IMPROVE THE EFFICIENCY OF GAS DISTRIBUTION SERVICES WITH THE INDUSTRIAL INTERNET OF THINGS

The deployment of an **Industrial Internet of Things** solution over a Motorola wireless network provides a natural gas distribution company with improvements in control over their distribution grid and the accuracy of consumption readings.

The overall IIoT solution interfaces with the elements that make up the gas distribution grid, such as pressure and temperature sensors, data viewing displays and mechanical pulse converters. With the deployment of this end to end solution, industrial administrators benefit from a comprehensive and accurate history of their gas consumption, enabling their end customers to have more control over their service bills.

This natural gas distribution provider supports a total of 27 communities within its region. Their grid servers more than 600,000 customers, both residential and industrial. It is imperative for them to provide their customers with affordable, secure and reliable gas services.

In their pursuit of enhanced efficiency and quality of service, the natural gas distribution company began searching for a centralized control system upgrade that would provide an increase in visibility, control, and accuracy throughout the distribution grid. Initially, the gas distribution company assessed different supplier alternatives and made the decision to purchase Motorola Solutions equipment, greatly encouraged by the technical support quality behind the products.

THE SOLUTION

Once they found the solution, they started the deployment of the control system. The company planned a three-stage deployment, with a first pilot stage fully deployed by 2007 after the completion of a 40 points start-up. Subsequently, until 2010, the system was extended to customers from 17 municipalities. The project's third phase has been underway since then, anticipating the system expansion to another 20 municipalities within the department. They also plan to expand the solution to more municipalities, not only within their region but also from other neighboring departments.

At the technical level, the control system deployed consists of 70 ACE 3600 Remote Terminal Units (RTU) from Motorola Solutions. The entire solution comprised of third party sensors and actuators, such as pressure and temperature sensors and mechanical pulse converters. These sensors and actuators interfaced with the ACE 3600 RTUs which communicated over the land mobile radio network via MDLC protocol. They also use Supervisory Control and Data Acquisition (SCADA)

DEPLOYMENT SUMMARY

- Natural Gas Distribution Company
- Energy, Oil & Gas
- Deployment of a telemetry and control system over a Motorola Solutions wireless network for enhanced management of the company's gas distribution grid

MOTOROLA PRODUCTS:

- 70 RTU ACE 3600

KEY BENEFITS:

- Increased control
- Reduced losses
- Better leveraging of gas distribution
- Comprehensive history of users' gas consumption

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software that enables a remote integration of applications and devices, providing a comprehensive environment for operations management.

The deployment services included the solution design, as well as the installation, scheduling, configuration and startup of all remote sites and central control stations. Additionally, by choosing Motorola Solutions, they had the peace of mind of having their solution backed by a 24/7 support and maintenance service.

BENEFITS
The deployment of a grid control system enables increased productivity, more accurate readings and improved control over gas distribution. All of this translates into reduced losses, thus maximizing the company's profit margins.

At the same time, industrial users get a comprehensive history of their gas consumption, enabling customers to have more control over their utility bills.

From a technical point of view, the solution provides high scalability and seamless integration with third party devices and products. This interoperability gives this gas distributor the flexibility they need for supplier selection. Additionally Motorola Solutions devices have truly versatile communication options, integrating RS-232 and RS-485 ports, radio and IP, while using the same or different protocols simultaneously. The devices support digital or analog conventional radios, multiple address systems, telephone lines, fiber-optic links, microwave and satellite links and wired and wireless IP networks. In the case of this one natural gas distribution company, 80 percent of the infrastructure communicates using two-way radio links.

INFRASTRUCTURE COMMUNICATES USING ABOUT 80% TWO-WAY RADIO LINKS

For more information on how you can leverage the power of the Industrial Internet of Things to enhance your operations please visit:
www.motorolasolutions.com/industrialiot

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