The Collaborative Production Management Solution (CPM) that ABB delivered to Stora Enso in Finland may be the largest system ever delivered to a paper company. The CPM covers 11 production lines at Kaukopää, Tainionkoski and Karhula mills – known as Stora Enso’s Imatra Mills.

The solution
The solution delivered by ABB covers three paper machines, four board machines and four laminated paper production lines. It includes ABB’s:

- Production Planning System that provides tools for effective planning of paper or board production by optimizing production capacity and minimizing the amount of reject.
- Production Management System that allows mills to manage the production process from a pulp bale or jumbo roll all the way to the end-product.
- Quality Management System that helps mills manage paper or board quality cost-effectively to meet specified quality criteria.
- Process Data Management that allows mills to achieve the highest possible information transparency.
- Decision Support System that enables the analysis and reporting of mill-specific production, delivery and quality data.

ABB was also responsible for system management and support.

Stora Enso’s key criteria for the investment: quality control plus traceability of board, paper production conditions and raw materials.
Better benefits through a comprehensive system

Although CPM systems can be used as stand-alones because of their modular structure, paper mills obtain the greatest benefit by acquiring them simultaneously and using them as a comprehensive system – as Stora Enso did. This increases cost efficiency and gives users enhanced access to the process data they most need.

Enhanced production planning and trimming

Improved production planning and trimming paper and board machines are important benefits of the new CPM solution.

Imatra Mills wanted step-by-step trimming to be performed as efficiently as possible, with each machine's specific purpose and limitations considered as well as variances in grade, width, length, diameter and other characteristics of reel and sheet orders.

By treating planning and trimming as one entity the Imatra Mills achieved significant cost savings both in the production process and in the amount of waste.

Traceability

Another benefit for Stora Enso is that the new system offers easy access to traceability information. For example, operators can trace an order from the PE coating plant through the start of the production process based on its order number. Any deviations from product specifications can be detected early in the process.

With the new CPM solution, downtime data are readily accessible including figures from production managers, free-form comments by shift supervisors and morning meeting reports.

“Costs are measured, and when repeating cost measurements of the same variable it ensures the validity of the data,” says Suikkanen. “With respect to chemicals, it is also easy to get clear summaries of the relevant situation. These were some of these special features that we particularly wanted to have in our new CPM solution.”

Detailed reporting

Imatra Mills’ new delivery includes a Decision Support Reporting System that generates user-specific reports, increases transparency, and creates open integration with third-party automation systems and SAP-certified interfaces for report analysis. “A single report from the new system equals several reports from the old system,” explains Suikkanen.

“The new system has a remarkable benefit: the right products will now have the right costs. Cost tracking has been made easier – the system now allows for tracking costs all the way to the various board or paper grades,” says Stora Enso’s Tommi Myller.

Three phase start-up

The startup of the CPM system was implemented in three phases. “We started with the most challenging task,” says Suikkanen. “It was the Kaukopää board machines with finishing lines. They encompassed a variety of old and new technology. The central packing station and the shipping department operated the whole startup time.”

The ABB-delivered system, integrated with Stora Enso’s ERP systems, Fenix and SAP, has almost 600 simultaneous users. “Now we have much more information to support our decisions,” says Suikkanen.

Smooth collaboration

During four and a half years of close cooperation, Stora Enso and ABB worked together in a smooth collaboration that resulted in today’s successfully implemented system. Critical to the success, both companies’ project managers had the ability and willingness to stay focused on their goals which centered on improving Imatra Mills’ cost efficiency and productivity.

The collaboration has proved so successful that ABB and Stora Enso recently signed a maintenance contract making ABB responsible for updating the systems for years to come.

For more information, please contact:

ABB Ltd.
Finnabair Industrial Park
Dundalk, Co. Louth, Ireland
Tel: +353 42 9385100
Fax: +353 42 9385124

ABB Engineering Ltd.
S.P. Building, No. 5, Lane 369, Chuangye Road
Kangqiao Town, Pudong District
Shanghai, 201319, P. R. of China
Tel: +86 21 6105 6777
Fax: +86 21 6129 8499

ABB Inc.
579 Executive Campus Drive
Westerville, Ohio 43082, USA
Tel: +1 614 818 6300
Fax: +1 614 818 6571
www.abb.com/pulpandpaper

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