



Diverse Portfolio of Refineries Increase Efficiency

Implementing and supporting a multi-model, multi-site software roll-out

Key Benefits

- Improved efficiency
- One comprehensive database for collaborative sharing
- Focus shift to value creation

Background

- Multi-national operator with diverse portfolio of refineries
- Wide use of process models
- Looking to improve efficiency by standardizing process models

KBC Solution and Results

- Petro-SIM simulation platform
- Established a common simulation model across all refineries

Client Challenge

A multi-national refining operation widely uses various process models within their diverse portfolio of refineries. Each refinery has their own history and different levels of user proficiency in process modeling. In addition, they have a mixed combination of in-house and third-party applications.

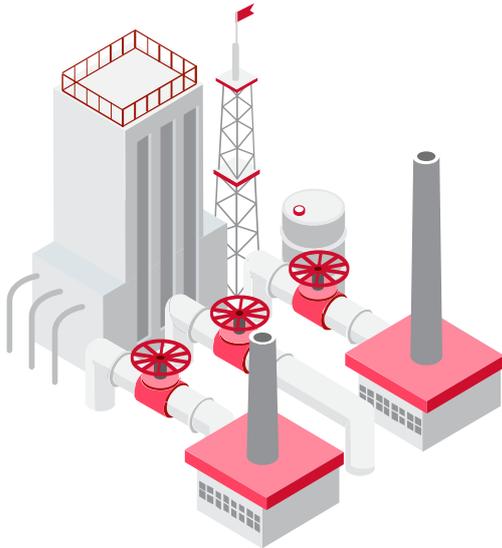
The operator wanted to improve efficiency by standardizing their refining simulation process models. Their goal was to establish a common operating model across all their refineries for process monitoring, unit troubleshooting, project development, what-if analysis, and commercial tool updating and assurance.

Implementing a single simulation platform across all their refineries would use resources more effectively to support and sustain the use of process modeling tools. However, they required preservation of their current level of benefits from their existing process modeling efforts.

The Solution

The operator selected Petro-SIM® simulation platform for a detailed evaluation. To do this, they focused on two key processes for the pilot program. Happy with the results that the Petro-SIM software provided, the operator proceeded to the next phase of the project.

To ensure everyone understood expectations, the team defined roles



and responsibilities. The project team consisted of two main groups. One was the Central Team and the other the Refinery Team.

The Central Team focused on process modeling, engineering, and IT. They provided process modeling expertise, configured, and deployed the process models, and drove the use of those models. This includes establishing best practices for unit performance testing and aligning all stakeholders to ensure project success.

The Refinery Team drove model adoption across the refinery and ensured accuracy of mass balance and other process data. They took ownership of the models and kept them up to date.

The plan was to rollout the process models in phases. First, the team evaluated each process model against documented requirements gathered from current users and process experts.

This included comparison against pilot plant data, well accepted internal models, and commercial units. They would then rollout to refineries.

Then each process model was subject to a detailed evaluation to ensure it was fit for purpose and that it would not result in performance “back-sliding” compared to existing tools. This included comparison against pilot plant data, well accepted internal models, and commercial units.

Finally, each process model went through an acceptance process. These criteria included model configuration, and data quality and handling functionalities. Once accepted the model became the single tool for all use cases.

Throughout the project, KBC and the operator scheduled regular meetings to review status and identify gaps and solutions.

Results

The project was a success. A strong level of guidance aligned all stakeholders to ensure a smooth implementation. Users had a positive response to the rollout.

The team rolled out the deliverables to all refineries and provided user training. KBC quickly addressed any gaps, resolved issues, and provided general support during model implementation resulting in a positive client relationship.

KBC met the operator's goals. The project team not only sustained the current level of process modeling benefits, but they also improved efficiency and capabilities across all refineries. Now, each refinery has a comprehensive standard suite of models for collaborative sharing. The model resource team can now shift their focus to the creation of additional value.



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