

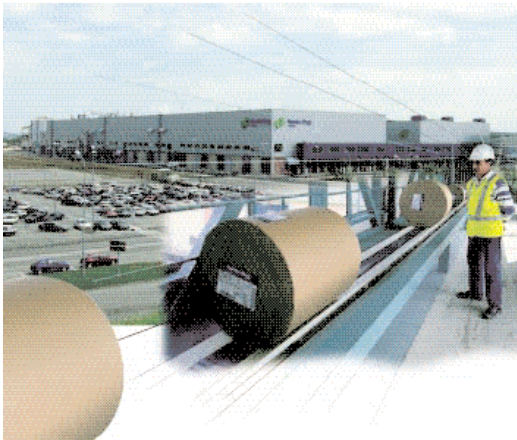
# Industrial IT ...the *Next Way* of Thinking

## Meeting the needs of different mills.

Industrial IT can be successfully applied to any pulp mill, paper mill or printing house — regardless of its location, size, age, technology, raw material or final product.

Success Stories

### ABB plays a lead role in Norske Skog's successful investment in Golbey, France



One of the most profitable wood-processing companies in the Nordic countries, the Norwegian Norske Skog is investing heavily in international growth. Apart from its mills in Norway, Norske Skog has printing-paper mills in France, Austria and the Czech Republic. It also has a noteworthy 33 % interest in the Pan-Asia Paper Company (PAPCO) operating on the Asian market, and production facilities in Korea, Thailand and China.

Norske Skog's latest major investment was in the Golbey mill on the River Moselle in northeastern France. The location is ideal for the production of newsprint, as the most important growth centres of Western Europe are situated within 1000 kilometres of the mill. So both the markets and the sources of the main raw material, recycled fibre, are close to the mill.

In 1997-98 a second machine producing newsprint from RCF pulp and incorporating the latest technology was built beside the existing one in the Golbey mill. The new machine started up on December 21, 1998, turning out paper at a record speed of 1,500 m/min right from the start.

ABB Automation

**ABB**

### Increased speed and efficiency at French newsprint mill (Golbey Norske Skog)

When they wanted to invest in improvements for their profitable French mill, Europe's largest newsprint manufacturer turned to ABB. Company executives were committed to adding technology that would turn out paper at record speed, and they selected ABB for product reliability. ABB's drives and information system now optimize production in the mill. The new automation has been key in increasing paper machine capacity and efficiency, and the mill's paper

## ABB plays a lead role in Norske Skog's successful investment in Golbey, France

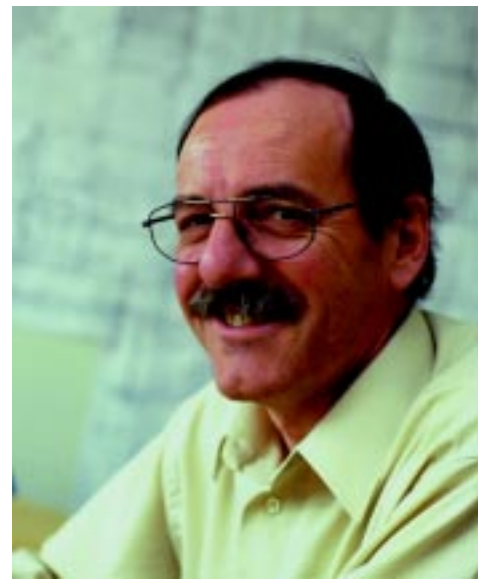


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PM2 is both wide (trim 9.55 m) and fast (design speed 1800 m/min), so that when it picks up to full speed, its annual capacity will exceed 330,000 tonnes of newsprint in the 40-48 gsm range. As the mill's other machine has a capacity of 260,000 t/a, Golbey is the biggest newsprint manufacturer in Europe. All in all Norske Skog has invested more than NOK 7 billion (approx. EUR 0.85 billion) in the Golbey mill over ten years, with the latest investment accounting for approximately a half of the sum.



With a speed of 1800 m/min, the PM2 is the fastest in the world in its class.

### Norske Skog relies on ABB's expertise at Golbey

ABB has played an important role in all the investment projects at Golbey.

In 1992 ABB delivered the DC drives for Golbey's first paper machine and a complete control system for the groundwood plant. PM1 came from North America, but now most of the equipment for PM2 was supplied by Finnish companies, although more than 15 nationalities took part in the actual building of the paper line. ABB was represented on the project by ABB companies in Finland and France.

### ABB's drives keep the machine turning

"ABB's choice of drives for PM2 was a natural one, since we have experience of good reliability with PM1's DC drives," says M. **Gilbert Placiard**, Head of Electrical Department. Project Manager **Susanna Bäckström** agrees and stresses how well co-operation has gone throughout.

ABB's PMC 200™ drives combine the advantages of applications, motors, frequency converters and versatile services. The AC drives supplied by ABB were the first in Europe to incorporate ACS 600 MultiDrive frequency transformers based on IGBT technology with Direct Torque Control (DTC). Another first were the new water cooled AMA motors manufactured by ABB Industry Oy's Machines group, which were installed in addition to the standard motors. The AMA motors have a considerably higher power rating than HXR motors.



The system included 47 motors ranging in power from 37 kW to 1690 kW.

The PM Concept 200 system includes 45 AC sections of 30-2120 kVA in the paper machine and in total 54 sections of 40-170 kVA in winders. The drive system is integrated in a non-ABB automation system.

The ABB drives project was managed from Finland, but in close co-operation with the local French ABB. It did part of applications and was mainly responsible for commissioning the drives. In addition, ABB France took care of training of mill people. ABB was responsible for installing the drive system.

### ABB Manufacturing Execution System helps optimise the production process

ABB supplied the mill information system for Golbey's PM1 and updated the system for PM2. Both machines now operate within the same system. The delivery also included a Y2K readiness inspection.

According to **Robert Jonassen**, IT Manager at the Golbey mill, the update of the old system went well. There were no production breaks and the machine was running throughout the process of replacing the old system.

ABB's mill information system delivery included application packages for reel monitoring, quality monitoring, data collection from order handling to loading and production planning optimisation.



The "Jumbo Rolls" are cut to the dimensions ordered by customers. Madame Josiane Huet uses a MES system for the next step, where rolls are packed.

In addition to Golbey ABB has performed similar updates of mill information systems for two (Saugbrugs and Skogn) of Norske Skog's mills in Norway.

ABB Control Low Voltage Products division supplied the Motor Control Centers for the Golbey project.

### Norske Skogsindustrier ASA

Norske Skogsindustrier ASA, or Norske Skog, manufactures printing papers, chemical pulp and building materials. In 1998 the Group's net sales were some NOK 15 billion (approx. EUR 1.7 billion), 80 % of which consisted of business outside Norway. All in all, the year was a good one for the Group. Profit before taxes rose to NOK 1.4 billion from the previous year's NOK 652 million (approx. EUR 78 million). Norske Skog employs 6,800 people in its production units and has a worldwide sales network.

Newsprint is Norske Skog's main product. Paper is manufactured by nine either partly or wholly owned mills in seven different countries. Thanks to company acquisitions and new capacity, Norske Skog's newsprint production grew to 2.5 million tonnes, or almost doubled in 1998. Combined with newsprint, Norske Skog's annual printing paper capacity is 3.25 million tonnes.





The Norske Skog, Golbey produced 600,000 tonnes of newsprint per year.



**Argentina** Asea Brown Boveri S.A. *Buenos Aires.* **Australia** ABB Industry Pty. *Melbourne.* **Austria** ABB Industrie Gesellschaft *Vienna.* **Belgium** Asea Brown Boveri S.A. *Brussels.* **Brazil** Asea Brown Boveri Ltda. *Sao Paulo.* **Canada** Asea Brown Boveri Inc. *Toronto.* **China** Asea Brown Boveri China Ltd. *Beijing.* **Denmark** ABB Industri A/S *Ballerup.* **Finland** ABB Industry Oy *Helsinki.* **France** ABB Industrie Décines Charpieu. **Germany** ABB Industrietechnik A.G. *Mannheim.* **India** Asea Brown Boveri Ltd. *Bangalore.* **Indonesia** PT Asea Brown Boveri Sakti Industri *Jakarta.* **Italy** ABB Industria S.p.A. *Milan.* **Japan** Yamatake Engineering Co. Ltd. *Tokyo.* **Korea** ABB Woojin Co. Ltd. *Seoul.* **Malaysia** ABB Industry & Offshore *Kuala Lumpur.* **Mexico** ABB Equipos Y Sistemas *Estado de Mexico.* **The Netherlands** ABB Industrie B.V. *Rotterdam.* **New Zealand** Asea Brown Boveri *Auckland.* **Norway** ABB Industri AS *Oslo.* **Poland** ABB Industry Ltd. *Warsaw.* **Portugal** Asea Brown Boveri Lda. *Lisbon.* **Russia** ABB Industry Ltd. *Moscow.* **Singapore** ABB Process Automation East Asia Pte. Ltd. **South Africa** ABB Industry (Pty) Ltd. *Johannesburg.* **Spain** ABB Industria S.A. *Madrid.* **Sweden** ABB Industrial Systems AB *Västerås.* **Switzerland** ABB Industry Ltd. *Baden, Dättwil.* **Taiwan** Asea Brown Boveri Ltd *Taipei.* **Thailand** Asea Brown Boveri Ltd. *Bangkok.* **United Kingdom** ABB Industrial Systems Ltd. *Stevenage.* **U.S.A.** ABB Industrial Systems Inc. *Columbus, Ohio.* **Venezuela** Asea Brown Boveri S.A. *Caracas.*