PETRONAS Refinery Unlocks $8.5 Million USD Per Year in Profit with Scheduling Automation Solution

PETRONAS

> **"Change management combined with products from AspenTech have helped us to achieve our goals."**
>
> – *Sammehah Shuib, PETRONAS*

PETRONAS is the national oil company of Malaysia and holds ownership and control of the petroleum resources for the entire country. It has grown from being the manager and regulator of Malaysia's upstream sector into an oil and gas corporation, ranking among the FORTUNE Global 500®.

Recently, PETRONAS Melaka Refineries faced the challenge of creating an integrated refinery scheduling model to eliminate many standalone spreadsheets and leverage multi-user interaction under a single network. Any petroleum scheduling software considered had to be compatible with their current planning tool.

To reduce the margin of error in the scheduling model, PETRONAS turned to Aspen Petroleum Scheduler™ and Aspen Refinery Multi-Blend Optimizer™ to form a single network database. Using this innovative solution, PETRONAS eliminated standalone spreadsheets and deployed a powerful database for multi-user collaboration and improved coordination in the scheduling process.

CUSTOMER PROFILE - PETRONAS – *Oil & Gas*

CHALLENGE	SOLUTION	BENEFITS
Reduce margin of error in refinery schedule modeling by integrating plants into a single network.	Aspen Petroleum Scheduler and Aspen Refinery Multi-Blend Optimizer formed an integrated refinery scheduling model under a single database.	• Achieve ROI of $.10/bbl USD of crude process and $8.5M/year USD profit • Increase coordination and collaboration between schedulers • Improve alignment between planning and scheduling

CASE STUDY

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CHALLENGES WITH SPREADSHEET SCHEDULING

PETRONAS Melaka Refineries relied on multiple standalone spreadsheets to manage internal and external schedules for the refinery. The schedulers liked the portable spreadsheets because they could see immediate changes to the simulation results on one page. However, the process was long and tedious, and led to different versions of the same schedule — which increased the likelihood for errors and resulted in less than optimal crude production.

IMPROVING COLLABORATION THROUGH SCHEDULING AUTOMATION

To reduce error and improve collaboration, PETRONAS implemented Aspen Petroleum Scheduler and Aspen Refinery Multi-Blend Optimizer to automate the scheduling model under a single database. To better align planning and scheduling, AspenTech helped develop a customized template to integrate both Aspen Petroleum Scheduler and Aspen Refinery Multi-Blend Optimizer with PETRONAS' current planning tool. The software allowed greater visibility and agility into the refinery model, yielding higher margins and lower production costs.

Before Aspen Petroleum Scheduler, schedulers had no real-time feedback and audit of changes. Now schedulers can plot planned, scheduled and actual targets, while seeing variances as they occur and make necessary changes in a single network for better scheduler collaboration. As schedulers make changes, automated alerts notify the other schedulers of the changes, making it easier to adjust the schedule.

After adopting Aspen Petroleum Scheduler, PETRONAS saw an ROI of $0.10/bbl USD of crude process with an annual profit of $8.5 million USD, while Aspen Refinery Multi-Blend Optimizer generated improvements of $0.005/bbl in MOGAS alone with an annual profit of $0.144 million USD.

> **As schedulers make changes, automated alerts notify the other schedulers of the changes, making it easier to adjust the schedule.**

LOOKING AHEAD

PETRONAS is increasing its refinery margins and collaboration with the implementation of the software from AspenTech. The integration of Aspen Petroleum Scheduler and Aspen Refinery Multi-Blend Optimizer into the refinery model improved efficiency, communication, case comparison, and allowed for multi-user capability. PETRONAS continues to maximize profit opportunities utilizing AspenTech products to schedule, evaluate and blend at the Melaka Refineries.

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AspenTech is a leading supplier of software that optimizes process manufacturing — for energy, chemicals, engineering and construction, and other industries that manufacture and produce products from a chemical process. With integrated aspenONE® solutions, process manufacturers can implement best practices for optimizing their engineering, manufacturing, and supply chain operations. As a result, AspenTech customers are better able to increase capacity, improve margins, reduce costs, and become more energy efficient. To see how the world's leading process manufacturers rely on AspenTech to achieve their operational excellence goals, visit **www.aspentech.com**.

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