OY FORCIT AB acquires new production line, enhancing productivity and know-how

Client: OY FORCIT AB
Location: Hanko, Finland
Scope of Delivery: IndustrialIT Automation System

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Henrik Tarvainen
Production Manager
FORCIT

ABB's ProduceIT batch production software, part of the IndustrialIT Automation System, controls the newest production line in FORCIT's dispersion factory in Hanko. The system has improved dispersion quality, lowered costs and enhanced production flexibility and reliability. Production capacity has also increased.

OY FORCIT AB was founded in Hanko in 1893, when it began producing explosives. In 1967, the factory began to produce polymer dispersions for the paint and adhesive industry, sold directly to factories and shipped in tanks, containers and barrels. Most of this production is exported.

FORCIT has production units in Hanko and Vihtavuori alongside smaller distribution outlets all over Finland. It employs 245 staff, most of which are located in Hanko, and annual turnover totals around EUR 50 million.

Versatile system

“The new dispersion factory line was commissioned in 2003. Three older lines were renewed and commissioned in the beginning of 2005. We now have four lines running with ABB's Produce IT batch production software, and a total of 30 batch recipes created by our own production specialists. We have very positive experiences of the automation system and, since the automation software is self-monitoring, batch run supervision is easier than ever. We have eliminated unnecessary work phases, e.g. raw material pumping cycles, which were mostly performed by hand”, told dispersion factory Production Manager, Henrik Tarvainen.
Common design project
The line was designed by ABB and FORCIT together, a crucial phase given the importance of the challenging specification work required in order to clarify how the project's prerequisites might be met. This also required contributions from FORCIT's experts, such cooperation being one of the main reasons for the project's good results.

“Application design proved challenging, requiring cooperation with the customer over a period of three months. Such an approach may also suit other industries”, comments Sales Manager Seppo Hakonen of ABB.

“We used ABB’s extensive international expertise in the design process, many international chemical plants having chosen the same Industrial IT automation system for their production lines. In particular, the Aspect overview provides accurate predictions of malfunctions in separate devices based on their operational history”, Hakonen continues.

Productive operation
Henrik Tarvainen, who was involved in the factory acceptance testing, of FORCIT, supplied the initial details, including the need for flexible chemical formula specification. According to him, the design process’ most challenging task was to determine how the Automation System might be divided into stages to make formula definition as flexible and easy as possible, without endangering processing safety. “We had to begin the design process without previous examples, but we learned a lot during the work.”

“The team included experts from Finland and Sweden. Having thoroughly fine-tuned the Industrial IT Automation System, the final result is excellent and the system has met all my expectations,” Tarvainen enthuses.

“This kind of design partnership is a good way to operate, but requires a lot of work from the customer. It worked well, though! For instance, the ABB designers raised many questions and thought things through before beginning them. Interaction within the team was genuine and the operation was productive throughout. I also learned about all aspects of the system’s operation”, Tarvainen elaborates.

Tarvainen was also involved in the factory testing of the application software, using Industrial IT Automation System simulation software. Minor bugs were fixed during this phase, which was brief but hugely beneficial, prompting Tarvainen to point out that post-installation testing would have taken much more time.
Automation provides flexibility

“This production line has the special feature of being able to produce a multitude of products using varied materials and amounts. Automation provides flexibility, because it is of great help in formula management and editing, allowing our staff to perform this work with ease. It also assists us in process phase scheduling, an important and precise part of our work, helping us maintain uniform product quality”, explains Project Engineer Mika Patjas, who was involved in the testing at the factory.

Tarvainen and Patjas are grateful for the expertise and commitment demonstrated by ABB's staff. Investing in know-how is crucial to maintaining a competitive product price/quality ratio and keeping customers satisfied. Substantial improvements were also obtained in environmental-friendliness and production safety through the introduction of the new line and automation system.

Latest technology

FORCIT commissioned the IndustrialIT Automation System utilizing the latest automation technology including the following features: flexible and versatile ProduceIT batch production software conforming to the ISA S 88 and IEC 61512-1 standards.

The Automation System is a distributed system: Exi I/O cards, scales and drives communicate with the process stations via Profibus DP.

The Industrial IT Automation System has received a warm welcome from the processing industry, and more than 1000 system solutions have been delivered so far.

OY FORCIT AB

FORCIT is a continuously developing Finnish company, which specializes in the chemical base industry. As the leading producer of explosives and dispersions in Finland, and a consolidated corporation with production, consulting and training, FORCIT makes a reliable and knowledgeable business partner.

Together with Oy Finnrock Ab, a part of the corporation, FORCIT employs approximately 250 people.

FORCIT's turnover in 2003 was 51 million euros, of which 50% consisted of export.

FORCIT's Finndisp division has been manufacturing polymer dispersions since 1967. Polymer dispersions are used as binders in for instance water borne paints, lacquers and adhesives. The majority of Finndisp dispersions are exported.

Over the years Finndisp has developed into a competitive division, the success of which is based on long experience and knowledge of customer needs. Continuous development of products and optimization of the production lines are also important factors in the success. The newest production reactor started up in 2003.

The location in Hanko enables efficient use of sea and rail transportation of raw materials and products. Large storage tanks in the Hanko harbour give flexibility in the procurement of strategic raw materials.