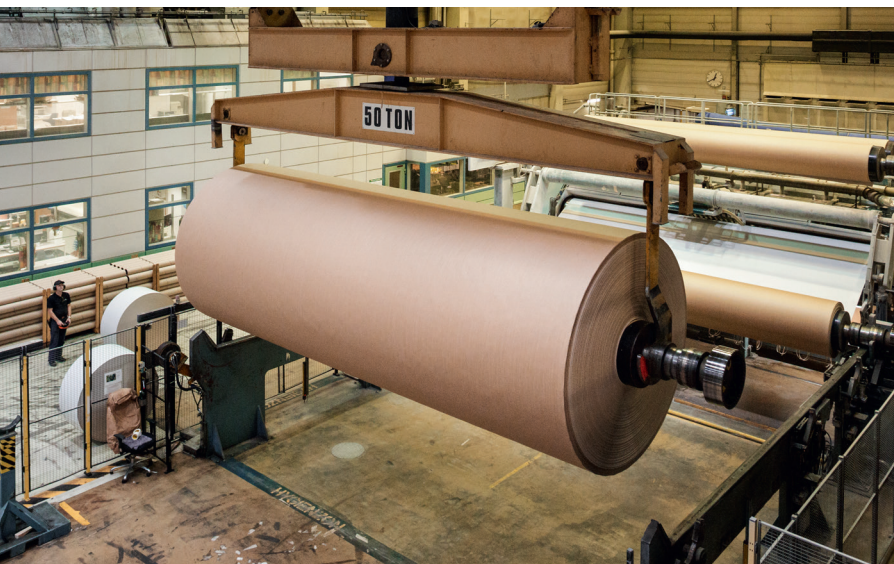


ABB Ability™ System 800xA automates winder control

Increases productivity and operator safety



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01 RM5 winder machine, at BillerudKorsnäs, that has been upgraded with a new control system and drives from ABB in the last few years.

The transformation started in 2010 when ABB won the order for new systems for the drive system application and machine control.

“The previous control system had numerous shortcomings, such as a host of functions that were never used that simply complicated things. When the agreement with ABB was finalized, our systems engineers went to meet ABB:s Pulp and Paper department in Västerås to define functionality and build process images that were based on the actual needs of the reel machine operators instead,” says Lars Eriksson, Project Manager at BillerudKorsnäs.

From the start, all functions were integrated into System 800xA that has now taken over all control and monitoring of the winder. “It quickly became clear that the ABB solution was much easier to work with than the one we were fighting with before. For example, with the old system, I had to print out stuff from one system and then enter the data into another system as well. Now we have everything in a common control system which makes a big difference,” says Axel Björling, RM5 operator at BillerudKorsnäs.

One of four individual portion packs in the world is made of strong and protective liquid packaging board from the BillerudKorsnäs Paper Mill (Gävle, Sweden). At the end of one of the two long board machines is RM5, a winder machine that has been upgraded with a new control system and drives from ABB in the last few years. The results are greater availability, increased productivity and not least, higher operator safety.

Easy troubleshooting and safe work environment

Having a common system also makes all troubleshooting much easier. “When something goes wrong, hundreds of sensors can trigger an alarm. As everything is now in the same system, it is easy to identify where the problem has arisen, you just have to check in the log which sensor triggered the alarm first,” says Lars Eriksson.

New fencing systems, new safety doors and light beams clearly show that operator safety is of the highest priority. For instance, it is now impossible to enter areas that are classified as safety zones until the winder has automatically slowed to a safe crawl speed, 10 meters per minute, or stopped altogether.

The order planning system and automatic cutter positioning is also integrated in the 800xA system. The cutters automatically cut the 50-ton reel into the exact dimensions ordered by customers.



02 Lars Eriksson, Project Manager at BillerudKorsnäs.



03 Axel Björling, RM5 operator at BillerudKorsnäs, thinks that the new ABB system makes a big difference, and much easier to work with than their old system.

New drives installed

In 2016, BillerudKorsnäs also decided to replace the five drives in the winder. “The new motors are far more energy efficient. What’s more, the entire machine is now much quieter with less vibrations. Something that is much appreciated by our winder operators.

The RM5 upgrades in recent years have increased productivity in the board line. One reason is that there is now less downtime and fewer problems with RM5. Several ton board orders can now be rolled out to waiting customers faster.

Lars Eriksson is therefore more than satisfied with what ABB has supplied. He also appreciates the cooperation: “ABB understands our business. We don’t need to explain that much. ABB sees what we need almost before we have opened our mouths,” a laughing Eriksson says. “We are on the same wavelength and always have been.”

On a final note, he highlights another advantage – the ABB Service department in Storvik (Sweden). “RM5 is a business critical machine for us that has to perform with the highest possible availability, 24/7, 365 days a year. Even just a short stop of a few hours can cost hundreds of thousands of Swedish kronor in lost production. The new control system and drives have enabled us to significantly increase availability. At the same time, the ABB Service department in nearby Storvik gives us a sense of security if anything unforeseen will still to occur,” adds Lars Eriksson.

BillerudKorsnäs, Gävle

The BillerudKorsnäs production facility in Gävle is an integrated pulp and board mill with two paperboard machines, three continuous digesters and two recovery boilers. They produce liquid packaging board for around 200 million individual portion packs a day. Total annual production is around 670,000 tons of liquid packaging.

About RM5

Type of winder: Double drum
Manufacturer: Valmet, 1985
Capacity board line 5: approx. 370,000 tons p.a.

ABB

In two separate orders in 2010 and 2016, ABB has replaced control systems and drives in RM5. The following have been installed:

- **Operator interface:** Common, ABB Ability System 800xA
- **Control system:** 800xA, common system for sectional drives, machine control, automation, slitter positioning and safety.
- **Slitter positioning:** Automatic, linked to order planning system
- **Drive system:** ACS880
- **Motors:** 5 AC motors

Both projects also included design, application programming, documentation, installation, commissioning and customer training.