

Improving Efficiency at a Chemical Storage Facility with New Process-efficient Tank Monitoring Solution

Result

- Increased efficiency – no more need for manual hand dipping
- Better control of liquid assets and reduced inventory cost
- Minimized risk of raw-material shortage
- Improved product quality thanks to tighter control over the blending process
- Cost-efficient installation, with a minimum of tank modifications

Application

18 bullet-shaped underground storage tanks, containing various basechemicals such as n-Butanol, Isopropyl alcohol and Ethyl diglycol. Tank volumes ranging between 10 to 30 m³ (60 - 190 bbls) and tank heights ranging between 1.5 to 3 m (5 - 10 ft).

Continuous inventory data needs to be available 24/7 on the web to anyone connected to Valspar's intranet. Utilization rate of these tanks is very high, with product moving frequently in and out, causing rapid level changes and turbulent surface conditions.

Customer

Valspar was founded in 1806 and is one of the world's largest manufacturers of paints and coatings. Some of the more recognized brand-names include PlastiKote and House of Kolor, besides the Valspar brand itself. At Valspar Grüningen, the raw material is delivered by trucks, and then carefully mixed through laboratory analysis to the customer's specification. The chemicals are stored in 18 underground tanks, which are measured frequently by manually reading a measurement-stick graded in volume, sometimes even several times a day.

Valspar has decided to upgrade from manual measurement to an automatic system. The expectation is that this system will provide the operators with more accurate and continuous measurement information, thereby allowing them to improve their product handling while at the same time increasing efficiency and safety.

Challenge

There was no existing automatic measurement system, and consequently no cabling infrastructure. The project was on a very tight budget, with a minimum of mechanical and electrical modifications expected, and no down-time of the process during the upgrade procedure.

The level measurement needs to be completely automatic, with the resulting inventory data made available on the web for everyone connected to Valspar's intranet – also for the local branch office in the UK. The steel tanks were located underground, with limited head-space and connection possibilities.



This particular site in Grüningen Switzerland, is an entity that mainly produces coatings for rigid packaging, particularly for tubes, monoblocs, food and beverage cans.

The exact inside differed between the tanks and was partially unknown, since pipe-work and other mechanical arrangements extended into the tanks.

Solution

Valspar selected a tank monitoring system from Emerson because it matched entirely their specification. Besides being able to measure the level very accurately, the 18 Rosemount™ 5300 Guided Wave Radars could be installed with a minimum of mechanical tank modifications. Also the electrical installation was very efficient, with a single 2-wire cable connected to a Rosemount 2410 Tank Hub that was conveniently mounted in conjunction with available power cords. Additionally, the system requires no maintenance, since it is based on radar technology.

The Rosemount TankMaster Inventory Management Software is used to present the measurement data on a web page at Valspar’s internal network. The automatic and continuous access to inventory levels now allows the operators to collaborate between different sites and become more efficient. The information is also used to order replenishments, which considerably reduces the risk of raw-material shortage.

Resources

Emerson Automation Solutions Industries
Emerson.com/Chemical

Rosemount TankMaster Inventory Management Software
Emerson.com/TankMasterSoftware

Rosemount TankMaster Mobile Inventory Management Software
Emerson.com/TankMasterMobile

Rosemount 2410 Tank Hub
Emerson.com/Rosemount2410

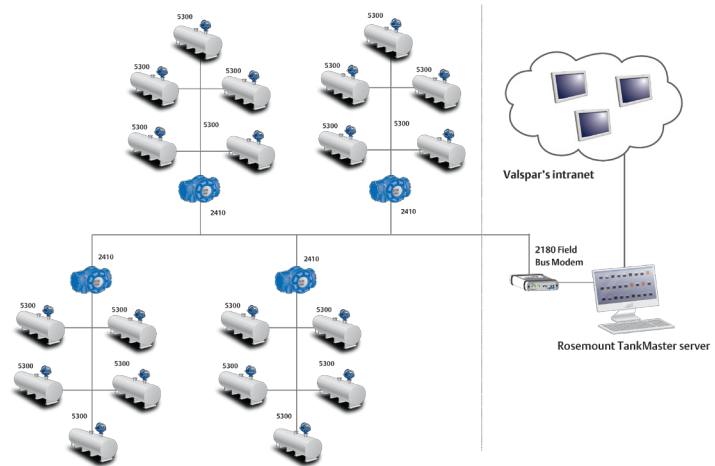
Rosemount 5300 Level Transmitter
Emerson.com/Rosemount5300



Rosemount 5300 mounted on an underground tank with limited head-space and connection possibilities. Pipe-work extends into the tank.



After the installation: inventory is automatically monitored. Precise measurement data is published in both German and English on the local intranet.



The tank hubs were mounted indoors where power already was readily available.

The Emerson logo is a trademark and service mark of Emerson Electric Co. Brand logotype are registered trademarks of one of the Emerson family of companies. All other marks are the property of their respective owners. ©2022 Emerson Electric Co. All rights reserved.

00830-0400-5100 Rev AB

Consider It Solved.

Emerson Automation Solutions supports you with innovative technologies and expertise to address your toughest challenges.

For more information, visit Emerson.com/Rosemount-TankGauging