

Petroleum Company Uses ControlEdge™ RTU to Optimize Terminal Inventory Management

Case Study

“Thanks to Honeywell’s technology, our customer can now access all critical tank gauging information from a single, centralized location.”

Background

In Poland, a leading petroleum logistics services company not only helps guarantee domestic energy security, but also that of the European Union, within the scope of crude oil and fuel supplies. The company operates a network of pipelines, transporting Russian crude oil for the largest producers of fuels in Poland and Germany. Two lines of the Przyjaźń pipeline run from Adamowo, situated at the Polish-Belarussian border, to Płock, and then to Schwedt in Germany.



At petroleum storage terminals, Remote Terminal Units (RTUs) act as a tank gauge interface for data acquisition.

Challenge

Within the global oil and gas industry, large terminal operations require an effective data collection and management system to prevent potential problems such as environmental damage and safety hazards. In addition, the exact net volume in bulk liquid storage tanks can have major financial implications.

Due to the latest information technology (IT) trends, operating companies seek to enhance the connection of people to assets. This means improved inventory control, increased measurement accuracy and better integrity management. Companies also need enterprise scalability, providing fewer interfaces, common display mechanisms and less expensive communications.

For this project, the petroleum firm wanted to centralize the collection of all data from tank gauging equipment for use by management systems. It maintains five sites with tanks where crude oil is stored. Previously, tank level information was only available on a local basis at each facility. To optimize pumping and other key tasks, operators needed to have a “full picture” from each site at a centralized location.

Solution

The petroleum logistics services company worked with Sensor ACM, a leading Polish automation technology provider and expert in the petroleum storage and pipeline industry, to specify, install and commission a centralized, telemetric inventory and logistics data collection system. At the heart of this system is Honeywell’s ControlEdge™ RTU, a versatile and robust controller specifically designed for easy deployment and maintenance at remote locations throughout the petroleum sector. The RTU is an effective answer for applications such as manifold and gathering stations, data concentrators, flow metering, block-valve automation, pump and compressor control, and terminal storage.

ControlEdge is a next generation family of controllers providing secure connectivity through all levels of process and business functions, optimized operations, and maintenance efficiencies to meet diverse automation needs. It also provides inherent integration with Experion®.

The ControlEdge™ family of controllers is part of Honeywell’s Connected Plant initiative. Honeywell Connected Plant is turning data into actionable

- Sensor ACM, Poland

Storage and distribution terminals must continually improve processes to stay profitable. The best return on investment comes from increasing throughput; the flexibility to meet customer demands; and continuous focus on safety, accuracy and compliance.

About Honeywell's ControlEdge™ RTU

In combination with Experion SCADA, Honeywell's ControlEdge RTU helps users visualize what they need to know to simplify management of critical field assets.

It provides access to data and control of assets from anywhere, improving efficiency and underlying performance with the lowest total cost of operation.

insight, from edge to enterprise, to help customers improve their bottom line. It provides access to data and control of assets from anywhere, improving efficiency and underlying performance with the lowest total cost of operation. Honeywell Connected Plant delivers a capital efficient solution that provides flexibility to add and remove assets quickly, and consolidates data for operations and analysis for long term market-leading profitability.

The modern and powerful ControlEdge RTU surpasses older RTU models with numerous best-in-class features. Integrated with Honeywell's Experion® Process Knowledge System (PKS) or supervisory control and data acquisition system (SCADA), it simplifies configuration of assets and enables operational efficiency with an advanced human-machine interface (HMI). Users gain an edge into realizing the potential of their distributed assets. Honeywell's distributed system architecture (DSA) allows multiple Experion servers to operate as one within a single asset or across the enterprise.

The petroleum firm chose ControlEdge RTU due, in part, to its use of both the Modbus TCP/IP and DNP3 protocols. The unit can provide duplicate Modbus outputs as needed. To get information from the Honeywell Enraf 880 CIU Plus communication interface unit, engineers duplicated the Modbus port, connected the RTU to one of the Modbus outputs from the CIU Plus, and then copied the port so external PLC/SCADA systems still obtain full information.

Honeywell's RTU delivers tank information from each terminal to Experion, connecting third-party

level gauges and HART/4-20 mA instruments. The Honeywell Enraf 880 CIU Prime serves as the interface between field instrumentation and the Entis Pro tank inventory system, whereas the 880 CIU Plus calculates volume and mass. It requests input data from the CIU Prime and calculates all other data, presenting it to higher level systems like SCADA; distributed control system (DCS); and as-built documentation tools. The tank inventory system displays calculated data from the CIU Plus.

Experion SCADA drives critical information to operations teams while automating data logging and processing. The system is scalable to address the requirements of the largest pipelines and terminals. Where multiple-server SCADA is required, flexible and secure operations are enabled with Honeywell's patented Distributed System Architecture (DSA).



ControlEdge RTU is designed to work with any SCADA system.

Benefits

With the Honeywell data collection and management solution, the Polish pipeline and terminal operators now have access to all required tank gauging data from a single, central source.

Thanks to ControlEdge RTU, the end user also benefits from a low total cost of ownership made possible by reduced power consumption, integrated field device management, and efficient wiring with removable terminals.

Summary

In this application, Honeywell delivered solutions that added value through superior asset performance and the lowest total cost of ownership. Furthermore, a highly intuitive user interface enhanced overall data visualization and process monitoring capabilities.

Experion® is a registered trademark and ControlEdge™ is a trademark of Honeywell International, Inc.

For More Information

Learn more about how Honeywell's ControlEdge™ RTU solution can improve performance, visit www.honeywellprocess.com or contact your Honeywell Account Manager.

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