

For immediate release

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Emerson's PlantWeb[®] architecture provides flexible automation solution for pilot ethanol processing plant in Sweden

PlantWeb[®] architecture, incorporating WirelessHART[®], Wi-Fi[™] and FOUNDATION[™] fieldbus communications technology, used to automate fully functioning pilot plant

Emerson Process Management's PlantWeb[®] digital plant architecture incorporating WirelessHART[®], Wi-Fi[™] and FOUNDATION[™] fieldbus technology is being used to automate a pilot ethanol processing plant built by Chematur Engineering AB. The plant, located at Karlskoga (250km from Stockholm) in Sweden, is used to demonstrate the company's unique 'Biostil[®]' production process, and enable its customers to trial the latest process automation technologies for their specific raw materials.

The Biostil process enables ethanol to be produced from almost any raw material including wheat, sugar-beets, rice etc. The pilot plant, consisting of a raw material mill, liquefaction department, fermentation section and distillation column, is a smaller version of the real ethanol processing plants designed and installed by Chematur Engineering worldwide. Because the layout and function of the pilot plant will be modified over time, as improvements in the Biostil process take place, it was essential that the network architecture be very flexible.

"We aimed to show that Chematur Engineering is at the forefront of process plant design by implementing the most advanced process automation technology available," explained Johan Selinder, Manager, Electrical & Control Design, Chematur Engineering AB. "At the same time we needed a very flexible network architecture that is easy to modify, develop and expand.

The pilot plant, which covers an area of roughly 50m², features the very latest automation technology from Emerson including its DeltaV[™] digital automation system, open standard WirelessHART products as part of Smart Wireless solutions for field instrumentation,

Smart Wireless solutions for plant-wide operations based on Wi-Fi networking, and a broad range of FOUNDATION fieldbus intelligent devices. The DeltaV system enables the entire plant to be controlled from a single operator station using advanced networking functions to place process data in the hands of the operator.

Chematur wanted to prove to its customers that FOUNDATION fieldbus and wireless technologies are easy to use, are stable, reliable and a good investment.

“We have successfully implemented the DeltaV system with FOUNDATION fieldbus on a couple of large scale projects in the past,” continued Selinder. “The system has a broad range of functions and is very easy to use. Another key strength is how simple it is to make changes during both the commissioning phase and as the plant develops.”

Chematur Engineering was keen to widen this experience on their pilot plant by establishing a plant-wide network incorporating Emerson’s Smart Wireless technology. Wireless offers further levels of flexibility by enabling temporary installations, and changes of transmitter location without the need for re-engineering.

“Hands-on experience helped us get an understanding of where wireless technology can be successfully applied,” said Selinder. “Currently we see the benefits in monitoring applications accessing data from remote or difficult to reach parts of the plant. Installing cabling in these places can be cost prohibitive, especially if there are just one or two instruments to be connected.”

The wireless field network based on Emerson’s *WirelessHART* devices enables process monitoring of various sections of the plant. Nine Rosemount® wireless pressure transmitters and seven Rosemount wireless temperature transmitters have been installed, delivering measurements of water, slurry (water, yeast and starch/sugar mixture) and the final product ethanol. A further 30 instruments communicate process control and asset management information using FOUNDATION fieldbus.

In addition a Wireless Plant Network has been established to provide Smart Wireless mobile worker solutions. This consists of a rugged wireless access point, installed in the process area, providing high bandwidth connectivity to a touch tablet PC to wirelessly access process data. The touch tablet PC incorporates DeltaV and AMS™ Suite predictive

maintenance applications and is used as an operator station in the field as well as a replacement for local indicators on the field instruments.

“A plant wide wireless network offers enormous benefits by bringing the control room out into the plant. Placing this kind of power in the hands of operators produces much greater worker efficiency. Of course you still need a central control room, but for maintenance and especially during commissioning and start-up phases it becomes an excellent tool,” said Selinder.

Emerson’s AMS Suite provides a common user interface for easy access to predictive diagnostic information from the FOUNDATION fieldbus and *Wireless*HART devices. The real-time device information provided allows operators to respond faster and make informed decisions. It also helps to achieve a faster start-up and when the plant is running it can increase its availability through more cost-effective maintenance and improved device performance.

AMS Wireless SNAP-ON™ is used to maintain the wireless network. This application graphically displays the communication paths, diagnostic and performance parameters to prevent potential problems with the field instruments.

- ENDS -

Images

There are four images to accompany this release. The low resolution images can be seen below and the high resolution images can be opened by clicking on the link.



Caption
Emerson's *WirelessHART*[®] and FOUNDATION[™] fieldbus devices

Link to high resolution image
[Download larger JPG image \(6 MB\)](#)



The pilot plant, which covers an area of roughly 50m², features the very latest automation technology from Emerson

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Johan Selinder, Manager, Electrical & Control Design, Chematur Engineering AB

[Download larger JPG image \(5 MB\)](#)



9 Rosemount[®] wireless pressure transmitters and 7 Rosemount wireless temperature transmitters have been installed

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Notes for the Editor

About Emerson Process Management

Emerson Process Management (www.EmersonProcess.com), an Emerson business, is a leader in helping businesses automate their production, processing and distribution in the chemical, oil and gas, refining, pulp and paper, power, water and wastewater treatment, metals and mining, food and beverage, pharmaceutical and other industries. The company combines superior products and technology with industry-specific engineering, consulting, project management and maintenance services. Its brands include PlantWeb[®], Fisher[®], Micro Motion[®], Rosemount[®], Daniel[®], DeltaV[™], Ovation[®], and AMS[™] Suite.

About Emerson

Emerson, based in St. Louis, Missouri, USA, is a global leader in bringing technology and engineering together to create innovative solutions for customers through its network power, process management, industrial automation, climate technologies, and appliance and tools businesses. Sales in fiscal 2008 were \$24.8 billion and Emerson is ranked 94th on the Fortune 500 list of America's largest companies. For more information, visit www.Emerson.com.

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