Appleton Experiences Significant Savings by Using AMS Suite: Intelligent Device Manager on HART® Devices

PlantWeb

RESULTS

- Saved $25,000 on wiring costs
- 50% reduction of man-hours required for instrument documentation
- 50-75% reduction of calibration and configuration costs
- Downtime reduced through online alarms

APPLICATION
Paper coating machine controlled by a programmable logic controller (PLC) with connections to more than 100 smart HARTdevices.

CUSTOMER
Appleton, headquartered in Appleton, Wisconsin, is the world's largest producer of carbonless paper used to make multipart business forms. The company also manufacturers thermal papers, coated paper products, and flexible packaging materials at operations in the US and the United Kingdom.

CHALLENGE
When upgrading a large paper coating machine in the Wisconsin plant in 2005, Appleton officials sought a way to apply diagnostic information from the machine's field instrumentation for asset management. Their criteria included: 1) a simple, robust system to obtain field-based data; 2) a means of informing personnel about device health and impending problems; 3) a broad instrument database for configuration, calibration, tracking, and troubleshooting; and 4) minimum costs for hardware, software, training, etc. The ultimate goals were improved asset management using the HART-enabled instruments that operate in conjunction with the PLC and more reliable documentation to support the company's ISO 14001 certification.

> *"This system has paid off for us. Our instrument technicians have recognized alarms, gone out into the plant, and prevented problems before the operations folks even knew anything was wrong."*
>
> **Chris Van Sambeek,**
> Control Systems Technician

AMS Suite

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SOLUTION

Appleton chose AMS Device Manager software to continuously monitor their HART instruments. With AMS Device Manager, Appleton can collect, process, and store the diagnostic information generated by these devices. The online system not only satisfies the company's need for an active instrument database and automated documentation, it also raises alarms when necessary, enabling maintenance personnel to practice predictive maintenance for reduced costs and increased productivity.

Appleton devised a unique way to access diagnostics, using a HART smart card to create a virtual multiplexer. "This special card accesses the HART device signals so that Emerson's AMS Device Manager can extract their diagnostics," said Chris Van Sambeek, Control Systems Technician. "With this arrangement, we didn't need the multiplexers that might be employed with a distributed control system, and we saved roughly $25,000 on wiring alone."

Using AMS Device Manager, Appleton created a database to store their calibration and configuration data. They also used the Audit Trail function in AMS Device Manager to document their maintenance procedures. The database includes every instrument in the plant. When an instrument needs configuration, its data can be downloaded and quickly transferred to the instrument, cutting the time required in half or even three-fourths. "Use of AMS Device Manager has greatly reduced man-hours. For example, we save at least 15 minutes on every instrument calibration in the plant, and there are about 3,000 instruments that have to be calibrated every six months. That amounts to an annual saving of about 1,500 hours of technician time for instrument calibration. Perhaps even more important, documentation is automatic and error-free, which is essential for us to maintain our ISO certification," said Van Sambeek.

Appleton plans to expand the AMS Device Manager system in order to bring more of the existing field instruments online. By using AMS Device Manager, Appleton has experienced better diagnostics, increased plant availability and product quality, higher product yield, and lower operating and maintenance costs.

> *"The AMS Device Manager alarms are configured so that we are the first to know if there is an issue out in the plant. In the past, we simply reacted when a problem was reported. Now, we're the first to know of any problems on the coater, and we often fix them before anyone else knows."*
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> **Chris Van Sambeek,**
> Control Systems Technician

POWERS
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AMS Suite: Intelligent Device Manager powers PlantWeb through predictive and proactive maintenance of intelligent field devices to improve availability and performance

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