PULP AND PAPER | SCA OBBOLA | SUCCES STORY

ABB ensuring availability and safety at SCA Obbola

Drive systems upgrade

SCA Obbola has the largest paper machine in Europe for manufacturing packaging paper. For the ongoing process upgrade, SCA Obbola selected ABB as the supplier for both its drive and control systems. At the same time, the entire mill will achieve world-class machine safety.

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SCA Obbola is one of the world's leading producers of unbleached liner.

SCA Obbola is located about 15 kilometers from Umeå. It began as a sawmill at the end of the 19th century, but is currently one of the world's leading producers of unbleached liner, which is used as the outer surface layer for corrugated cardboard packaging. The mill breaks new production records year after year. "E-commerce is the reason for this. The need for packaging materials is growing all over the world. We produce high-quality paper with a high percentage of virgin fiber, something that is particularly sought after," says Erik Olsson, maintenance manager at SCA Obbola.

The upgrade started in autumn 2016 when the drive systems in the paper machine's press section were installed. In total, the upgrade comprises six large AC drives with specially manufactured motors and a unique redundant power supply. The power supply has now been doubled with two transformers and an ISU (incoming supply unit), which supply different parts of the machine with power. Each one of them, however, has the capacity to take over entirely should anything go wrong.

"We make this investment in redundancy to increase the availability as far as possible. Increased machine availability will automatically increase productivity," says Urban Brännström, electrical and automation manager. The control system has been updated as well, and is now also redundant. The old Advant system had reached the end of its life time with limited access to spare parts and support. The switch to ABB Ability™ System 800xA was therefore a natural step. The result for the process is increased productivity since quicker start-up is possible after a stoppage, for example. The operator's work environment at the screens is significantly simpler and more pedagogically designed.

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Jonas Långström, Department Manager Paper Machine at SCA Obbola.

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Urban Brännström, Electrical- and Automation Manager at SCA Obbola.

Safe work environment
Ensuring a safe work environment has always been top priority at SCA Obbola. In conjunction with the change of drive and control systems, a total upgrade of the machine safety is performed.

“We conducted risk assessments together with SCA Obbola, and then supplied safety solutions that comfortably satisfy the new machine safety directives. This improves security for employees and creates a better work environment,” says Lars Gunnar Josefsson, sales manager for the SCA Obbola project at ABB.

Among other things, Obbola’s new safety solution includes the following:

- Emergency shutdown at a maximum distance of 15 meters, regardless of where you are at the machine.
- Automatic monitoring of the paper machine’s speed. This means it cannot race uncontrollably.
- Redundant system in two separate circuits.
- Secure creep rate. Allows, for example, paper webs to be put into place under safety-rated conditions.
- 800xA controls and monitors all safety functions.

“We are very happy with the help and support we have received from ABB in relation to machine safety. It is a great advantage to have access to both expertise and technical solutions from a single supplier,” says Erik Olsson.

Bright future
The quickly growing demand for packaging paper has resulted in Obbola accelerating its rate of production from year to year. And the future looks bright. “The reason we are replacing our drive and control systems is primarily because they have reached the end of their technical life time. However, we are working to ensure we can accelerate even more when other bottlenecks have been eliminated,” says Urban Brännström.

Over the next few years, all of the drives in the paper machine, a total of around 40 drives, will be replaced. “We are working intensively to schedule suitable times for the continued work. The six drives in the press section were replaced during our planned stoppage last autumn. Everything went perfectly considering that all of the old equipment had to be removed and the new equipment mounted, both mechanically and electrically, in a mere six days,” adds Urban Brännström.

Supplier from the start
ABB has been a supplier to SCA Obbola’s paper machine since the middle of the 1970s when it became operational. “We want to be the kind of partner that helps ensure Obbola can always deliver to the best of its ability. It is not a matter of selling products, one at a time; we offer solutions that are tailored to suit the specific needs.”

“A cornerstone of this work is naturally our long-term cooperation, which has given us solid understanding of the facility. For example, our knowledge of Obbola is extremely useful right now as we plan for the continued upgrade of the drive systems. We need to phase in around 40 new drives during just a few brief stoppages,” adds Lars Gunnar Josefsson.

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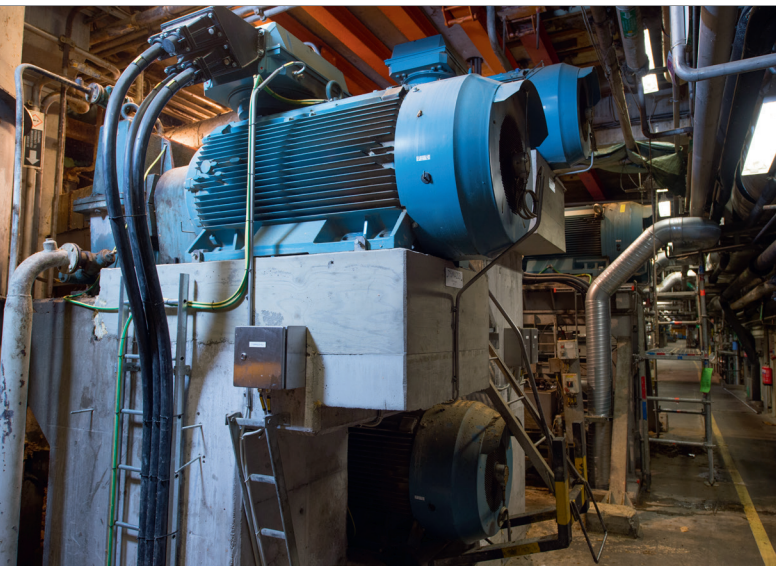
The working environment at the screens has been significantly simplified and pedagogically designed.



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In total, six major drive systems with custom-made engines (and a unique redundant power supply) have been installed.

SCA Obbola
The paper mill was inaugurated in 1975 and produces kraftliner – unbleached paper that is used as the outer surface layer for corrugated cardboard.

- SCA Kraftliner is primarily based on fresh wood fiber.
- SCA Eurokraft is primarily based on recovered fiber stock with an outer surface layer of fresh wood fiber.

The total production volume is approximately 450,000 metric tons a year. Most of this, around 80–85 percent, is exported. Europe is the principal market.

ABB
ABB's current delivery to SCA Obbola includes drive systems, control systems and safety systems. All of the systems have been duplicated. SCA Obbola's investment in redundancy is unique in the industry, and guarantees the highest possible availability and safety.

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