

## Rondo Ganahl Frastanz PM2 New quality system saves costs





„ Start up,  
widen, run! “

Maik Willig, Plant Manager Paper Mill

## Enhanced process stability through a tailored automation package

As a leading manufacturer of corrugated board, Rondo Ganahl sought to increase the efficiency of its paper machine and consistently meet the quality demands of its customers by investing in a new quality control system. The previous system required extensive repairs and only limited upgrades were possible due to the age of the system. With a view to leveling out the interfaces of the diverse automation environment and making the system easier to service Rondo Ganahl opted for a rebuild in collaboration with Voith Paper.



### Challenge in Frastanz

The quality control system was originally installed on the PM 2 in 1998. In 2003, as part of a retrofit, the dilution water controller was adapted to the new machine concept. The previous measurement system required intensive repairs, which would still only have allowed for limited improvements.

The high level of servicing and maintenance required led to increased costs for spare parts and training and a greater number of service operations. In addition, Rondo was endeavoring to continuously improve its paper grades and minimize broke during grade changes.

As a standardized and integrated interface was planned for the future, the contract award process focused on a solution that provides a complete integration into the existing PCS 7 process control system.

In addition, the entire project should use familiar software and operate in German. Voith stood out as the partner that met Rondo's specifications. In the preliminary phase Rondo was very mindful of the potential risks such as quality problems or customer complaints when resuming production following the rebuild.

#### Maik Willig, Plant Manager Paper Mill:

"I would not have thought that the whole process could go so easily. Well I was wrong. Start up – widen – run!"

Voith Paper demonstrated extensive expertise and delivered high quality."

### The solution

The existing measurement system was replaced by a new Voith LSC scanner with moisture, ash and basis weight measurement and a color sensor. The very confined space available before the winder meant that high-precision work was needed to install the scanner. The ruggedness and ease of maintenance that characterize the Voith LSC measurement system will reduce maintenance and service costs on the PM 2 in the future and will pay off in the long term.

The fact that the Voith Paper automation package is completely integrated into the existing PCS 7 environment makes it easier to maintain the system. Thanks to the uniform platform, training and consolidation of know-how among operating and service personnel has been greatly simplified.

The automation package also includes OnQ ModuleTap actuators for controlling the existing dilution water headbox, to achieve optimum basis weight CD profiles. The actuators are characterized by their reliability and ease of use.

Whereas previously the Rondo Ganahl papermakers manipulated CD profiles without any visualization facility in the process control system, they can now rely on a display providing a continuous feedback. This facilitates diagnosis and therefore increases process stability. Optimization takes place automatically via the adaptive tuning algorithm of the OnQ Profilmatic control software, ensuring consistently high paper quality. It is perfectly tailored to the OnQ ModuleTap actuators and the quality control system, and thus achieves optimum measurement and control performance. In addition,

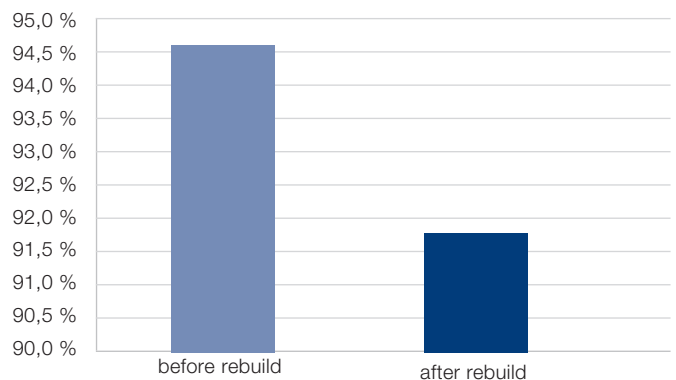


the control performance is enhanced by the high traversing velocity of the basis weight sensor.

Various OnQ GradeControl MD controls such as a multiply control or a jet wire ratio control are also part of the automation solution. A particular highlight is the OnQ Grade-Manager. Automatic grade changes substantially reduce grade changeover times and start-up broke. The optimum transition in the event of a grammage change is realized via model-based feed-forward control of the relevant process variables according to their dynamic transition, while moisture is stabilized at a constant level. A grade change with a 5 g/m<sup>2</sup> difference can thus be carried out entirely without broke. In the case of a 10 g/m<sup>2</sup> grammage difference the new quality limits are attained after only 3 minutes, while a grade change with a 30 g/m<sup>2</sup> difference is achieved after only 6.5 minutes. Overall, this results in an additional production volume in A-grade quality of 5.6 tons per grade change.

Consequently, the Rondo papermakers are provided with the necessary flexibility to respond to customer requirements while producing efficiently. In addition, the automation has considerably improved handling for the paper machine operators and leaves time for the manual change of the slice opening during a grade change.

#### Comparison of steam index before and after PM 2 rebuild





### **Economic results**

The rebuild allowed Rondo Ganahl to achieve a considerable improvement in efficiency. Before the rebuild the moisture content was too low because there was no ash measurement resulting in an unnecessary drying energy. With the help of the ash sensor in combination with the basis weight sensor the final moisture content is measured very precisely. This leads to around 1% less fiber consumption and about 2.5% less drying energy consumption.

As a result of the additional installation of a color sensor, the broke could be reduced in the course of grade changes from brown to white test liners, as the display of the color coordinates allows for a higher rate of interaction. The measurement system therefore also facilitates a faster response to process fluctuations, thus ensuring consistent quality. The system has been running without any problems whatsoever since its commissioning.

### **Maik Willig:**

“The commissioning phase was incredibly quick. Immediately after start-up the measurement systems were functioning and the machine produced saleable paper. I have seldom experienced such a smooth start-up. The cooperation between Rondo and the Voith team was excellent and very congenial – I regard that as the reason for the successful start-up. We would choose Voith again as our partner at any time.”

### **The Company**

The headquarters of Rondo Ganahl AG, a company steeped in tradition, are located in Frastanz, in the Austrian state of Vorarlberg. Nowadays, Rondo Ganahl AG produces corrugated paperboard in the basis weight range 120–200 g/m<sup>2</sup> on its modern PM 2 paper machine. At a machine speed of up to 900 m/min and a web width of 2,500 mm it produces an average of 100,000 tons/year high-quality white and brown test liner grades from 100% recovered paper. With its white test liners the company occupies a leading role in the key markets of Germany and Austria.

The company's customers consistently praise the excellent processing capability and great flexibility of supplies. Thanks to the combination of a highly skilled and quality-aware workforce and partners like Voith the corrugated paperboard supplied by the mill is known for its excellent running properties, optimum printability and first-class technical specification.



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