

Case Study

PlantCruise DCS Enables Smooth Transition In Tiang Hong Chemical Controls Modernization



“We want to be the Best in the industry. In Honeywell we found a partner and the products that helped us achieve our goals.”

Liu Shuyu, Director of Instrumentation - Tian Hong Chemical Company

Background

Tiang Hong Chemical, a unit of China's Wanda Group in eastern Shandong province China, produces diesel and gasoline fuels. The plant includes a 2.0-million tons per year (tpy) catalytic cracking unit, a 1.5-million tpy hydrocracking unit, a 1.8-million tpy delayed coking unit and a 1.0-million tpy continuous reformer. Due to increased product demand and ageing instrumentation the company embarked upon a modernization project of the Refining and MMA operations. This case study outlines the project challenges, the solution implemented and the benefits derived.

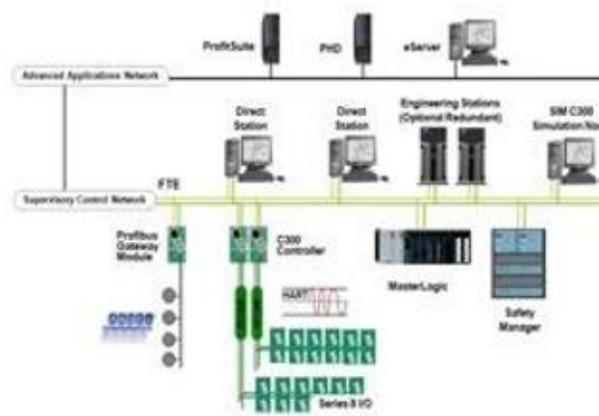
Challenge

Tiang Hong Chemical had ambitious automation plans but limited prior experience with engineering DCS solutions. Given their tight project schedule and steep learning curve, efficient and rapid commissioning of the control system was a concern and a challenge. Tiang Hong Chemical was counting on their operators and maintenance staff to become familiar with the new system quickly. The company was not in a position to tolerate downtime and needed a reliable and proven control solution that would provide a strong return on their investment while improving product quality and process efficiency. According to Mr. Shuyu, Director of Instrumentation, *“we needed to select a more stable system for key working processes in our refining operations. In China, there are a few devices similar to MMA.”* Management was counting on the control system supplier to deliver results.

Solution

Following evaluation of control system alternatives Tian Hong Chemical selected Honeywell's PlantCruise by Experion® for their refining and MMA processes. According to Mr. Shuyu *“We viewed Honeywell as the leading global company in the process*

industries, with a proven track record of quality in their products and support.” Together with an experienced systems integrator Beijing Haotu Technology Co., Ltd., Honeywell developed a plan to meet the challenge. The two companies' combined their engineering capabilities and control experience to develop a solution around the Honeywell PlantCruise Distributed Control System. *“In the early project stage our Honeywell representative came to our company and discussed with us the project requirements. He gave us a clear and comprehensive introduction and explanation of the Honeywell PlantCruise solution. That was another reason we chose Honeywell for our project.”*



PlantCruise Architecture

PlantCruise is an extension of Honeywell's award-winning Experion Process Knowledge System (EPKS) built to meet the needs of the process industries. It is a proven distributed control system (DCS) that is easy to use and maintain. Based on the proven Experion C300 controller, PlantCruise offers a host of innovative technologies that can lead to improved plant

performance and better business results in an increasingly competitive environment:

- Simplified engineering and maintenance functionality
- Enhanced input/output (I/O) design
- Profit® Loop algorithm for predictive control
- Built-in function blocks and pre-built templates
- Rich function libraries to easily create control strategies
- User-friendly tools such as Control Builder, Enhanced Bulk Builder, Quick Builder, Smart Reporting and HMIWeb Solution Pack
- Simple human machine interface including Abnormal Situation Management displays.
- Alarm management tools such as alarm shelving, alarm tracker and dynamic alarm suppression.

These and other PlantCruise features enabled Tiang Hong Chemical to greatly reduce the time required to engineer controls and displays, configure reports and build interfaces. PlantCruise makes it easy for Tiang Hoan operators to run the plant by giving them the information they need to make timely decisions without cluttering their view of the process. This in turn helped the company meet their ambitious startup schedule and avoid downtime.

Scope

The scope of Honeywell for the Tiang Hong Chemical project included PlantCruise hardware and software along with engineering/commissioning services like

- System installation guide
- Site network configuration
- Server synchronization
- Configuration and control strategy commissioning

Benefits

PlantCruise is a powerful and cost competitive solution offering advanced optimization and batch control technology. The system offers strong economic & technical benefits for targeted process operations:

- Maximized uptime and improved plant reliability and efficiency
- Engineered from the ground up to be more robust than any competing control systems
- Reduced cost of ownership
- Enhanced operator effectiveness through alarm management and displays

- Communicates effortlessly with third-party devices and drives
- Scalable to meet expanded or future system requirements

According to Mr. Shuyu *“By using Honeywell PlantCruise we will enhance system stability, improve safety during startup, and have dependable maintenance and after-sale service. Beijing Haotu and Honeywell engineers offered strong engineering capabilities and rich industry experience; they provided professional support and services throughout the entire project which ensured smooth implementation. And, the system doesn’t require much maintenance. Previously we worried not only about the control system stability but also the heavy workload when managing a plant expansion. Now, these problems have been solved.”*

Some of the project support highlights cited by Mr. Shuyu:

- *“Fast response from the product technical support team, which helped resolve problems quickly when issues occurred.”*
- *“The MMA Phase II is approaching. Since we reserved extra interface capacity during Phase I it will help us to reduce costs in terms of time and material during the second stage.”*
- *“Prompt and effective post-sale service from Honeywell and Beijing Haotu Technology Co. when we need it.”*

“The system runs well and is stable following its commissioning; we’ve increased production and stayed within our budget due to quick implementation. In the later stage of the project, we will face the challenge of expansion. The engineering interface provided by Haotu and Honeywell will help make our expansion work be safe and more relaxed.”

Around the world, Honeywell is recognized as the leader in control technology with a long history of working with the process industries. We help industrial customers improve their business performance by providing world-class process automation technology and services.

For More Information

To learn more about how Honeywell's PlantCruise DCS can benefit your operation visit www.plantcruise.com or contact your Honeywell account manager.

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