Favini’s Rossano Veneto mill adds new HPIR moisture sensor and quality control system to its 60 year old paper machine and improves quality and dramatically reduces product waste.

Although Favini’s Rossano Veneto mill had a strong-performer in its PM1, the paper machine, installed in 1948, was badly in need of updated quality control. With the old equipment, mill engineers did not have access to the precise measurement data necessary for ensuring product quality. And problematically, replacement parts were no longer available for the machine’s dials and gauges. After detailed discussions with ABB, in mid-2009 Rossano Veneto decided to purchase a new ABB Quality Control System (QCS). As part of the order, Rossano Veneto became one of the first mills in the world to install ABB’s High-Performance Infrared (HPIR) moisture sensor.

From the start, mill management had clear-cut project goals: they wanted a system that was user friendly and that could monitor the process for consistent production results and minimized waste. With key personnel reaching retirement age, mill managers were especially interested in making sure their new automation would be easy to operate. They also needed to have production data readily available.

The QCS order for PM1 included a server and engineering station; operator station, control network with TCP/IP; frame and sensors with TCP/IP; NP reflection platform and HPIR.

After installing the new ABB quality control, mill personnel quickly decided that system performance met and exceeded their goals. They found that data was easy to access, read and understand, and they were able to achieve greater product consistency and lower waste.

**User friendly technology**

Favini, which has been in business for more than 250 years, is an Italian papermaker with two mills: Rossano Veneto (near Venice) and Crusinallo (north of Milan). Favini’s core products are specialty fine papers, industrial release papers and a converting operation for producing office and school products. The company employs 450 people.

Known for its commitment to the environment, Favini uses pulp that is Elemental Chlorine Free and comes from managed forests. At Rossano Veneto, mill water is recycled and returned to local waterways after being purified. To make their operation even greener, exceptionally low amounts of water are used during paper production.

Rossano Veneto began production in 1736 when the Republic of Venice authorized a wood mill in the town of Rossano Veneto to manufacture paper. Today Favini’s
Rossano Veneto mill specializes in converting paper for education and office use, high quality and colored paper, board, embossed paper and green paper products.

ABB worked closely with Rossano Veneto to prepare for their new QCS. After extensive preplanning, startup took just a week. In days the system was up and running.

**Key production data to improve CD control**

The new HPIR transformed Rossano Veneto’s moisture measurement by giving mill operators a much better understanding of what was actually happening during production. They can easily view measurement data, which is continuously fed into QCS displays and contour maps. This provides mill engineers with a solid way to view and assess data – and they can create a better process model to improve CD control performance.

Intended as a replacement for the popular HemiPlus moisture sensor, ABB’s HPIR is designed to improve the performance and reliability of both new and existing ABB QCS systems. With HPIR, papermakers can have more confidence in the precision of their moisture measurement. They can achieve tighter CD control, and faster startups and grade changes. Papermakers can shift their moisture targets closer to acceptable quality limits, saving energy and reducing fiber costs while remaining within the paper grade’s quality specifications.

The increased precision comes from several technical breakthroughs in the design that significantly increase the signal-to-noise ratio and the measurement rate of the sensor. As a result, the sensor can resolve moisture streaks as narrow as 4 mm. With a measurement rate of 5,000 per second, the sensor provides precision measurements, even as paper machines continue to become wider and faster.

The HPIR’s design simplicity has been very helpful for Rossano Veneto personnel. HPIR does not require liquid cooling and has no continuously-moving parts. Mill workers can easily replace modules, avoiding factory repairs and eliminating the need to stock a complete spare sensor.

At Rossano Veneto, product waste was dramatically decreased because the new QCS gave personnel the tools to more accurately control the process. Mill managers say waste has been reduced from 15 percent to only four or five percent.

The mill can now make grade changes on PM1 much more quickly and achieve faster startups, which increased production and helped meet product demand.

Along with benefits like smoother operation and better quality, the mill is experiencing another highly positive result: greater customer satisfaction.

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