

# SASOL

## INCREASING THE QUALITY OF ESTIMATES AND WORK PROCESS EFFICIENCY THROUGH CLEOPATRA ENTERPRISE



Sasol is an international integrated energy and chemical company that leverages the talent and expertise of more than 34 000 people working in 37 countries.

Sasol develops and commercialise technologies, and build, maintain, and operate world-scale facilities to produce a range of product streams, including liquid fuels (GTL), high-value chemicals and lowcarbon electricity.

### Facts & Figures

- Multi-billion \$ projects
- 34.000 employees
- Presence in 37 countries
- South Africa's second-largest company



Sasol's Lake Charles Gas-to-Liquid and Ethane Cracker Complex, USA

## Challenges

As one of the world's leading energy and chemical companies Sasol faces challenges in cost estimating that are commonly found in global organizations. Sasol's estimating group generates approximately 50 to 60 estimates a month. Managing this many estimates while guaranteeing quality and effectiveness in a convenient, structured manner is a daunting task.

To overcome these and other challenges, Sasol initiated a careful selection process to identify potential alternatives to their in-house tools. Specifically, there was a need for efficient and accurate estimating, as well as quick benchmarking and bid evaluations. Being able to quickly make high-level estimates based on historical data is crucial, and will enable Sasol to challenge their contractors. During the selection process, Cleopatra Enterprise emerged as the tool that could offer the necessary improvements.

## Needs Analysis

In order to determine the key requirements for a cost estimating solution at Sasol, a multi-disciplinary Needs Analysis workshop was conducted with Sasol's conceptual estimators, discipline engineers, process engineers, board and project controls members. This resulted in the identification of several improvements that could be made in the cost estimating and project analysis processes.

Following this Needs Analysis workshop, Sasol concluded that Cost Engineering Consultancy would be able to effectively meet all requirements, offering not just the right tool for the job, but also the insights of its knowledgeable consultants.

***"Cleopatra Enterprise has proved its expertise as a total cost management tool for Sasol. We use Cleopatra not only for cost estimation but also for bid evaluations.***

***As a result, we are happy to see the continued improvements in our overall work efficiency and the quality of estimates. Moreover, we are delighted with the insights provided by its knowledgeable consultants."***

- Sasol

## Benefits for Sasol:

- High quality centralized databases for (semi)definitive class 3 / 4 estimates
- Feedback loop from final execution to factorized cost models
- Support for local and international projects through location factor tables
- Derive accurate parametric equipment models from historical data analysis
- Standardized reports for more insight into the estimate for project managers
- Providing a link between planning, estimating and cost control



CLEOPATRA



## Implementing a tailored solution for Sasol

Cost Engineering's expertise was leveraged during the implementation process to create a tailored solution for Sasol. This included the following activities:

- Benchmarking of Sasol's estimating data, factor models and maintenance contracts against the DACE norms and international estimating standards
- Comprehensive knowledgebases were developed together with Sasol's data team for definitive estimates (unit-rates), semi-definitive estimates (assemblies) and order of magnitude estimates (capacity factoring, parametric models)
- Setup of factor tables for productivity and location factors to allow for accurate estimating in varying locations and circumstances
- Custom made dashboard reporting for the board which gives instant insight and interfaces with IPA, so the numbers can be directly fed into the IPA evaluation sheet
- Setup of additional breakdown structures for more detailed calculations and comparisons to support bid evaluations, benchmarks and to provide input for cost control and planning

Cost Engineering assigned a core implementation team who performed the bulk of the implementation activities on-site at Sasol's offices in South Africa. This ensured more direct communication and collaboration with Sasol's estimating and project management teams.

## Full-Scale Deployment

Following on the first implementation phase and training of the users in Cleopatra Enterprise, the deployment was soon finalized. Cleopatra Enterprise is now fully operational and integrated into Sasol's projects.

Since the implementation of Cleopatra Enterprise, Sasol has experienced dramatic time savings. In addition, the consistency and quality of the estimates has significantly improved due to the standardization of reporting structures and the use of templates. With the new work process in place, the required man-hours per estimate were significantly reduced so more attention can be invested into the feedback loop and analysis of project results.

Looking back at the implementation of Cleopatra Enterprise, Sasol is especially pleased with the continuous support that was provided throughout the process. Cost engineers and implementation engineers were always directly available to provide accurate guidance and support, both on-site and from Cost Engineering's home office.

## Future Steps

With the implementation completed and the main objectives achieved, the roadmap for the near future is now being refined. Future focus areas include, for example, the continued development of additional cost models derived from project actuals. The integration of cost management and project controls will offer many potential benefits in the future, with the Cleopatra Enterprise Cost Management module providing ample opportunity to further integrate the cost estimating and project controls functionalities into one tool.

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Cleopatra Enterprise offers an integrated Project Cost Management solution through the entire project life cycle by including Cost Estimating, Scheduling, Cost Management, and Benchmarking in one system.

The advanced tool owned by Cost Engineering Consultancy, serves the process industry and is used by Owners, Contractors and EPC firms.

Over 20 years, Cleopatra has enabled more than 500 industry-leading companies in 75 countries to control large technical projects and turnarounds, improve their project performance and stay ahead of the competition.

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