

RWE Gas Storage Uses Wireless Technology to Maximize Gas Storage Capacity and Improve Efficiency and Safety

RESULTS

- Running closer to capacity
- No downtime, saving \$250,000/day in lost revenue
- Installation costs reduced by 20% compared with a wired solution
- Maintenance costs reduced by 10%



APPLICATION

Upgrading instrumentation for managing underground natural gas storage

CUSTOMER

RWE Gas Storage, Dolní Dunajovice, is part of the RWE Group and is the biggest underground gas storage operator in the Czech Republic, operating six facilities with a total capacity of almost 3 billion cubic meters.

CHALLENGE

RWE Gas Storage was looking to maximize the capacity of its Dolní Dunajovice underground gas storage facility in the Czech Republic.

To achieve this, existing measurements needed to be automated to give operators greater visibility into the process and to increase personnel efficiency by reducing manual rounds. New online pressure, temperature and level measurements were required, as well as access to diagnostic data from existing control valves.

“We needed to upgrade our existing instrumentation and add additional measurements, but with just two short windows of opportunity each year and no available existing cabling infrastructure, it was impossible to complete the work within the scheduled two-week downtime,” said Pavel Šilinger, Energy Manager, RWE Gas Storage s.r.o. “Extending the downtime would cost RWE an estimated \$250,000 a day in lost income.”

RWE needed a solution that did not require installation of new cabling and allowed a longer period for the upgrade to be completed.

“Emerson's wireless solution takes only a quarter of the time to install, and saves around 20% of the cost of a cabled installation.”

Pavel Šilinger
Energy Manager
RWE Gas Storage s.r.o.



Emerson Smart Wireless networks were installed to span the entire 50,000-square-meter facility.

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SOLUTION

RWE selected Emerson's Smart Wireless technology, which is well-proven, reliable, and both quick and easy to install and commission. Unlike a wired solution, Smart Wireless didn't require RWE to install new I/O cards in the control host. Smart Wireless Gateways were simply added to the existing Modbus network to make data from the wireless transmitters available within the existing control system. This meant that the plant could continue to operate while new instruments were being installed, removing the need for the upgrade to be completed within the allotted two-week downtime.

Five separate Smart Wireless networks were installed to span the entire 50,000-square-meter facility. More than 100 new wireless transmitters were installed, predominantly Emerson's Rosemount® wireless pressure and temperature transmitters. A number of Rosemount Guided Wave Radar level transmitters and Fisher® control valves were also connected using Emerson's THUM™ Adapters. RWE also uses Emerson's AMS Suite predictive maintenance software to monitor wireless network performance and provide device diagnostics.

"Emerson's wireless solution takes only a quarter of the time to install, and saves around 20% of the cost of a cabled installation," continued Šilinger. "The availability of HART® data, including diagnostics from new and existing devices, was another significant reason for selecting Smart Wireless and is helping us to improve plant maintenance procedures."

In fact, remote online access to diagnostic information has reduced maintenance costs by 10% per year, and enables operators to identify potential instrument problems earlier and correct them before poor measurements affect the process. Access to online data has also reduced the number of trips into the field, helping to reduce operator rounds and improve the safety of equipment and workers.

On-line measurements have increased visibility into the process, enabling the plant to improve control and run closer to capacity. Wireless technology saved RWE around 20% on the cost of installation and commissioning compared to a wired alternative. The total saving is much higher when the potential lost income of \$250,000/day for extended downtime is taken into account.

Based on the successful implementation of wireless technology at the Dolní Dunajovice site, RWE plans to implement Emerson's Smart Wireless at all of its underground storage facilities in the Czech Republic.

RESOURCES

Emerson Process Management Oil and Gas Industries

<http://www2.emersonprocess.com/EN-US/INDUSTRIES/OIL-GAS/Pages/OilandGas.aspx>

Rosemount 3051S Wireless Series of Instrumentation

<http://www2.emersonprocess.com/en-US/brands/rosemount/Pressure/Pressure-Transmitters/3051S-Wireless/Pages/index.aspx>

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