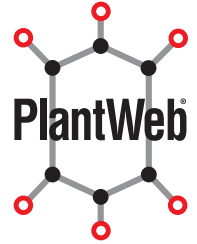


Emerson's PlantWeb® Architecture Enables Fangyuan Chemical of Tianji Group to Reduce Costs with FOUNDATION fieldbus™ Technology



RESULTS

- 14 % reduction in labor and time used for installation
- 75 % reduction in labor and time used for commissioning
- High accuracy in critical flow and temperature measurements



APPLICATION

Manufacture of Mononitrobenzene and Aniline for production of rigid and flexible foams utilized as insulation & cushioning for construction, refrigeration, packing, furniture, bedding and transportation vehicles.

CUSTOMER

Fangyuan Chemical Industry Development Co. Ltd., a subsidiary of Tianji Coal Chemical Group, is located in Lucheng, Shanxi, China. It is the first large scale coal chemical enterprise in China and the largest compound fertilizer production base in Asia.

CHALLENGE

In adopting the latest process technology, Fangyuan wants to increase the production throughput, plant availability and product quality. Fangyuan is also expected to fully deploy the predictive intelligence in the field instruments to detect possible failure and avoid unplanned downtime.

“The measurements readings from Ff devices are far more accurate. With Ff digital technology, signal distortion that are common with conventional 4-20mA wiring are no longer an issue, particularly in the temperature measurement areas such as RTDs and thermocouple. For example, devices like 848T multi point temperature transmitter have saved us not only in electrical cables and wiring but also provided highly accurate measurements. Uses Ff technology certainly have its advantages, we are now able to reduce our maintenance costs. The number of technical personnel was reduced from 10 to 5 thereby reducing the costs.”

Li Jian Chuan
Instrument Deputy Director
Tianji Coal Chemical Group

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SOLUTION

Fangyuan chose Emerson's PlantWeb digital architecture with FOUNDATION fieldbus technology to gain the full benefits of latest technologies, including intelligence field devices and asset management software. The project included:

- DeltaV™ process automation system
- Rosemount® pressure & temperature transmitters, magnetic and Vortex flowmeters (all FOUNDATION fieldbus)
- Rosemount Analytical FOUNDATION fieldbus pH transmitters
- MicroMotion® FOUNDATION fieldbus Coriolis flowmeters
- Fisher® valves with FOUNDATION fieldbus Digital Valves Controllers

Faster installation due to less cables and terminations; shorter loop check time resulting from auto detection and easier commissioning of devices enabled the plant to reduce much of the time it normally would take. This was translated to 14% saving in installation costs and 75% saving in commissioning costs.

FOUNDATION fieldbus devices with digital technology, are able to give more accurate reading than the analog devices and they are useful in the process areas where critical flow and temperature measurements are required to be as accurate as possible.

Overall, Fangyuan has benefited by using latest technologies from Emerson Process Management in the area of commissioning and troubleshooting FOUNDATION fieldbus devices. By using the predictive intelligence of field devices, operating and maintenance departments will receive the device alerts before they impact the process. It helps to avoid unscheduled shutdown and reduce maintenance cost.



"We are now able to see intuitively from the workstation monitoring the Ff devices conditions and thus reducing the amount of field trips required to resolve the issue."

Wei Run Hua
Plant Instrument Supervisor
Fangyuan Chemical Industry Development Co. Ltd.

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