

Heartbeat Technology keeps process running

Inline diagnostics avoid downtime for Lucite International



Lucite International is a global leader in the design, development and manufacture of acrylic-based products. Now part of the Mitsubishi Chemical Corporation, the company has further strengthened its position as the world's largest supplier of methyl methacrylate (MMA), the essential building block for all acrylics. Lucite International has one of the most diverse asset portfolios of any major acrylics producer with 22 plants at 14 manufacturing sites worldwide.

"Heartbeat Technology zeroed in on the problem straight away."

Aaron Matthewman
Project I/E Interface Engineer
Lucite International



Lucite International's Cassel Works.

The challenge At Lucite International's Cassel Works in Billingham, a flowmeter monitoring the rate of flow from a reactor vessel to the downstream process was producing an incorrect reading. Lucite's engineers couldn't determine why the meter was periodically indicating zero flow through the pipeline, causing the process to 'trip' (automatically shut down) as a safety precaution. "We attempted various fault-finding measures, but nothing seemed untoward," explains Aaron Matthewman, Project I/E Interface Engineer. "If you see a deviation of flow on this flowmeter it'll trip the plant, so it's significant. It's business-critical that the plant keeps running."

The solution An Endress+Hauser engineer visited the site and accessed the device diagnostics via Wi-Fi using an SMT70 Field Xpert configurator tablet. The SMT70 creates a mobile workstation in the field, even in hazardous areas, and allows diagnostic work to be carried out without interrupting the process. The robust tablet is also compatible with Heartbeat Technology, an advanced

feature that is incorporated into many of Endress+Hauser's flow, level, analytical and pressure devices. As well as delivering diagnostic messages, instruments with Heartbeat Technology extend proof test cycles significantly through their verification function.

By running a Heartbeat verification, the Endress+Hauser engineer was able to determine that the flowmeter's empty pipe cable was faulty. The issue was identified in minutes, and the problem was documented on a verification report. "The normal display didn't indicate anything wrong, so we wouldn't have had a clue what the problem was, but Heartbeat zeroed in on it straight away," says Aaron Matthewman.

Further investigation of the installation and process indicated a better long-term solution was available. The flowmeter was changed for a unit that can withstand higher temperatures and the insulation around the device was adjusted to keep the electronics cooler.

The benefits The problem was resolved quickly without interruption to the process and demonstrated the full benefits of Heartbeat Technology. “We’ve not got significant experience of using Heartbeat for fault-finding,” says Aaron Matthewman. “It was very good to see how effective it can be on top of the normal, constant diagnostics that the meter must be running. We already know it’s useful from the point of view of providing assurance to third parties and effectively pushing out the frequency of wet calibrations through verification.”

The efficient customer service was also a factor in keeping downtime to a minimum in this case. “My primary contact at Endress+Hauser, Ian Nelson, goes out of his way to help us. Quite often when he’s in the area he offers to come in to sort out any problems we’ve got, so I’m more than satisfied,” says Aaron.



The Field Xpert SMT70 tablet PC for plant asset management

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