Success Story

Maintaining speed, quality and consistency at Stora Enso Sachsen.

Stora Enso's Sachsen mill near Leipzig, famous for its grazing sheep, partnered with ABB to meet today's challenges of raw material quality, customer consistency and quality demands, machine speed and on time delivery.

PM1 at Stora Enso's Sachsen Newsprint and Book paper mill in the state of Saxony in Germany is among the quickest in the world, and the fastest newsprint PM running without a shoe press, producing some 340,000 tons/yr from 100% recovered paper.

To achieve the ultimate production figures in terms of speed, quality and consistency, the mill has looked beyond the norm in terms of finding the right fit for its own unique requirements. The Sachsen mill has historically worked with ABB since the initial start up in 1994 and has ABB provided mill wide automation in the shape of DCS and QCS systems.

The two, mill and supplier, have worked closely together on various projects over the years with some major highlights in the last two years. In 2007, the mill upgraded the complete DCS to ABB's System 800xA technology.

The latest pioneering work carried out has been in the area of the measurements and especially the caliper sensor, an essential tool if quality newsprint production is going to be consistently maintained. The first step was to upgrade the 16 year-old Smart Platform measurement scanner to ABB's newest Network Platform, providing the mill with a stable foundation of up-to-date technology for the new sensors.

PM 1 at Sachsen was originally equipped with a contacting sensor supplied by ABB. However, as the speed of the machine increased, so did the problems associated with having a sensor that actually came into contact with the paper. Paul Goss, ABB's paper system's sales manager for central Europe explains, "In the first 10 years of production, there was no issue with the original caliper sensor simply because the speeds were lower. On very high speed machines like PM 1 it is a very fine balancing act to achieve an accurate measurement, at the same time as applying

the least amount of pressure to avoid damage in the shape of holes or possibly breaks."

Running without an accurate caliper measurement is not an option in newsprint production. "We need to have an accuracy of one micron to maintain consistent thickness, we cannot have any variation," explains Peter Kluttig, the mill's manager of process automation

Solution: ABB's Optical Caliper Sensor

Today's newsprint market is a tight one, and there is no room for poor quality or late deliveries, so Stora Enso Sachsen has had to lead from the front when it comes to everything related to customer satisfaction.

After a number of discussions between the mill and ABB, it was decided that Sachsen would become the first mill to install a revolutionary new product, the Optical Caliper Sensor, a sensor that uses a "confocal displacement" technique that measures caliper based on reflected light.

The very first permanent installation of the Optical Caliper Sensor began in early 2009 and it was measuring effectively "half an hour" after installation.

"The new caliper sensor has had a very positive impact, eliminating caliper measurement related holes and breaks and reducing wastage dramatically. It has also improved the quality of measurement which is now sound and dependable. These improvements have allowed us to tackle one of our biggest challenges, the one of improving quality for our heatset web customers, which will hold us in good stead for the future," concluded Mr. Kluttig.

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