordinators and, in a three-month window, got a new commercial-grade application up and running, immediately delivering value to the organization. Continued enhancements over the next three months delivered features that were originally expected to take two to three years, which strengthened trust in in-house digital solutions.

The project used an array of modern technologies provided chiefly by Microsoft, including its cloud computing service Azure, to build an end-to-end data science application. This enabling ecosystem helped break down legacy silos and promote an enterprise-wide, real-time view of the value chain. In place of manual work, optimization models with built-in scenario capabilities generated automated insights that led to benefits including faster planning, accelerated responses to changing market conditions, and improved value creation through better-informed trading and contracting choices. To establish the capabilities needed to build other cloud solutions, Deloitte worked with the company to form a new Digital Innovation Group.

The wins

- ☑ A new user-centered web application allows analysts and managers to interact directly with key value chain metrics
- ☑ Input and planning into commodity decisions are faster
- ☑ Members of different teams can share common information across the platform
- ☑ Decision makers are freed up to spend more time focusing on analysis
- ☑ An enterprise-wide view of performance helps direct the fast-shifting focus of investments

By the numbers



Project led to a positive ROI within a few months of go-live, approximately \$70 million dollars in value to-date, and a projected forecast of \$100M+ value in year 1



Planners created 2,000+ cases since go-live and are creating 50-100 cases or more during an average month



Planners can now create case stack bulk uploads of up to 25 cases at once to be processed in parallel within a few seconds



Scenario creation process was optimized from 1-2 days to less than 30 mins per scenario



Active user community and adoption rates increased to 75+ users and growing



10+ dynamic interactive visualizations were developed to compare cases, examine netback/gross profit by system and nodes, and perform lookback analysis



10x faster incremental Power BI refresh enables on-demand, real-time data analysis regardless of number of cases



Increase in company adoption, including more than 3 new business functions now looking to leverage similar cloud architecture to solve new use cases

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