Peak performance to the mountain tops

The Reno de Medici Group of Italy is one of Europe's biggest cartonboard producers based on recycled materials. Its production capacity is split between mills in Italy, Spain, France, and Germany. ANDRITZ rebuilt the wet end of a folding boxboard machine at the Santa Giustina, Italy mill to give Reno de Medici a new top layer and more flexibility in meeting customer requirements in the coming years.

"We had to be sure of the approach, the design, the details, and the fact that ANDRITZ could accomplish this rebuild with very short downtime."
Francesco Canal, Santa Giustina´s Mill Director

◀ Ivano Desimoi, Production Manager (left), Francesco Canal, (center) and Massimo Marcer, Technical Manager.

Reno de Medici's mill in Santa Giustina sits in the Valbelluna valley surrounded by mountains, about 100 km northwest of Venice and 90 km from Cortina, the "Pearl of the Dolomites." The valley is the starting point for treks across the Park of the Belluno Dolomites. The Santa Giustina mill has a production capacity of approximately 240,000 t/a. About 50% of the mill's production is destined for Italy, 25% for Europe, and 25% for Mediterranean and Middle Eastern customers. Among the most important customers are Barilla and Ferrero, and boxes for Panettone and Colomba.

"With the mountains as a backdrop, we aspire to great heights here," says Mill Director Francesco Canal. "In any project, we want to achieve the highest results so that each partner in the collaboration is able to win. This is also the way that ANDRITZ worked in cooperation with our engineering group and the installation company. It was very easy to work together and a good partnership was the result."

The project Canal is referring to is the rebuild of Santa Giustina's BM 1. It is not the first collaboration between ANDRITZ and Reno de Medici. The installation of a new headbox at the Villa Santa Lucia mill and the start-up of *Prime*Press X shoes presses at Arnsberg (Germany) and Ovaro (Italy) are good references for the board machine upgrade at Santa Giustina.

Major changes

The target for the machine rebuild was clear: higher quality and higher production. "This was a very big modification for us," Canal explains.

"We developed the solutions and workflow together," says Mario Bernasconi, ANDRITZ Senior Sales Manager for paper and board machines. "All solutions regarding the control of the different machine sections were developed together. The Reno de Medici Group has a lot of mills producing different types of board. Each machine needs an individual solution."

To reach the mill's targets, ANDRITZ proposed to rebuild the forming section and make some other modifications. A new headbox (*Prime*Flow SW) and fourdrinier wire (*Prime*Form SW) would be added for the top layer. The existing suction former for the top ply would be replaced by this equipment. The five suction formers for the filler ply would be increased to six. The modifications would require reconfiguration of the transfer felt and equipping the existing back wire with a C-frame cantilever system.

"We had to be sure of the approach, the design, the details, and the fact that ANDRITZ had a plan to accomplish this with very short machine downtime," Canal says.

Christmas present

BM 1 was stopped on 20 December 2010 and the machine was upgraded during the holiday. The work began with the dismantling of the machine, starting with removal of the first old frame of back ply. The dismantling work alone required five consecutive days around the clock. During the most intense work, 80 technicians worked 24/7 for 13 days. The crews removed 150 tonnes of iron, 50 tonnes of reinforced concrete footings, and four tonnes of power cables from the mill.

To reach new production and quality targets, ANDRITZ rebuilt BM 1's forming section (new headbox and fourdrinier wire) and made other modifications. ▼

▲ Nestled in the Valbelluna valley, the Santa Guistina mill has the Pizzocco mountains as a backdrop. In the foreground, a "mountain" of recycled material that is the primary furnish for the mill's containerboard products.

"You can think of this project as being similar to a pit stop in a Formula race," Canal says. "ANDRITZ was the professional pit crew. They had limited space and time, yet they were able to remove the used parts and put on the new ones to win the race."

BM 1 started back up on schedule (11 January 2011) to the delight of the Reno de Medici team. As Canal says, "ANDRITZ made very good work here. It is important for me to mention that it only took a short number of days to finalize the rebuild."

Upgraded quality and quantity

BM 1 has a design speed of 505 m/min and a wire width of 4,950 mm. The board produced is in the range of 230-500 g/m² with the furnish being mostly recycled fiber. The quality improvement potential was visible from the very beginning, according to Mario Wiltsche, Project Manager for headboxes.

"The start-up in January went well, and by April the operators were well-trained and achieving excellent results," Wiltsche says. "Within three months, the mill was able to produce 872 tonnes in a 24-hour cycle – quite impressive!"

The surface properties of the folded boxboard are significantly improved now – mostly due to the enhanced formation of the new top ply. This allows operators to reduce the grammage of this most expensive ply, resulting in reduced raw material costs.

The compact design of the ANDRITZ *Prime*Flow SW headbox makes it easy

The surface properties of BM 1's folded boxboard are significantly improved after the ANDRITZ rebuild – mostly due to the enhanced formation of the new top ply.

to install, which is important for rebuilds. The key components – a step diffuser and nozzle with lamellas – generate microturbulences in order to obtain the best possible formation and evenness. Precision manufacturing and the structural rigidity of the headbox ensure excellent basis weight cross profiles. More than 30 such headboxes have been sold by ANDRITZ to date. This headbox, in combination with the *Prime*Form forming section, play an important role in achieving excellent quality.

Says Francesco Canal, "The board's surface is better than before, so we have an improvement in quality. We are working without the undertop layer, so we are able to save money in raw materials. Plus, the reeling up of the sheet is much better now."

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▲ The surface properties of the folded boxboard are significantly improved, thanks to the new top ply. Operators can now reduce the grammage of this ply, resulting in lower raw material costs.

PAPER AND BOARD
EXPERT CLUB

We had the opportunity to speak with Mill Director Francesco Canal and members of the ANDRITZ project team during the 2011 meeting of ANDRITZ's Paper and Board Expert Club (PABEC), held this year in the Styrian region of Austria. Joining in the discussion from the ANDRITZ team were Georg-Michael Sautter, Director of Sales, Mario Bernasconi, Senior Sales Manager for paper and board machines, and Mario Wiltsche, Product Manager for headboxes.

PABEC focuses on ANDRITZ's latest paper/board solutions, offering customers the opportunity to join ANDRITZ experts in discussing product features, functionality, and design. The latest results from mill applications are shared. Several guest speakers give interesting inside views.

(Left to right): Mario Wiltsche, ANDRITZ Product Manager for headboxes; Georg-Michael Sautter, ANDRITZ Director of Sales for paper and board machines; Francesco Canal of Reno de Medici; Mario Bernasconi, ANDRITZ Senior Sales Manager for paper and board machines, and Klaus Peternel, journalist. ▼