

**Solutions,
technique
and
innovation:
the power
of SAEL**



SAEL STARTS THE NEW "SECTIONAL DRIVE" AT THE GIACOSA PAPER MILL

BIG INVESTMENTS at GIACOSA Papermill.
Installation of a brand new Sectional Drive and DCS
on PM2 Machine; rebuilding of the Shoe Presses; new
Headbox; Approach and QCS.

by: **Paolo Andrichetti, BU paper**

Sael
automation electronic systems

In the last two years of the pandemic, the GIACOSA paper mill, conscious of the stability of its market and to better serve its customers qualitatively, invested in the conversion of the old Paper Machine Drive 2 (PM2). The single shaft was transformed into a sectional one, while several modifications were made in its own Paper Mill in Front Canavese (TO).



Founded in 1961, Cartiera Giacosa is an historical Italian paper manufacturer for plastic laminates; with over 60 years of experience, it has specialized in the production of decorative paper and Kraft paper for plastic laminates, mainly used in the furniture market. Totally controlled by the Roscio family, Cartiera Giacosa stands out on the market for its high competence, continuous innovation, speed of execution and sustainability. Those qualities allowed to consolidate and integrate the paper impregnation process and production of resins, over the years. The production takes place in the Front Canavese plant (TO), which has two continuous machines with a maximum light of 3000 cm. The plant has a total settlement area of 67,500 m² and 60% of its global production is focused on the European market.

Quality, High-tech and Safety Investments

Dr. Rocio, together with Eng. Pia and his Plant managers, have transformed the PM2 machine almost totally, as well as prepared the Plant to support the PM1 machine upgrades. Since the 2021, the investments have been: a new Shoe Press with substitution of the single-shaft plus an AC Sectional drive; Scalink DCS implementation with active redundancy either for the main control, or to the first wet zone; complete DCS replacement by ENFASI – with great features for paper porosity as well as weight, humidity, ash and thickness measurements. In August 2022, then, we moved on to the complete replacement of the single-shaft with the AC sectional installation; refurbishment of the headbox; the new approach and the replacement of the entire steam system.

Investments calibrated in the continuous machine evolution

To keep going the Paper Mill development, the last step of the refurbishment process - started at Giacosa plant in 2021 - allowed to keep safe the machines for their critical parts. The MC2 drive have been radically transformed from single-shaft to sectional. To support this important and expansive investment over the years, SAEL have proposed an intervention in two steps. The architecture studied, offered by SAEL and agreed with the customer, was based on an upgradable modular system (which is a standard for SAEL), extremely flexible, robust, and cost effective.

In 2021, we made the step one, adding the first 4 AC motors to the Shoe press 1 refurbishment. The job was delivered on time meeting the customer



Giacosa Paper Mill – Electrical cabinets overview.

expectations. This drove the Paper Mill management to assign us the Step 2. In August 2022 we went to the transformation of the single-shaft and adding the others 18 AC motors to the wet-dry zones. This architecture will allow further implementations and modifications to the continuous machine. We also supplied our REDUNDANCY DCS in drive SAEL statins, for the supervision and control of the machine and the inverters. This is the jewel of the customer investments till today.



The removable EEPROM installed on every electronic board, allows quick substitution without further setting.

SAEL's Flexibility, Know-how, fast and time delivery

Since the beginning, the technical team of the Paper Mill have coordinated the variety of players involved in the project. Any mechanical mounting, wirings and other jobs have been anticipated and very well coordinated. Because of the

uncertainties of the raw materials availability, this project delivery has been a great result: a record! Mr. Fabio Pia, the manager involved since the beginning, said: "Thank you SAEL, great job ... A job who meets the expectations despite many issues

encountered: scheduling and programs changings all the time, unavailability of the instruments, materials delayed, and so on. The experience and availability of the SAELs technical team simplified the job to the paler mill operators. The DCS drive meets



DCS – PLATFORM ONE DRIVE SAEL, Redundant motors control pannel



our expectations showing us that this product fits for Paper Mill Applications.

SAEL "One Drive" Platform

The new "PLATFORM ONE", exclusively made for paper industry, is the innovative and flexible solution ever. Since 2011, and against the market trend,

SAEL uses a single board to manage all the Drives: AC; DC; Chopper; Brushless and REBORN. The "ONE DRIVE" actually. The customer benefits of one board as spare part for all the system only. The substitution can be done within 3 minutes only. ONE has a flash memory card with all the information stored inside.

In case of a Drive fault the simple replacement of the device is required. Extract the Flash memory from the broken drive, plug into the new drive, and restart: no programming, no parameters, nothing else. The Platform One is now completed by the new long-life inverter series: ONE INVERTER. The inverters are equipped by Film capacitors vs. traditional electrolytic (virtually infinite lifetime component vs. 70/90khours of the traditional capacitors).

New DCS system upgrade and PLATFORM ONE Inverters

Over the last three years SAEL hardly worked to the DCS renewing, featuring the global plant management where the continuous machine supervisor, the winder, the calander, the sheeter and the stock preparation are linked to a unique communication platform, stable and performant. During the Covid-19 hard times, SAEL never stopped the development activities, focusing the R&D full-time on this project. Once again SAEL can be in front of the big worldwide competitors, by offering a custom (but open) solution for hardware and software: A big difference against the simple "system integrators" which blend market drives, with PLC and Scada elsewhere.

Another important step ahead for SAEL is the SAVE ENERGY topic. Since four years we are the only one providing water cooled



Giacosa Paper Mills – Pope area. PLATFORM ONE DRIVE – NOT ONLY DRIVES



“PLATFORM ONE DRIVE” The team involved in the continuous Machine PM2 revamping, at GIACOSA

solutions for our drives. Our customers are the most important mar-com vehicle: actually, SACI-PM3 that formerly used our water-cooled system for the Continuous Machine, asked the same technology for their Stock preparation machine.

A MADE IN ITALY technical development for customer protection

The “Intelligent Drive” SAEL system uses inverters expressly made for the Paper Industry applications. This allowed a quick adaptation of the

drive, adding and modifying cascade regulations. The product warranty provided by SAEL is the key for any customer. To protect the customers, SAEL offers a long-term availability of its products: the inverters are smart, quick to be repaired in case of fault, with few spare parts on stock only. This philosophy is applied to any other component used. A plus versus the competition who constantly phases out their series.

The R&D is the key benefit of the SAEL products. Last, but not least, is the remote assistance

IWSA – Internet World Sael Assistance -. This is a default tool installed. Thanks to IWSA the technicians can solve any issue accessing via remote to the to the supervision station in real time. Actually, for any machine equipped by a supervision station, it is possible to set the digital boards BIOS, develop or modify software strings and control the entire system.



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