



CUSTOMER CASE STUDY

BP revolutionizes its Oil & Gas downstream business with AVEVA's solution in the cloud

BP drives improved margins across its global downstream business, cutting crude purchase decision time from two days to less than two hours.

Goals

- **Simplify and standardize Oil & Gas downstream supply chain management** to enable the business to quickly adapt to market changes and take advantage of economic opportunities
- **Enhance data management and transparency** to improve decision-making across global feedstock planning and refinery operations teams
- **Reduce IT cost of ownership and increase agility** by taking advantage of cloud-enabled workflows

Challenges

- **Lack of transparency and duplication of efforts across the supply chain** – outdated technologies that required specialized skills limited the sharing of best practices and were not intuitive for refinery analysts to identify economic opportunities
- **Inability to make quick decisions that could benefit the business** – several hours for a set of runs of a refinery model resulted in evaluation of limited crudes and made it difficult to quickly reflect market changes, leading to lost opportunities

- **Disconnected processes and tools** – multiple local planning solutions resulted in high IT maintenance costs, inefficiency in data management, and inability to share knowledge between global teams

Results

- **Significant margin improvements** through an improved refinery optimization process
- **More robust and lower risk plans** – ability to run complex models that weren't possible before and execute more analysis due to improved calculation speed, down from seven hours to just over three minutes
- **Earlier decisions and communications** – decisions on feedstock purchasing and planning operations that previously took two business days can now be made in two hours and instantly shared across the enterprise
- **Removal of technology limitations**, enabling BP to focus on the human aspect of process improvement



“If you could do in minutes what previously took a day, what would you do?”

AVEVA’s technology in the cloud is creating time, and BP’s responsibility is what to do with the time saved. This is revolutionary to our business.”

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Claire Dickson,
Downstream CIO, BP

Digital Innovation Program overcomes lost opportunities

BP is a global energy company that delivers heat, light and mobility products and services to people all around the world. It operates across 72 countries worldwide in power generation and all areas of the Oil & Gas industry — from exploration and production, to refining, petrochemicals and distribution. BP’s Oil & Gas downstream business processes 1.7 million bbls per day in eight oil refineries across the globe.

As a global energy company, BP recognizes the significant impact of advances in digital technology, which is why it has placed a Digital Innovation Program in the heart of its business strategy. It was within this context that BP decided to review its global downstream supply chain management process.

BP identified that margin improvements were being inhibited by current technologies, as well as organization and skillset requirements. Numerous unsupported bespoke tools developed at each of BP’s sites resulted in high maintenance costs and duplication of effort between corporate and local teams.

The tools used were complex, hard to configure and not transparent enough for refinery analysts to quickly identify economic opportunities. Execution and sharing of best practices in refinery optimization were limited and a strong inertia existed to respond to dynamic market and operational changes.

BP conducted a comprehensive evaluation to select a technology that would help standardize and simplify its supply chain business process. Key stakeholders were interviewed, and several commercial solutions were evaluated. AVEVA was selected because it had the ability to support BP’s digital transformation strategy. In addition, AVEVA had already proven itself as a trusted provider with [Enterprise Crude Knowledge Management](#), which helps BP’s global teams quickly share crude information across the business.

“AVEVA’s solution has capabilities that are foundational to our digital transformation strategy. It allows data consistency, enables quick and detailed analyses, and supports BP to use digital technology to reach our commercial optimum.”

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Troy Darcy,
Manager - Refinery Planning and Scheduling, BP

Refinery planning and optimization with agility, speed and confidence

BP selected AVEVA's solution to deliver maximized margin capture, efficiency and sustainability. Its single and enterprise platform has built-in data management and embedded business process workflows, which is aligned with BP's vision that business value is built on trusted data that is easily accessible across the enterprise.

The solution has enabled the use of cloud technology, in accordance with its IT Strategy to deploy at pace, scale on demand, and improve resilience at reduced capital cost. AVEVA Unified Supply Chain in the cloud, combined with its high performance computing, allows BP to run complex analyses quickly, meaning BP's analysts can better assess commercial risks and economic drivers as they arise with accurate, real-time data.



Figure 1: Outcomes for BP's optimization and planning technology

Collaboration and planning model assurance has been improved. Multi-user access and a common language that is easily understood across different regions and roles enables faster implementation of refinery LP model updates. BP's process engineers can now communicate effectively with plant operators and those making maintenance decisions, mitigating risk and improving safety.

Additionally, sophisticated analytics with improved reporting and visualization help the team to build robust and stable plans. Alongside easy deployment and optimized user experience, one key differentiator was the time took to understand what worked best for BP's culture, including a robust change management process.

As noted by Claire Dickson, Downstream CIO, BP, technology is often not the limiting factor – getting users to do something different day-to-day is one of the hardest parts when deploying new technology into a business.

“The new LP planning system provided by AVEVA created a step change in process model assurance. It's transparency and user-friendliness enable non-specialist users to understand and contribute to modelling.”

- Aykut Kuloglu,
Principal Engineer LP Development, BP

Global teams driving faster, unified decisions for higher margins

Working with AVEVA has helped BP to deliver excellent results and improvements, most notably:

- **Significant margin improvements** have been made through improved analytics with high performance computing in the cloud, improved refinery optimization processes, and improved decision-making
- **Earlier decisions** – BP’s traders get to market earlier, plant operating decisions are communicated sooner, and decisions are made faster than ever
- **Higher confidence results** – more complex analyses that were previously unavailable to BP can now be run for a more complete view of options and risks, and improved confidence in decision-making. For instance, today there are no limits on the number of crudes that can be evaluated
- **Lower risk decisions** – due to the complexity of analyses that can now be run, alternative options are being found that have similar or improved economics, but with significantly lower execution risk
- **Efficient model assurance and maintenance** – BP’s models are now more accurate and can be updated with the most recent information more easily and quickly due to the unified nature of AVEVA’s solution
- **BP is no longer limited by technology, but rather empowered by it**, which enables it to focus on the human aspect of process improvement. The speed of model runs has resulted in significant time savings –time that is now being used to improve business processes even further and for strategic innovation across the business.

- **Standardization of data held centrally in the cloud** ensures all users are using the most up-to-date information, sharing best practices for modelling, analyses, and business processes, and communicating clearly across all teams and different sites

BP continues to partner with AVEVA through its long-term support structure and continuous R&D development. In doing so, BP’s teams are empowered to focus on discovering even more innovative ways to increase efficiency and drive profitability across the company’s global portfolio.

“With AVEVA’s technology in the cloud, BP is able to make extremely complex decisions quickly and accurately. Our analysts can now get answers in just over 3 minutes, rather than 7 hours.”

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Claire Dickson,
Downstream CIO, BP

“AVEVA’s technology in the cloud now means that decisions that previously took two business days can now be made in two hours, with a broader and more confident scope validating the results.”

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Troy Darcy,
Manager - Refinery Planning and Scheduling, BP

About AVEVA’s Solution:

AVEVA Unified Supply Chain is designed to address each component of supply chain management, from feedstock data management, trading, production planning and network optimization, to scheduling and performance monitoring. Visit our [website](#) to learn more.

