

Case Study

System 800xA with EOW-x Improved control at AkzoNobel



Robert Lundvall, Technical Manager at AkzoNobel Functional Chemicals in Örnköldsvik, at the Extended Operator Workplace EOW-x that has helped free up operator's time, enabling them to focus on task such as process optimization.

A better overview, clearer information and time freed up for operators. AkzoNobel in Örnköldsvik, Sweden, has achieved this after installing an expanded control room with the help of ABB.

AkzoNobel produces thousands of tons of cellulose-based white powder with very special properties every year. The product is called Bermocoll and is mainly used as a binding agent in water-based paints as well as in building products such as filler and tile adhesive.

It requires a complex process to produce the right properties, such as thickening, water retention and adhesion, for the final product. Many stages are needed before the white powder is ready to be packed and exported. A total of 97 percent is exported and Bermocoll is in demand worldwide.

“We sell it all and production has increased continuously with the exception of the financial crisis in 2008. This year (2011) our production capacity was expanded with about 10%”, says Robert Lundvall, who is Technical Manager at AkzoNobel Functional Chemicals in Domsjö near Örnköldsvik, Sweden.

“Instead of constantly reacting to alarms, operators can now address alarm situations before they occur”

Thomas Elfving, System Engineer, AkzoNobel Functional Chemicals, Örnsköldsvik, Sweden.



A System 800xA EOW-x extended operator workstation similar to this provides operators at AkzoNobel in Örnsköldsvik, Sweden, with better overviews and clearer process information.

The cellulose derivative is produced in batches in reactors where the cellulose reacts with ethylene oxide, ethyl chloride and methyl chloride. In order to supervise the production lines, reactor operators act as ‘directors’ for the shift team’s work.

“Previously there was a problem here. There were too many alarms and the reactor operators had to sit and press loads of buttons to silence the system”, Robert Lundwall explains.

This is not unique to AkzoNobel, but is rather a general problem for operators in the process industry. They quite simply must keep an eye on too many things. The reasons for initiating the project at AkzoNobel included dealing with the unnecessary disruptions that were keeping the reactor operators stuck to their seats. Process engineers, operators, system engineers and ABB were involved in order to streamline the production process.

Among other things, this has resulted in an investment in the System 800xA-based control room equipment EOW-x (Extended Operator Workplace). The three 52-inch operator monitors plus six smaller monitors give a much-improved summary of the process to give better quality control.

Reactor operators have acquired overview displays instead of large numbers of detailed displays for every part of the process. Moreover, the operator can control objects on all of these monitors from just one keyboard.

“It was a tough job to convert all the old screens to the new 16:9 picture format. Over three hundred screens have been converted,” says Thomas Elfving, System Engineer.

Thanks to EOW-x, parts of the production could also be automated. For example, driving out the recycled gases from the process is taken care of without the operator’s assistance. This frees up valuable time for the operator to do something more important during the working day.

“It provides greater opportunities to be proactive. There is also a clearer alarm priority. Instead of reacting to alarms, the operator can now address alarm situations before they occur”, explains Thomas Elfving. Robert Lundwall agrees:

“The operators feel that the information is clearer and the monitors give a good overview”, he says.

ABB’s Jörgen Karlsson says that many process industries would benefit from better control equipment.

“System 800xA with EOW-x puts the operator in focus through a combination of ergonomics, process summaries and access to information. I am convinced that this results in increased productivity as well as increased plant safety, which AkzoNobel has already been able to observe”.

Facts

AkzoNobel is a leading global industrial company with sixty thousand employees. Its products consist of a wide range of paints and special chemicals. 125 people work at Akzo Nobel Functional Chemicals AB in Örnsköldsvik. The factory is located in the Domsjö industrial park, where there are also a number of other factories. The operations are integrated, with water, steam and bio-purification being shared between the various facilities.

ABB delivered a complete control solution, EOW-x, as well as services for the control room layout in order to determine the best placement, assembly of the EOW-x, commissioning, training and support in the production of overview screens with intelligent presentation elements.



For more information please contact:

Control Technologies

Västerås, Sweden

Phone: +46 (0) 21 32 50 00

E-mail: processautomation@se.abb.com

www.abb.com/controlsystems

ABB Automation GmbH

Control Technologies

Mannheim, Germany

Phone: +49 1805 26 67 76

E-mail:

marketing.control-products@de.abb.com

www.abb.de/controlsystems

ABB S.P.A.

Control Technologies

Sesto San Giovanni (MI), Italy

Phone: +39 02 24147 555

E-mail: controlsystems@it.abb.com

www.abb.it/controlsystems

ABB Inc.

Control Technologies

Wickliffe, Ohio, USA

Phone: +1 440 585 8500

E-mail: industrialitsolutions@us.abb.com

www.abb.com/controlsystems

ABB Pte Ltd

Control Technologies

Singapore

Phone: +65 6776 5711

E-mail: processautomation@sg.abb.com

www.abb.com/controlsystems

ABB Automation LLC

Control Technologies

Abu Dhabi, United Arab Emirates

Phone: +971 (0) 2 4938 000

E-mail: processautomation@ae.abb.com

www.abb.com/controlsystems

ABB China Ltd

Control Technologies

Beijing, China

Phone: +86 (0) 10 84566688-2193

www.abb.com/controlsystems

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