

Beyond expectations

Modern technology often has the ability to transform the performance of what many might regard as time-served paper making machines. Vince Maynard visited one of Favini's mills in Italy and discovered how ABB had revived a line that is more than 60 years old

The first issue of Pulp, Paper & Logistics featured one of the latest developments from ABB: HPIR high performance infra-red moisture measurement. As it turns out, the technology had already been installed at one of Favini's two mills in Italy and was operating beyond the management's expectations.

To find out how the system had improved operations, ABB's account manager Ezio Vercelli arranged for us to visit the mill at Rossano Veneto and meet plant director Flavio Stragliotto.

Favini makes specialist papers and has a history going back more than a century. "Favini is a world leader in industrial release paper and has a strong market position in speciality fine paper with innovative and niche products," said Stragliotto.

It operates two mills in Italy, Rossano Veneto near Venice and the other at Crusinallo, near Milan, employing 450 who are organised in three divisions:

- Graphic Specialities – this is the company's core business and focuses on the production of fine papers;
- Release Paper – based at the Crusinallo mill, it operates in the casting release sector for the production of artificial leather bases and has a world leadership



Favini's Rossano Veneto factory: tradition blended with modern technology

- position in this important niche.
- Cartotecnica Favini or converting division – based in Rossano Veneto, it converts the paper produced in the Favini mills and operates in the education and office industry. Favini is owned by Orlando Italy, a venture capital fund that

holds 60 per cent, and Vepafer as minority financial shareholder. To support and deepen Favini's own long term future, a new three-year industrial and commercial plan was recently approved and implementation of this plan has already begun.

The origins of Favini go back to

1736 when the Republic of Venice authorised the conversion of a mill into a paper factory, which was acquired by the Favini family in 1906. Expansion started in 1945, when Colonel Andrea Favini, a former air force pilot, joined the family company. In 1990 his son Marco joined the company and introduced major changes.

In 1998 the company doubled in size with the acquisition of Cartiera di Crusinallo, a producer of casting release and cast coated paper. The takeover resulted in a period of rapid growth, with the acquisition in the Netherlands of the Geldersee Group, better known as Meerssen & Palm.

After struggling with debt problems, Favini was liquidated in January 2008, and its assets were acquired the following May by Orlando which created Favini SRL to run the Rossano and Crusinallo mills and 100 per cent of Cartotecnica Favini.

Flavio Stragliotto detailed the production capacity of the Rossano Veneto mill: "We have a capacity for 46,000 tonnes across the two machines and achievable grades on PM1 range from 65 gsm to 440 gsm across a 1.60m web width with a speed of 200 meters a minute," he said. "My biggest problem is the demand for our products and sales have already filled the production

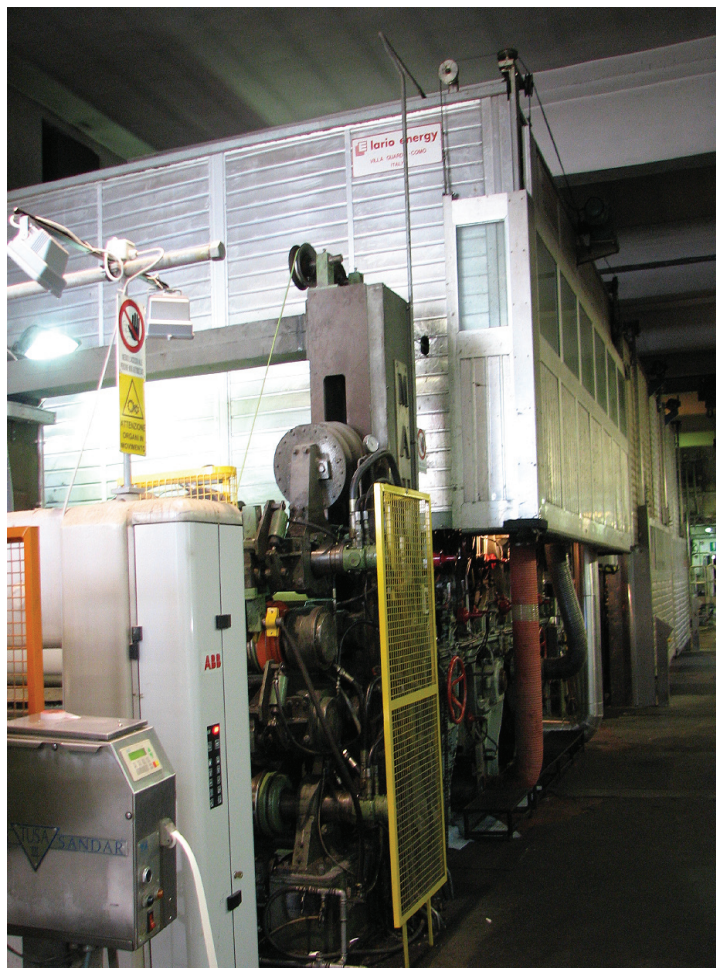


ABB has automated the PM1 line at Rossano Veneto

schedule on PM1 and PM3 for the next two months.

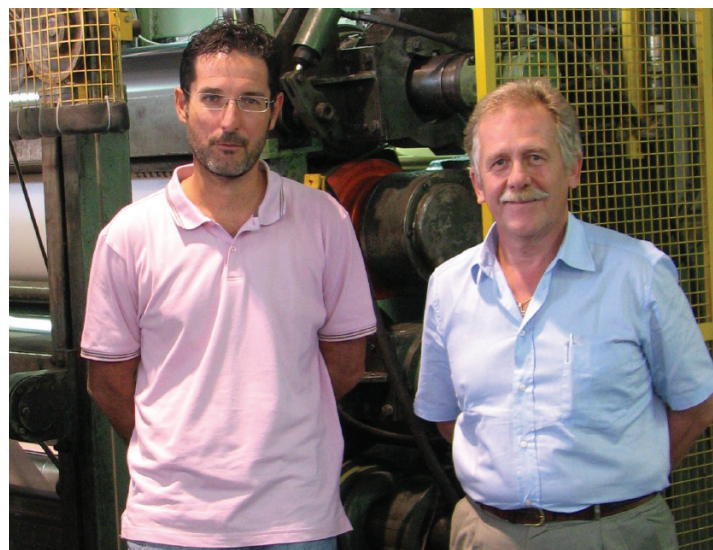
"We are exporting about 50 per cent and the remaining 50 per cent is sold within Italy. Favini is present around the world

but in the last 12 months we have seen a marked increase in demand across the range from both the Middle East and Africa for our specialist papers."

Favini sources its material from certified suppliers with tracking processes to provide transparency for its customers. "Favini dedicates much care to its products," said Stragliotto. "This not only means competence but also respect for the environment, a respect that is at the basis of the entire production process of the Favini mills.

"The pulp used by Favini comes exclusively from controlled forests and sources and is ECF (Elemental Chlorine Free). Both Favini mills are FSC certified and comply with ISO 9001 and ISO 14001 regulations. The Rossano Veneto mill was the first in Italy

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Flavio Stragliotto (left), director of the Rossano Veneto plant, with ABB's account manager Ezio Vercelli

to receive ISO 14001 and OHSAS 18001 certifications.

"Favini does not use wood from virgin tropical or temperate forests. In the Rossano Veneto mill water, a vital element in the paper production, is recycled and treated in the mill's purification plant before being returned to the local rivers. At Rossano only 18 litres of water are used to make 1 kilogramme of paper, one of the best utilisation rates in the paper industry.

"Favini's key top brands are now Forest Stewardship Council certified. The products certified are: Twist, Softy, The Tube, Majestic, Burano, Bindakote, Shiro Alga Carta, Shiro Echo, Biancoflash Premium, Biancoflash Ivory, Bindakote, Astralux, Classy Covers e Dolce Vita.

"The Shiro paper range is produced with 'Energia Pura' (pure energy), the electrical power covered by the Renewable Energy Certificate System. These directly support the development of electrical power production coming from renewable sources such as solar, wind power, hydro-electric, geothermic. Energia Pura also helps to reduce carbon

dioxide emissions.

"The Dolce Vita range is produced using 100 per cent green energy coming from renewable sources. Favini is serious about the environment and is working on a number of projects to further reduce our environmental impact."

The Project

The ABB HPIR project – total investment was €350,000 – was applied to Favini's PM1 line which was installed in 1948 to produce 700 shades of speciality paper, with a change of grammage that could in theory be made every hour. "But normally we average a change every three to four hours with a minimum five tonnes run per colour," said Stragliotto.

"When I became the director of the mill I knew that for things to move forwards we had to ensure that all production was of the highest standard. While PM1 was installed in 1948 the machine still had a lot to offer in relation to its flexibility. The area of most immediate concern was a lack of control: all we had were dials, gauges and basic data from a system where replacement parts were no longer available. We had no history to track what ▶

◀ repairs had been done and no way of monitoring the actual output of PM1.”

Stragliotto explained the background to ABB's involvement with the line's improvement. "Firstly I have to say that it was not just the solution that made us select ABB," he said. "Ezio Vercelli is more than just a representative of ABB. He is known to the Favini family and often just calls in to discuss things like the mushroom season."

"Our need was two fold. Firstly we needed a system that could monitor the mill and be user friendly."

"With some of our more senior staff retiring or nearing retirement age we needed a system that was easy to operate while giving us the data and feedback from the mill needed to ensure consistent results and minimise waste and energy consumption. Secondly we were aware of the need to improve

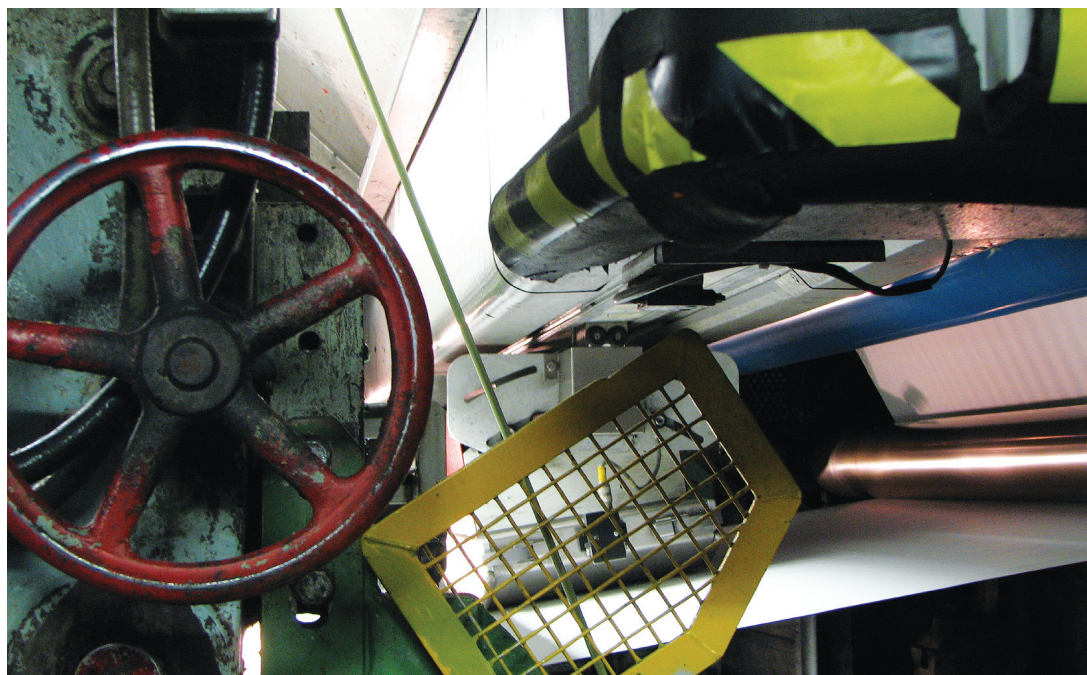


ABB provided a user-friendly system that could monitor the mill. The network structure is detailed below

the reliability of product quality by some form of automated system.

"Having discussed this with ABB at length and reached a decision in mid 2009 on what

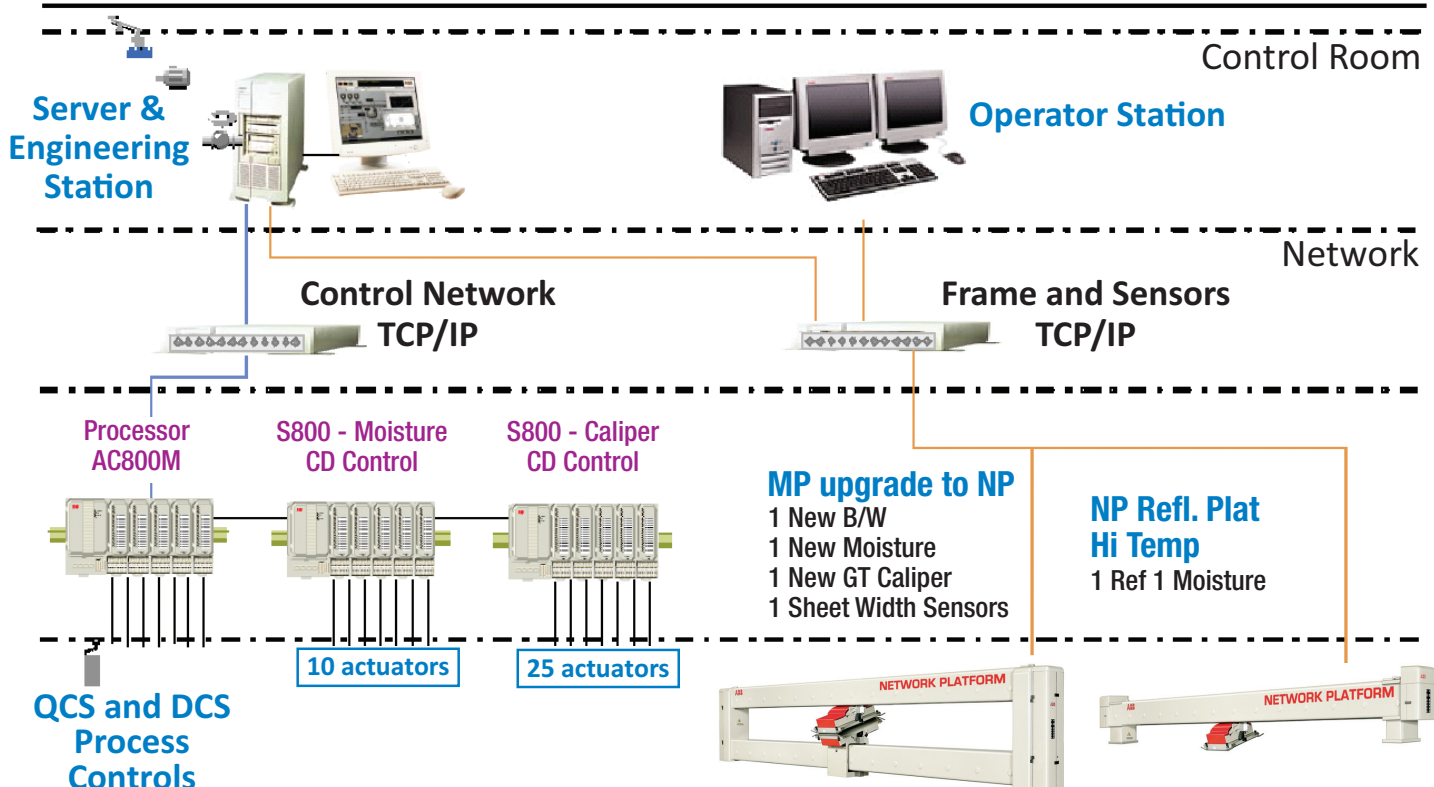
was best for us, we selected a complete ABB QCS with a new server & engineering station, new operator station, control network with TCP/IP, frame and sensor network with TCP/IP, plus the NP

reflection platform and HPIR high performance infra-red moisture measurement."

Despite the limitations of space around the PM1 line, it was shut down for just a week over a

Favini - New QCS for PM1

ABB Spa Process Automation Division



Another benefit to us is with no continuously-moving parts and no requirement for liquid cooling, the sensors' modular design allows our mill personnel to easily replace modules on-site

Christmas holiday. "The start up and the set up of the system took only a few days thanks to all the pre-planning and went extremely smoothly," said Stragliotto. He goes on to detail the results and how performance matched expectations for the NP reflection platform.

"As you can see from the results, the correlation is excellent and HPIR has proven to be an invaluable tool," he said. "Moisture measurement is critical because it enables us to maximise both energy and fibre costs while having the ability to manage the paper grade's quality."

"HPIR has also meant that our system operators have a far better insight into exactly what is happening on the mill. With measurement data being constantly fed back to QCS system profile displays and contour maps, we now have a system that can help our engineers define a better process model for improved CD control performance."

"Another benefit to us is with no continuously-moving parts and no requirement for liquid cooling; the sensors' modular design allows our mill personnel to easily replace modules on-

site. As a result, we can avoid factory repairs and eliminate having to stock complete spare sensors.

"The bottom line is that the ABB system reduced wasted production and enabled faster grade changes. Waste reduction is one area where it's made a difference," said Stragliotto. "Our photo album board is a key example of how the ABB

installation has helped reduce waste from around 15 per cent to 4 or 5 per cent.

"This reduction in wasted production is a direct saving but we also have to recognise customer satisfaction as being equally important. HPIR has also let us achieve faster grade changes and quicker start-ups, this in turn helps us produce more paper."

Who is Flavio Stragliotto?

Flavio Stragliotto, plant director at Rossano Veneto since 2008, joined Favini in 1997 after working as a technical assistant in another mill, and covered various roles such as that of responsibility for plant operations, research and development, quality and environment systems.

Prior to that, he worked as researcher for CNR. In 1994 he graduated in Chemical Engineering from Padua University, with a specialization in environmental chemistry, going into industry as researcher for CNR. When Flavio gets free time he likes nothing better than Nordic Skiing during winter months, and during the summer he has a passion for mountain biking.

HPIR Results Favini Rossano Veneto MC1

Each data point is a scan average.

The data was collected over a 24-hour period. No data points were removed.

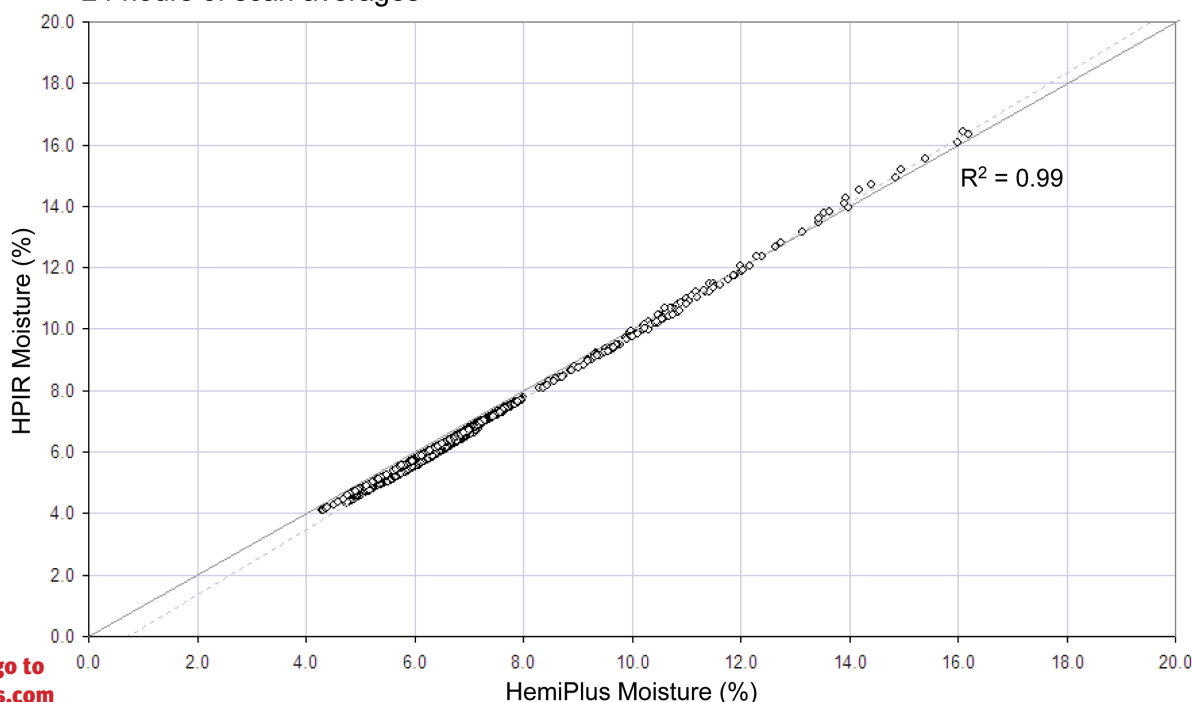
The basis weight range was 102 to 290 g/m².

Each sensor is using a constant set of slope and offset corrections across the grades in this test.

The correlation is excellent, with R² coefficient = 0.99.

Note the data points around 3%, showing a good linear correlation across the moisture range.

Correlation between HemiPlus and HPIR
24 hours of scan averages



To view the HPIR video go to www.pulppaperlogistics.com