

Shanghai Wujing Chemical Optimizes Operation of Acetic Plant Using Emerson's PlantWeb® Architecture with FOUNDATION fieldbus™ Technology



RESULTS

- 50% reduction in cable & cabinet
- 74% saving in controller processor time for advance application
- 80% savings in calibration time for control valves
- Plant startup 10 days ahead of schedule



APPLICATION

Manufacture of acetic acid for a wide variety of industries, typically pharmaceutical and textile.

CUSTOMER

Shanghai Wujing Chemical Industrial Co. is located in South Western Wujing area of Minhang District, Shanghai, China.

CHALLENGE

To remain competitive, Wujing Chemical needs to improve the project schedule for the commissioning and startup of its Wujing plant. The plant is expected to utilize the predictive intelligence of the assets to prolong life span of its equipments. The company wants to increase total capacity from 300,000 tpa to 530,000 tpa in year 2008.

“By adopting Plantweb Architecture for our chemical plant, it has lifted the automation to the next level. The entire project not only had saved us electric cable wirings, it has made fieldbus installations very stable and robust. With Control System and Fieldbus devices rich in predictive information enables us to save troubleshooting time. The traditional reactive mode of handling plant issues have changed into present predictive mode. This system has let us truly realized the power of a digital plant.”

Zhang Yi Min
Instrument Head/Lead Engineer
Shanghai Wujing Chemical Industrial Co.

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SOLUTION

Emerson technologies provided as part of Emerson's PlantWeb digital architecture with FOUNDATION fieldbus technology included:

- DeltaV™ process automation system
- AMS Suite™ software
- Rosemount® pressure and temperature transmitters (FOUNDATION fieldbus and HART)
- Micro Motion® FOUNDATION fieldbus Coriolis flowmeters
- Fisher® valves with FOUNDATION fieldbus Digital Valve Controllers

Installation was made faster with 50% lesser cables, terminations and cabinets used. In addition, ease of using DeltaV during commissioning has helped Wujing completed the startup of the plant 10 days ahead of schedule.

FOUNDATION fieldbus technology uses one unit of 848T device which replaced the need for 6 units of RTD motor temperature monitoring points.

Usage of Control-in-the-Field functionality in 114 PID Control loops frees up controller process time as much as 74% for advance applications.

DeltaV Inspect application has helped operation monitor daily all the devices and control loop status providing significant operation benefits.

Calibration of control valves, very often in the past, was very time consuming. Now with DVC6000f, customer has seen as much as 80% time saved that is translated to lower operational and maintenance cost.

Overall, Shanghai Wujing Chemical has benefited by using latest technologies from Emerson Process Management, helping them in the area of commissioning and troubleshooting FOUNDATION fieldbus devices, as well as deriving operational benefits.



“Utilizing Intelligent Asset Management software has allowed all equipment issues to be viewed and detected accurately within the control room. This had greatly saved the plant maintenance time.”

Tang Xiudong

Engineering Department System Engineer
Shanghai Wujing Chemical Industrial Co.

“Comparing to conventional ways, DVC600f with the predictive intelligence capability has increased the maintenance efficiency by reducing unnecessary runs to the field. We had saved at least 80% of the valve maintenance time.”

Zhou Hai Bin

Instrument Maintenance Engineer
Shanghai Wujing Chemical Industrial Co.

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