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LightWave Computing Provides Flexible Chemical Deposition Systems

The Challenge: Control and monitor chemical deposition on wood products in numerous lumber mills using existing software interfaces while providing a consistent reliable user experience.

The Solution: Build a standard LabVIEW application that can communicate with legacy systems and provide a foundation to an upgrade path to NI Real-Time Controls.

Overview

Our client is contracted to provide equipment to apply various chemical products to lumber mills throughout North America. The systems have been built up over decades and contain a significant capital investment. A variety of PLC systems, from vendors such as Omron to Allan Bradley are used in many of the systems. Some older systems have limited control but use legacy computer monitoring systems from Thermo Corporation. There is little if any control room access to existing data.

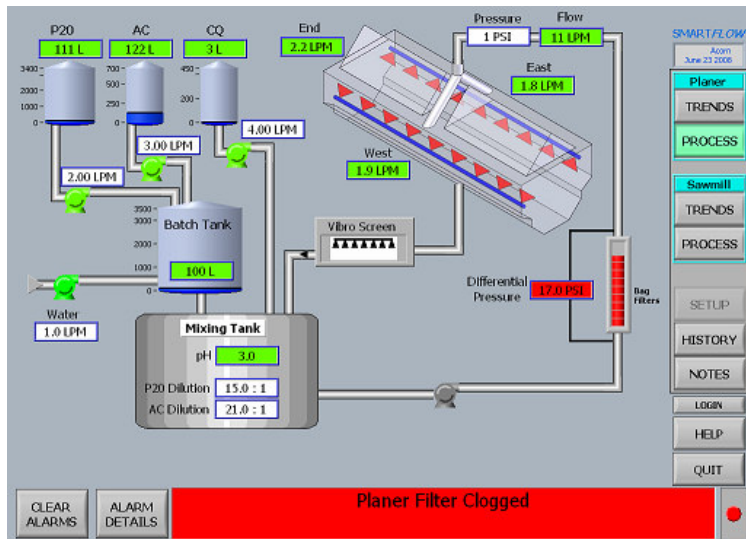
LabVIEW to the rescue

A standard user interface was provided that can communicate with legacy systems while providing a pathway to modern NI Fieldpoint based real-time control when the legacy control devices reach end-of-life. The LabVIEW toolset provides a range of methodologies to communicate with legacy devices. The NI OPC server allowed communication with various proprietary PLC devices, while the internet toolkit provided the http interface to other devices. The National Instruments Modbus Ethernet driver enabled communication with yet other devices. For the first time these systems have a computer interface to track and control chemical consumption, allowing end users the ability to better control chemical use and track down system problems. The alarm system can send emails to pagers or on call staff to alert them to serious problems.

Clear upgrade path to NI

After having deployed over a dozen LabVIEW monitoring systems for legacy control systems, there are several new mills coming on-line that are using Fieldpoint and NI real-time. For those that use the new systems, they see better control and higher system reliability. On updated systems, the NI Touch panel allows direct control in the chemical room while a remote PC offers a more comprehensive interface in the control room.

There is little additional training required with the new systems, as the LabVIEW user interface will remain consistent with previous systems while providing enhanced functionality.



For more information on this project or if you would like an assessment of your Testing or Machine Automation requirements, please contact Rob Taylor at LightWave Computing.