



NEW CORDENONS GROUP INVESTMENT. SMOOTH INSTALLATION WITH VARIABLE BOMBE' CYLINDER (Küsters)

In the last two years of crisis, Cordenons group that has always believed in recovery and also strong for the health of its market, has invested in the conversion of old paper machine drives transforming the control from a single overhead to sectional and making several extensions in particular on coater 1 and on machine 2.

SAEL..... CORDENONS group

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The Cordenons Group is a historic Italian manufacturer of fine and technical papers offering to the international market more than 2,600 specialized products for different target groups and applications. The sales office is in Milan while the two plants are located in Cordenons (PN) and Scurelle (TN). In particular, the paper mill Cordenons, belonged to the Counts of Cordenons

surplus since 1630 and in 1730 passed into the hands of the family Galvani, well-known entrepreneurs of the area. To this period belong citations of the Doges Senate about the importance of the "Cartera de Cordenon" as official supplier of paper to the Venetian Republic. Since 1984, completely renewed in its structure, is under the leadership of the Gilberti family, acting in the paper industry for four generations. The history of the

establishment of Scurelle dates back to 1715. For more than two centuries it was run by important Venetian families, until 1936 when Senator Beniamino Donzelli, along with son Ferruccio Gilberti, undertook a series of investments to restart the establishment and led him in 1973, toward specialization in the production field of fine paper.

Investment in quality, technology and environment

The transfer of the establishment of Malmedy in Belgium in 2008, as well as the creation of the R & D department, have allowed the company to focus again on the production of specialty papers in 2009 in fact, Cordenons Group has launched five new products including the 'absolute novelty Moondream and clothing inspired ranges with products So.. Silk, So.. Wool and So.. Jeans. The company counts 270 employees, a turnover of almost 80 million Euros and a production of 34,000 tons. Alongside the most advanced technologies, which allow it to excel in the production of technical papers for highly specialized areas, maintains the vocation to create precious papers that evoke the elegance and charm of handmade paper. The group is constantly investing in activities aimed at protecting



CORDENONS PAPER MILL 2010, conversion of PM1 in sectional control

the environment: on the beginning of 2007 has obtained the FSC COC certification, identifying products containing cellulose from responsibly managed sources according to strict environmental, social and economic standards.

The interventions made in the paper mill in recent years have included: replacing two-stage burners with modulating burners, smooth installation with variable bombè cylinder (Kusters); AC sectional installation on the PM1 dryer, modification and upgrading coater 2 furnaces; install new patina applicator groups patina units; installation of new refiners in the pulp preparation; installation of new drives for replacement of old parts, that were no longer available, on the PM2; many different interventions to improve environmental and safety standards.

SAEL, Cordenons group official provider for products and solutions

Since 1997, SAEL provides Cordenons group with their drives and automation systems. In any investment made on the various systems (paper machines, rewinding machines, processing and preparation of the supervisory paste-patina-color), there was along the years a good interplay with SAEL technical staff that brought the two companies to a synergistic and targeted growth in the study of the proposals made then. In late years, where markets investments had a sharp slowdown, SAEL was able to propose small steps solutions much appreciated by the group which are still undergoing in constant development. The close link among the companies was lately fortified by the fact that the group, previously served by other competitors, had already experienced the expensive problems caused by multinational major companies that are used to switch over their products lines very often making old items



AC motors installed on PM1

spares to be out production in a very short time. On the other hand SAEL builds systems with its own drives so ensuring their continuous life cycle for a minimum of fifteen years. And being drives built in SAEL, the company is always able ensure repairing and guarantees spare parts fast availability. For an example, the drive SCCTP (dc motors field control module) is on the market for about 23 years and still is normally supplied to the customers and repaired if ever needed. For each one of its system supplies, the company also asked SAEL for training activities to be made with plant technicians at SAEL facilities so establishing an important relationship and acquaintance with the customer people. In fact, no other reality now operating “in automation and drives systems field” share their solutions with customers in a so open and global way.

Calibrated investments in line with paper machine evolution

The latest tranche of the modernization process begun by Cordenons in 2008 allowed to increase safety of the plants in their critical sectors and to continue expansion in the mill needed to ensure its continuous development. The MC1 control is considered strategic for the group, it has undergone a radical transformation starting from single-shaft to sectional control. SAEL proposed the entire supply divided into small



View of PM1 pope zone and size-dryers, wer the single-shaft was eliminated substituting it with new AC sectional drives



COATING 2 UNWINDERS CONTROL BOARD, CORDENONS GROUP.

steps, thus diluting the investments over the years. The end goal of having a technically advanced control was achieved thus ensuring the recovery of all work performed and related materials during the different upgrading-steps. SAEL studied and proposed an architecture, accepted by the group, organized in the implementation of a modular system (standard SAEL structure), which provides a power bus that can be extended, to feed actual and future AC drives, feeding a series of electric cabinets holding space for future upgrades scheduled in the future.

The result was a system that, properly architected for future power expansions, has great flexibility that allows even a complete later transformation. In 2009, in fact, after the first phase in which they were managed and implemented the first five AC motors, electrical panels were provided with the base system SAEL complete and ready to get to the final stage using the same hardware. SAEL Reborn system also allowed to digitally control even the old shaft DC motor drive, integrating it with sectional control new motors, providing a digital cascade system already in the very first upgrading step. In August 2010 were also removed from the single-shaft and then added to the sectional control, seven motors and in the future the system could also be radically changed in line with the evolution of the paper machine. In fact the project is

provided for possible implementation of the station “DCS SAEL drive” supervision and control systems management for plant drives, which is the flagship investments made by our company in recent years.

New up-grade of the DCS system in intelligent drive SAEL

For more than three years SAEL sought to renew the supervision system to integrate also the ability to manage global facilities for the supervisor of the paper machine, the winder, calendar, cutter paste preparation to talk together in one powerful and stable platform. During the difficult past few years, instead of using the state enterprises support instruments given to face the sudden drop in the market, SAEL invested in this project throughout the



COATING 2 CONTROL EQUIPMENT, CORDENONS GROUP.

availability of its staff. All the available men hours were devoted in growing of our own systems, to get once again in direct comparison with European multinationals in the sector: the only ones able to build evolved controls, impossible to be obtained purchasing market products as consisting of proprietary hardware and software. The investment made and tested for about one year in PKarton and now applied in Mantua Burgo, Burgo Avezzano, paper mill and paper mill Vignaletto Tuscania, was tackled after a long and careful selection among all different MMI-SCADA software. After a thorough analysis of all the most renowned products on the market for the new up-grade the system in DCS SAEL intelligent drive the company has realized that with their use and according to the tests, you were to miss many features that were embedded in the previous paper machine supervisor. These features, which only the parent companies of multinational big names were offering (not system integrators, ie companies that buy products on the market and then manage them with a PLC and trade market SCADA), have always been the core technology for the comparison's company, which we could not lose using a commercially known product. We were then induced to seek an MMI-SCADA system with the performance of a DCS and the flexibility

of a Typewriter and was finally chosen to SCALINK Co.el.me. Genoa, with which sensational and unthinkable goals were achieved. The flexibility of the product handled and modified in its firmware in order to meet SAEL Drive and PLC communication philosophy (impossible to do with other products), led to a quality breakthrough, worthy our tradition of constant innovation. Investment was more than 12,000 man hours. Thanks to strong collaboration with Co.el.me. who runs SAEL service point in Liguria, producer of the SCADA who was using it mainly in pulp preparation, in steel, shipbuilding and energy a high performance product was obtained, that has no architecture boundaries and is expandable in the future, starting from a full-tags system.

Technological development to protect the Custom's investment



Some of the inverters forming the sectional control of a machine 1

In the establishment second coater, working since 2005, along the time several changes were made due to the demands of producing diversified products and suit the diverse customer's needs. The "Intelligent



CORDENONS PAPER MILL, coating machine 2 in line with sinchro electronic cutting machine

Drive” SAEL system was applied, using inverters specifically designed for the paper industry. This allowed rapid adjustment of the control with additions and changes to the cascading rules that were previously impossible to be obtained. In early 2010 the company was committed to achieving a change in the cascade of references to move the position of a load cell in order to optimize the production process to create a new type of product whereas at the end of the year was made machine 2 control up-grade where the wet zone drives were put in the control line. The operation was managed and implemented by paper mill staff. This choice was made to value the knowledge that over the years was transferred to the staff, that today that can manage even a so complex task. SAEL for this project provided the new drive and the study of the project itself, including them into the control implemented years before. The paper mill produced itself the control boards and tested the drives after the electric wiring was completed. The start was supervised by a SAEL engineer (the only precaution that the company wanted to), but his presence served only as a reassurance to staff who had made the change on time and perfectly in a workmanlike. Training and refresher

courses have been able over time to bring the paper mill technicians to familiarize with SAEL drives so that they now prides themselves to be able to manage and regulate any motor making evolved processes controls through simple programming tools. The product warranty that SAEL provides each user with, speaks aloud about our operative philosophy. The company is the only one in Europe that proposes and implements long-life plants solely to protect the customer’s investment, generally penalized by the continuous change of PC, operator panels, plc, drives and custom cards that require them to have stocks of many useless spares. Another important peculiarity of Intelligent Drive AC or DC SAEL is their reparability in each component which saves spare parts costs. This is a characteristic quite different from drives from the main trade manufacturers (involving the complete replacement of an inverter in case of breakage). SAEL products R&D has always been the strength of each system set up. Through the experience of many implementations in fact, thanks to proprietary research on the drive firmware, we put the line control and technology management inside the drive control board. “Intelligent Drive” series offer infinite possibilities for those who design

and manufactured paper machines. Within their own software, in fact, several blocks can be found with configurable math functions which are already being configured for all the adjustments that normally a motor, in paper industry field, is to manage. A powerful new drive management software ‘AZWORKER “, allows a simple approach to the Drive. Through this tool is given opportunity to make connections between math blocks available in which adjustments are made to process desired functions, the configurations of on-board digital and analog inputs, choosing among the previously developed regulation sets.

Month after month, year after year to drive, whether they are DC or AC, carry on-board all the SAEL know how. To end, IWSA “Internet World Sael Assistance” is included by default in every application. It allows you to remote-operate the plant in real time from anywhere in the world SAEL technicians should intervene. In practice on any system equipped with a SAEL supervisory station, SAEL drives and digital cards can be parameterized, SW may be developed or modified and the entire plant can be remotely controlled.



CORDENONS PAPER MILL STOCK, material ready for shipping