



GUNNING FOR SUCCESS

A high-performance hot-melt applicator answers the papermaker's labeling needs

As anyone in the global pulp-and-paper industry will tell you, there are no easy shortcuts to success in today's fiercely competitive paper market still struggling with lingering production overcapacity and a whole array of environmental issues that make day-to-day operations a daily struggle to eke out a meaningful profit and ROI (return-on-investment).

But it doesn't mean that it cannot be done, as evidenced by the relative success in face of adversity demonstrated by **UPM Kymmene Miramichi Inc.**, a key subsidiary of the Finnish-based forest products giant **UPM**.

With worldwide sales of over \$10 billion last year, the company employs over 28,000 people at worldwide operations in 15 countries around the globe, including an 850-employee mill in Miramichi, N.B., with annual capacity to produce about 500,000 tons of high-quality coated groundwood paper for the North American market.

Ranking as the largest industrial employer in northeastern New Brunswick, the UPM complex provides a compelling case of how a well-executed application of 'lean manufacturing' principles and strategic capital investments can make even a relatively old operation—originally constructed in 1963—hold its own in the 21st century.

DAILY GRIND

Today, the Miramichi mill's daily output of over 835,000 pounds is nearly double its original production capacity of 440,000 pounds of stone groundwood, and an extensive capital upgrade carried out at the plant last year—with some financial assistance from the New Brunswick government—appears to have given the operation a whole new lease on life.

The mill's production process begins with the arrival of eight-foot logs—consisting mostly of spruce and some fir—to the sawmill area, to be cut into two four-foot halves.

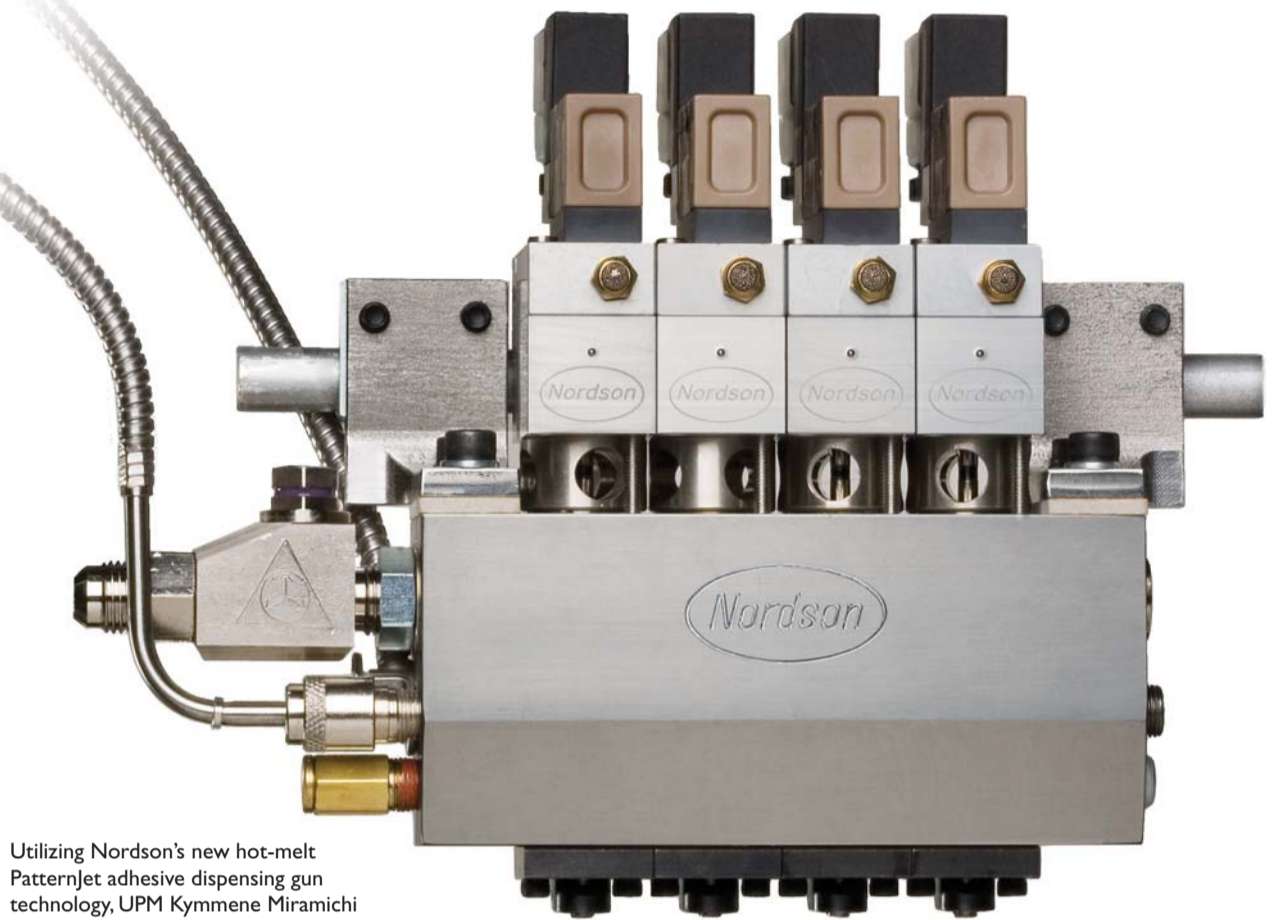
After the debarking process—with the bark pulverized and ultimately burned in a woodwaste boiler—the wood logs are fed into one of six stone groundwood pocket grinders, where the logs are pressed length-wise against revolving stone-lined drums that scrape the log into small-fiber bundles.

After several stages of refining, screening and cleaning, the pulp mass is then bleached with a peroxide solution.

Some of the pulp is then sent to a flash drier, where it is eventually pressed and baled for storage, but most of the groundwood pulp is immediately transferred to the UPM coated paper operation to be formed into a sheets, de-watered to 50-percent water content, shredded and blown into a bulk truck, and transported to the nearby Newcastle paper mill across the river for final processing.

The high-quality paper produced there—the fine, shiny, super-calendered paper used for producing high-end consumer magazines—is shipped to UPM customers in rolls weighing between 500 and 1,000 kilograms apiece, with each roll encased in water-resistant paperboard to protect it against any possible damage during transit.

All of the paper rolls are identified via two coded



Utilizing Nordson's new hot-melt PatternJet adhesive dispensing gun technology, UPM Kymmene Miramichi has saved itself time, money and numerous headaches in applying ID labels to massive paper rolls.

labels—each measuring approximately 11 by 17 inches and applied by a dedicated high-speed **ABB** robot—and then transferred to a warehouse to await shipment to customers.

To maintain its robust application speeds—whereby two labels are applied to each roll, one on the curved side and one on the end—for tagging approximately 1,500 rolls over 24 hours, this set-up makes optimal use of the **DuraBlue 4** model hot-melt applicator and the **PatternJet** spray-head manufactured by the Duluth, Ga.-based Adhesive Systems Group unit of **Nordson Corporation**.

According to David Eaves, area manager of packaging and product assembly systems for **Nordson Canada, Limited** in Markham, Ont., the new adhesive system has really been earning its keep at Miramichi facility over the past year.

"The labels are applied using an **ABB** robot that picks up two labels at a time and passes them under the **PatternJet** for adhesive before pressing the labels to the roll of paper," explains Eaves.

Prior to the purchase of the **PatternJet** gun adhesive system, UPM would identify the rolls with pre-purchased labels with dried adhesive backing, which required a spray of water to activate the glue while being held up by the robotic arm, he adds.

"Having water sprayed anywhere near high-priced robotic equipment is never a good thing," says Eaves, noting that the old water-misted gummed labels did not always stand up to the chal-

lenges of roll handling and lifting at the plant, sometimes actually causing shipment delays or production downtime.

"Maintenance issues, along with humidity concerns, were two main reasons why UPM looked to Nordson to resolve its adhesive issues," Eaves told **Canadian Packaging**, "and having it save them time and money was an added bonus."

Eaves explains that the **PatternJet** systems is designed to deliver precise, consistent patterns for each

application to reduce adhesive waste and avoid sticky 'angel hair' problems that can mess up the product, while also incorporating quick-change RTD (resistance temperature device) and heater assemblies to help speed up maintenance.

According to Eaves, the versatile **PatternJet** hot melt dispensing gun is ideal for high-speed lines like the one at UPM, where the gun can apply a wide range of adhesive patterns faster, with greater accuracy, and with minimal material waste.

"The less my clients have to worry about, the happier I am," states Eaves, adding that the system's easy filter and nozzle replacement have also contributed to improved overall machine uptime.

"The **DuraBlue 4** with **PatternJet** technology equipment is easy to maintain and adjust, plus it puts less stress on the robots, reducing maintenance requirements on them," he states.

"And since UPM no longer needs to use a water-based glue system like the one it previously used, the humidity in the wrap area is easier to control, meaning less paper curl damage to their high-end product," he says.

MONEY SAVED

As for the money-saving benefits of the new Nordson system, Eaves maintains UPM now gets significant savings from purchasing the less expensive labels without pre-applied adhesive backing, while also no longer having to deal with the costly rework caused by labels peeling off.

While UPM staff did the actual installation of the adhesive system itself, Eaves notes that Nordson was happy to provide all the key installation supervision, start-up assistance, and training on how to make best use of the system's many value-added features.

"With our company being a global leader in the adhesive field," he concludes, "we can create an adhesive system that not only fits your physical needs, but your financial needs as well." □



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For more information on:

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