



Level



Pressure



Flow



Temperature



Liquid  
Analysis



Registration



Systems  
Components



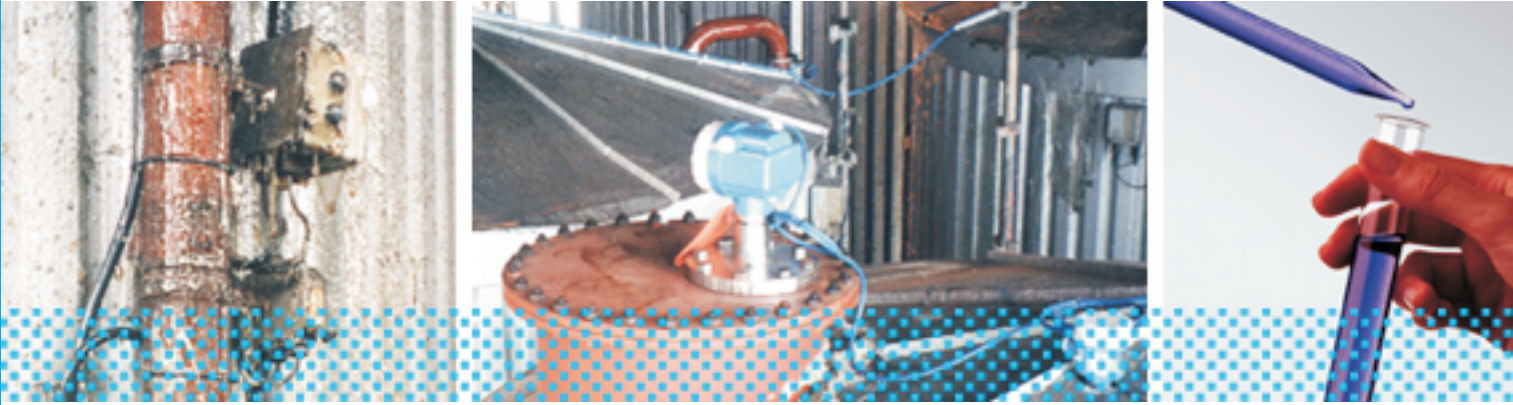
Services



Solutions

# Improving efficiency with fieldbus

## Profibus PA networks in the chemical industry



Before: 'cat & mouse' system

After: accurate continuous level measurement with Micropilot M

**Glasgow-based Isola Werke UK Ltd is a market leader, manufacturing base materials for printed circuit boards and other industrial laminated plastics.**

### The challenge

Isola Werke required accurate continuous level measurement to avoid overspill on the 10 chemical tanks that feed the production facility with acetone, xylene and resin. The original mechanism used to monitor the tank levels was a float & weight (cat & mouse). The tank contents were read from a graduated scale and pointer attached to the weight. This old-fashioned method had severe limitations as it used moving parts, which required frequent maintenance. In addition, the float & weight method provided only a local indication.

### The solution

Endress+Hauser recommended a continuous tank level communications network. Isola Werke stated that this system had to be accessible and viewed from three different locations within the plant. The level indication had to be accurate on 30ft high cylinder tanks and also had to incorporate a high level cutoff alarm. The system must be controlled from one central workstation, showing the picture of the complete system and all the parameters involved.

Endress+Hauser designed a Profibus PA system comprising 10 Micropilot M FMR 240 radar level devices for continuous monitoring, 10 Liquiphant M level switches for the high level alarm cutoffs and 3 small indication panels with 8 RID261 Profibus indicators.

Maintenance-free with no moving parts, Micropilot M offered increased accuracy and efficiency. Level measurements are transmitted to the control system via a Profibus PA fieldbus network, thereby increasing plant efficiency and providing significant cost savings over time. The Micropilot M is a 2-wire bus powered device, allowing simple installation and commissioning. It can be configured over the bus from a central engineering station - no more climbing on resin tanks to take a reading or for maintenance purposes!

Isola Werke required that the measurements from each tank were available at several different places throughout the site. This was achieved by using bus powered RID 261 Profibus indicators that listen to the transmitted values on the bus and display them. Some indicators at the Isola Werke plant display measured variables from level transmitters on different fieldbus segment - one of the first examples of cross segment communications within a fieldbus network in the UK!

The Micropilot M devices and some of the RID 261 indicators are mounted in a hazardous area. Consequently, four of the fieldbus segments are EEx ia installations conforming to the Fieldbus Intrinsically Safe Concept (FISCO) and installation practices.

**John Nelson, Maintenance Manager at Isola Werke, commented: "The solutions offered by Endress+Hauser were cutting edge, but also very practical. Endress+Hauser has helped us achieve our main goals - eliminating downtime and spillages and increasing confidence in measurement reliability. The support we received in installing these devices was first rate."**

**Endress+Hauser**

People for Process Automation