Case Study

Salalah Methanol Company Drives Process Performance with Uniformance Process Studio

"Using Uniformance Process Studio, multiple levels of the organization's hierarchy can view the process parameters. UPS has improved the analysis of plant trips and upsets."

Gary Jopson, Manager, Engineering & Maintenance Department &

Asish Thampi, Senior DCS Engineer at Salalah Methanol Company

Benefits

Salalah Methanol Company's (SMC) production plant is the second largest in Oman. Starting production in 2010, by April 2012 it had produced two million tons of methanol. It did so without any lost time due to injuries or environmental incidents over the course of more than one million man-hours.

Like all methanol producers, however, it faces significant competitive challenges. To meet them it enlisted Honeywell, which had supplied its distributed control system (DCS), to implement a manufacturing execution system based on Uniformance® Process Studio (UPS), bringing significant benefits to the company:

- Better operating and business decisions by providing timely, accurate and consistent data and analysis tools for both engineering staff and business users

- Increased efficiency as a result of tools to enable staff to focus on improving processing performance

- A lighter compliance burden by implementing automatic reporting that drastically reduced work for SMC's administrative staff

- Lower maintenance costs due to power consumption and efficiency data on key equipment that enabled SMC to improve its condition based monitoring and early detection of potential failures

"Using UPS, we are able to realize ease of access to plant parameters from our own desks, while analysis of plant parameters became easier using long term UPS trends." said Asish Thampi, at SMC.

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Background

SMC's 3,125 ton per day methanol plant in the Salah Free Zone

Salalah Methanol Company LLC (SMC) was formed in February 2006 by the Oman Oil Company to build a state-of-the-art methanol production facility in the Salalah Free Zone, a new center for heavy industries in the Middle East, in Salalah, Oman.

The $900 million 3,125 ton per day plant, the largest industrial investment in the region, began production in May 2010. In April 2012 it celebrated a significant milestone with production of its two millionth ton of methanol.

The plant's feedstock is dry sweet natural gas supplied by the Oman Gas Company. The plant includes captive power generation, water desalination and a wastewater treatment plant to make it self-sufficient. Methanol that isn't used domestically is exported through the Port of Salalah nearby and managed by Oman Trading International, which handles the marketing of the product globally. More than half the plant's workforce are Omani

nationals – a proportion SMC is seeking to increase through training and development.

Challenges

Global methanol demand in 2010 was approximately 44.9 million tons, according to recent analysis by business intelligence firm GBI Research. By 2020, it forecasts, that could increase to 122.6 million tons. There is significant competition in the market, however, particularly from China, which has seen large numbers of new methanol facilities in recent years.

To improve business performance and stay competitive, SMC's plant management wanted to focus on its critical plant parameters and equipment performance statistics. However, with its existing system it was difficult to monitor these.

For a start, only control room operators could monitor plant data directly; business users had no real time view of performance and behavior. Instead, they worked from key performance indicators and reports generated manually on historic data.

The manual reports were also time consuming to put together – as were reports for compliance purposes.

There was no clear line of sight on the operations at the enterprise level and no consistent frame of reference shared by operational and business functions.

 "We needed something giving easier access to reliable information and a more organized approach to collecting and analyzing it," said Asish.

Solution

SMC had already worked extensively with Honeywell, which provided its Experion® Process Knowledge System DCS, field instruments, and UniSim® Operations Suite simulation software for training operators.

Honeywell suggested a solution based on its desktop package for viewing and analyzing process data, Uniformance Process Studio R300. It coupled it with the Uniformance PHD historian, its flexible storage and retrieval system for process data. Together, the solutions help engineers make sense of process data faster and give them and business users a better understanding of past process performance.

Installing it, Honeywell also helped develop calculations for monitoring power consumption and efficiency data for key equipment, such as turbines, compressors and fans, to contribute to a predictive maintenance program. Much of the reporting, meanwhile, was automated, with reports on daily production, an executive summary for management, utility reports, and health, safety and environmental reporting. Finally, Honeywell handled the migration of graphics from the Experion system to UPS.

Using the Uniformance Process Studio Display Migration tool plants can re-use existing Experion and Workcenter graphics within UPS, with much of the migration automated. It meant displays in UPS were familiar for the existing Experion users, who could get down to using it straight away.

"UPS is very user friendly, and much of that is down to the graphics that closely mirror the DCS pages," said Asish. "Overall, it's a very simple solution to a complex challenge."

For More Information
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