Cabot Corporation Increases Productivity and Minimizes Maintenance Costs with Assistance from Emerson's AMS Suite: Intelligent Device Manager

RESULTS

- Plant downtime reduced from 18% to 4%; below targeted level

- Greater than 10% increase in production

- Reduction of from 1.5% to 0.3% waste to landfill

- Maintenance costs down, due to better problem identification

- Significant improvement in reliability of field instrumentation

APPLICATION
Production of hydrophilic fumed silica (SiO2); trade named CAB-O-SIL.

CUSTOMER
Cabot Corporation, Midland, MI, global manufacturer of high-quality fine chemical particles, dispersions, and compounds.

CHALLENGE
In a severe, corrosive manufacturing environment that is "hard" on process instrumentation, Cabot set goals of minimizing plant downtime; limiting off-spec products; reducing production costs; improving the work environment, safety, and employee health; and meeting finished product delivery commitments. Temperature and pressure swings and starts/stops due to unscheduled downtime result in added stress on process equipment.

SOLUTION
A combination of planned and predictive maintenance strategies was implemented utilizing data delivered by Emerson's AMS Suite: Intelligent Device Manager software package, including ValveLink®, Calibration Assistant, and MV Engineering SNAP-ON applications. A PlantWeb® network of field devices is effectively managed to schedule outages conveniently and to reduce unscheduled downtime.

"While no formal ROI has been performed, the AMS Device Manager has been an excellent investment for Cabot in Midland. It has helped us reduce downtime and avoid maintenance costs."

Kim Murphy, Technical Manager
Cabot Corporation, Midland, MI

For more information:
www.assetweb.com

AMS Suite

EMERSON
Process Management

Baseline signatures obtained on all valves help locate problems that simply could not be found with traditional troubleshooting methods. As a result, "bad" valves have been identified before they could affect process performance, and equally important, valves with no apparent problems are spared expensive teardowns during scheduled outages.

The value of the AMS Device Manager was highlighted when a problem in a level transmitter on an acid exchanger unit was found. A pin-hole leak in the high pressure sensing pad was allowing acid to attack the stainless steel in the sensing plenum. Early detection prevented a catastrophic failure, maintained safety, and enabled timely repairs without excessive costs. AMS Suite: Intelligent Device Manager powers PlantWeb through predictive and proactive maintenance of intelligent field devices to improve availability and performance.

The AMS Device Manager is installed as a pass-through to Emerson's PROVOX™ distributed control system, which encompasses nearly 500 HART® smart field devices, including Rosemount 3051 static pressure and DP transmitters, 3144 temperature transmitters, 3095MV flow meters, 8700 mag meters, and 8800 vortex meters. FIELDVUE® digital valve controllers, MicroMotion Elite w/9739 transmitters, and an RAI stack analyzer are also on the network.
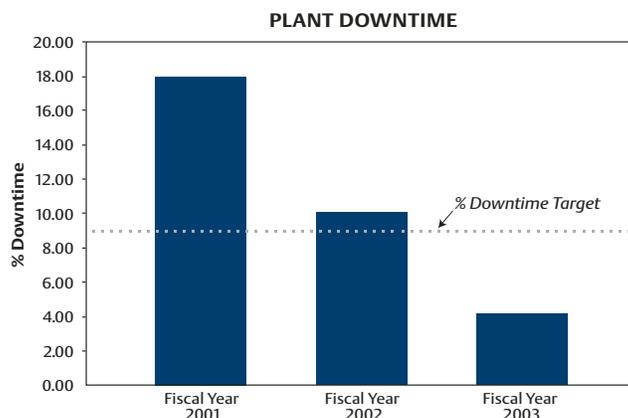
PLANT DOWNTIME

Line drawing showing plant downtime for fiscal years '01, '02, & '03

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