The first ULMA NT*i* ever started up at the Tervakoski Mill


Papermaking traditions at the Tervakoski mill stretch back to 1818, making it Finland's oldest paper mill still in operation. Today the mill's paper machines produce paper for cigarettes and filter tips, as well as thin printing papers and release base papers.

Tervakoski has a very long history with ULMA web inspection systems. In fact, the first ULMA system ever was delivered to Tervakoski in 1970, and the very first ULMA NT*i* system started up on PM 4 in 1999. An older generation ULMA is also working on one of the paper machines.

The Tervakoski mill has a total production capacity of 93,000 tpy, and up to 90% of the production is exported. The mill is well-known for its traditional watermarked specialty papers. Tervakoski is also one of the most important cigarette industry paper producers in the world. The company employs about 500 persons.

The Tervakoski PM4 produces cigarette paper. The most important task for a web inspection system on a cigarette paper application is to detect holes and edge cracks. Since cigarette paper is very light, the holes and edge cracks easily cause web breaks on the winder.
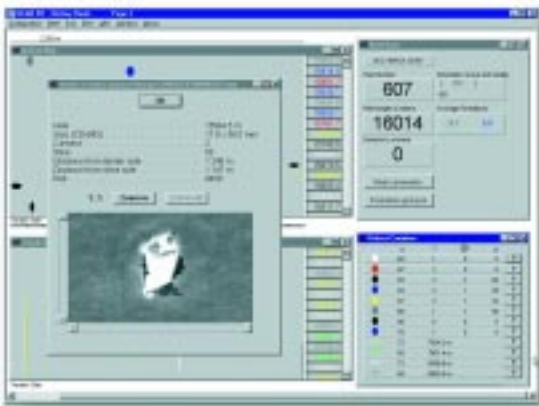
In the cigarette paper making process the reel is normally cut into two pieces in cross direction. The halves are then be run on winders where they are cut into "bobbins" with a width of only about one inch. A large number of bobinas means that clearing a web break on the winder takes about half an hour.

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"An important thing for us when buying the system was that we wanted to buy a system which will fulfil also our future needs. For us, this means defect imaging", says Mr. **Jaakko Rantanen**, Production Manager of PM4.

In July 1998 an ULMA NT system was installed on PM4. The upgrade to an ULMA NT*i* system with a defect imaging feature was carried out in February 1999. The installation took about half a day, and the system started without any problems. "Our installation was the first ULMA NT*i* on a paper machine. We were impressed by ABB's ability to deliver a system that works right from the beginning", says Mr. Rantanen. "ABB's project management has been professional, and ABB has helped us whenever required", he continues. "We are very happy about the project", adds Mr. **Kari-Juhani Kangasluoma**, Automation Manager of Tervakoski.

Even the smallest defects detected

The information produced by the ULMA NT*i* has created some extra work for the operators but that work has paid off with better quality control and machine maintenance remedies. The defect image provides Tervakoski with more information about the defect on-line. The papermakers have learned what kind of defects the paper really has. At first the operators removed the defects from the paper for comparison purposes. This is now required only in special cases when a new type of a defect is under inspection.

Machine maintenance can be planned in advance when the number of small defects starts to increase. Maintenance personnel can also take action when something out of the ordinary happens in the process.

Mr. Jaakko Rantanen, Production Manager of Tervakoski of PM4.

"We are very happy about the project", says Mr. Kari-Juhani Kangasluoma, Automation Manager.

Reliable formation trend

"The formation trend gives us data regarding formation and the changes to it caused by refining, jet-to-wire ratio and the suction section. By controlling these factors the machine and formation can be controlled. We have learned to run the machine in a better way", Mr. Rantanen says. "The formation trend is really reliable. By looking at the formation trend we know exactly how the paper looks".

The ULMA NT*i* also has a web imaging feature which makes it possible to view an actual picture of the sheet to check the formation.

The ULMA system includes a special bobbin report for cigarette paper machines. The report gives the number of defects in each bobina. Based on the report Tervakoski then removes the bobinas with holes. The versatile reporting features of ULMA include a macro for Microsoft Excel enabling the mill to create its own reports from the defect information provided. "I run the Excel macro every morning to see how the production has gone during the night", Mr. Rantanen reports.

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