

Kymi:

HIGHER CAPACITY MORE FLEXIBILITY LESS ENERGY

UPM's recently completed EUR 160 million investment project resulted in about a 25% increase in pulp production at the Kymi mill in Finland. ANDRITZ helped modernize the softwood fiberline and delivered a new pulp drying line. The results are impressive.

With its investment in the KYMI-700 project (the "700" means increasing pulp production to 700,000 t/d from 530,000), UPM made substantial progress towards its target to boost its existing 3.3 million tonnes of pulp capacity by 10% over the next three years.

The Board approved the investment in February 2014. Within a couple of weeks, UPM had negotiated commercial terms and selected suppliers for the project. ANDRITZ

was chosen to deliver a complete new pulp drying line and to modernize parts of the softwood fiberline.

The ramp-up of all systems, according to Tero Ojala, Project Director, has been very good. "The debarking plant started in June 2015, the modernization of the softwood line was completed in August, and the new pulp drying line started in September, ahead of schedule," Ojala says.

"Pulp production has exceeded our expectations and the quality of pulp, which was already excellent, has improved," says Markku Laaksonen, Mill Director. Laaksonen has long experience with UPM, including working at the Fray Bentos mill in Uruguay during start-up, and was appointed Kymi's Mill Director in 2014.

Achievement within UPM

The Kymi mill is now among the most mod-



ern pulp mills in Finland, thanks to this project and also a huge investment (EUR 360 million) in new chemical recovery systems in 2008. ANDRITZ delivered the evaporation and the white liquor plants for that project.

Finland's Prime Minister Juha Sipilä officiated at the proceedings when the KYMI-700 investment project was inaugurated, along with UPM President and CEO Jussi Pesonen. Sipilä noted that UPM's investment supports the government's goal to establish Finland as a pioneer in the bioeconomy, circular economy, and clean-tech solutions by 2025.

In his speech, Pesonen thanked the project team and all of the Kymi personnel, suppliers, and partners for an excellent achievement. "The UPM Kymi pulp mill expansion was a success," Pesonen said. "We reached record-high pulp production in December."

Safely navigating modernization challenges

"The main challenge for us during the project was that we were doing the modernization in an operating mill," says Günther Leitner, ANDRITZ Project Manager for the pulp drying plant. "Everything we did was alongside normal production, and real estate was at a premium."

The new drying line was installed in an old paper machine hall. "Since we were using an existing building, the layout is tighter than we would have preferred," explains Laaksonen. "During construction, we had a large operating paper machine on the other side of the wall. The civil work required some explosive charges to make way for the new foundations and we were concerned what the impact would be on the paper machine. But all the work was completed with no stops and no unusual breaks on the machine – which was quite an accomplishment."

"We had an excellent safety record," Ojala says. "With 800 people on-site (and 1,500





▲ Twin Wire
Former dewatering
machine.

during the one-week annual shutdown), it was quite remarkable that there was only one lost-time accident during the entire project – which comprised over 1,000,000 working hours.

Pleasant surprises in the fiberlines

ANDRITZ technology and equipment were used to modernize parts of Kymi's softwood fiberline. There were also small improvements to the hardwood digester, according

to Jouni Konsti, ANDRITZ Project Manager for the fiberline portion.

"The improvements were relatively small in terms of scope and cost, but the result has been quite a pleasant surprise," says Laaksonen of UPM. "We are achieving higher production with less rejects."

A unique swinging pulp dryer

The new pulp drying plant was the largest

part of the KYMI-700 investment. "Kymi was able to demolish its old Rauma Repola pulp dryer (installed in 1964) which had a maximum capacity of 500 t/d," says Jari Vetola, ANDRITZ Senior Sales Manager. "They were definitely limited in pulp drying capacity. If the paper machines are down for any reason, it would place a huge burden on the pulp drying plant. With the ANDRITZ plant, Kymi can run a combination of hardwood and softwood pulp to the maximum to keep production flowing smoothly."

Why ANDRITZ? "The last big investment UPM made with ANDRITZ was at Fray Bentos (see SPECTRUM Issue 17)," Laaksonen says. "We are very familiar with that drying plant, which has been running very well. When it comes to handling long fiber pulp at high speeds and production levels, no supplier has much experience. We felt that the ANDRITZ solution was the best, even though this would be their first line for a mill that swings between hardwood and softwood pulps as frequently as we do."

"These daily swings from softwood to hardwood pulp are quite unique in the industry," Leitner confirms. "This requires our equip-



◀ ANDRITZ modernized several areas of the softwood fiberline at Kymi as part of the KYMI-700 project.



▲ (L to R): Jari Vetola, ANDRITZ Senior Sales Manager for pulp drying; Tero Ojala, UPM Project Director; and Jouni Konsti, ANDRITZ Project Manager for the fiberline.



▲ Airborne sheet dryer and cutter/layboy in the new drying plant.

ment to be quite flexible. There were some challenges in ramping up the plant, but that was mostly due to the very wide operating window that the mill requires, and not the fiber source itself.”

The pulp dryer started up on schedule, with production runs even a couple of weeks before the scheduled time. “We had the normal issues that you have when you dismantle old equipment and install new sys-

tems in a mill that is running,” ANDRITZ Commissioning and Start-up Manager Johannes Jammerneegg says.

A Finnish “good”

According to Ojala, “The project and collaboration went very well. We worked well together and succeeded together. The ramp-up was faster than expected, enabling us to reach our targets.”

“We are Finns, so when we say something is ‘good’ that might mean more in another language,” Laaksonen laughs. “The project was brought in on schedule, on budget, and safely. So, I would say this project with ANDRITZ has been very good.”

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▲ Tero Ojala, UPM Project Director (left) with Markku Laaksonen, Kymi Mill Director.



▲ At the Kymi mill, the company logo is embossed on the wrapper of every pulp bale. The griffin logo (representing the guardian of Northern forests) was designed by Hugo Simberg in 1899 and is the oldest continuous company logo in Finland. Markku Laaksonen, Mill Director holds an embossed logo wrapper.