

FEDRIGONI

DOUBLES:

PLATFORM “ONE” by SAEL. The Drives architecture exclusively designed for Paper Mill



NEW INVESTMENT FOR FEDRIGONI PAPER MILLS, VERONA PLANT, INSTALLATION OF THE NEW MC3 SECTIONAL CONTROL USING SAEL - LONG LIFE - DRIVES



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After the good experience had in 2015 with the PM1, FEDRIGONI – Verona Plant – recently replaced the PM3 sectional drive equipped by Siemens MasterDrive technology, installing the SAELs **Platform “ONE drive”** system. This Platform uses the **LONG-LIFE** Inverters with “One DCS in drive” controlling and managing every possible problem directly. In July 2015 a terrible fire devastated the two continuous machines, the paper mill management decided to re-use some of the saved drives for the existing PM3, and building a new PM1 with SAEL. Thanks to the flexibility and availability of the entire Team at SAEL, the new machine was ready in two months only (a record). Seven year later of continuous production, with high numbers of reliability acquired, the paper mill management assigned to SAEL the new PM3 as well, awarding SAEL as a strategic partner for the Group.



FEDRIGONI – BOX

Born in 1888, today FEDRIGONI means excellence all around the world: for sticks, self-adhesive materials, and luxury paper for exclusive packaging and other. Over 5.000 employees in 28 nations and 25.000 products; the Group sales in 132 Countries. Thanks to the recent M&A policy, FEDRIGONI become the first world-wide player on Wine cards and special papers for exclusive packaging; the second for

the art and drawing paperers, and the third for the self-adhesive materials. The Companies Fabriano, Guarro Casas (Oct. 2022) and Papeterie Zuber Rieder (Nov. 2022) are members of the Group within the Paper division. Arconvert, Manter, Ritrama (Feb. 2020), IP Venus (Dec. 2020), Acucote and Rimark (June 2021), Divipa (Feb. 2022), Tageos (Apr. 2022), Unifol (July 2022) are the members of the Self-Adhesives division. The American distributor GPA

is a member of the FEDRIGONI Group as well. As far as the sustainability and the Governance is concerned, Fedrigoni ascribes a great importance to its path in ESG ride, targeting challenging objectives to be achieved within the 2030: 30% less CO2 emissions; 95% clean water to the ambient; dispose of waste in landfill; 95% of green certified suppliers; 67% less accidents at work; 50% increase of women employed in the management; create an inclusive job environment. Since many years ago, the paper produced by FEDRIGONI is FSC® Certified (CoC/Controlled Wood) using celluloses coming from renovated woods as much as wood residues.



Control/Command Pulpits - SAEL PLATFORM ONE DRIVE –

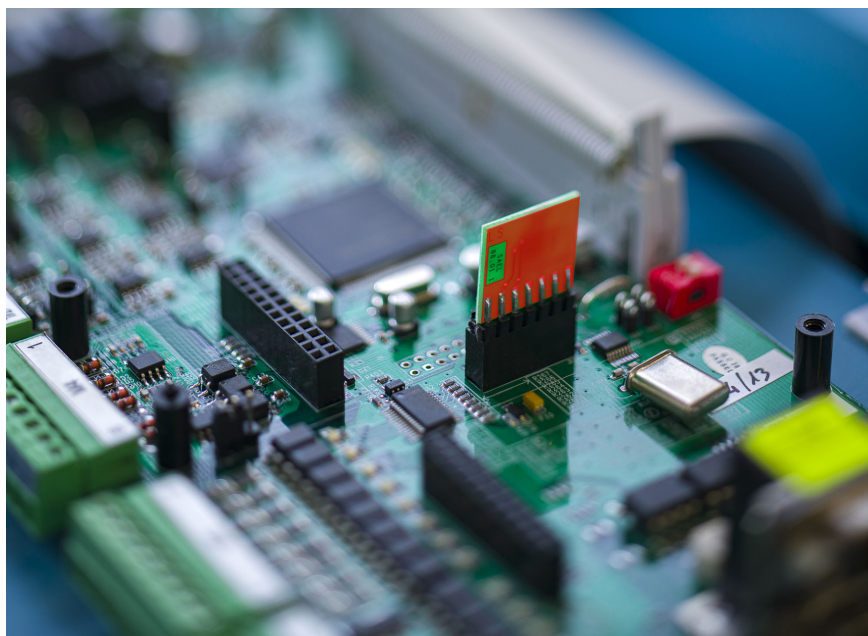
The existing PM3 at FEDRIGONI Verona

had several issues caused by components ageing and their unavailability on the market (phased out) as much as unacceptable production stops. In the past the technical management, together with SAEL, planned a flexible and cost effective PM3 upgrade, replacing the old Siemens inverters with the



ELECTRICAL EQUIPMENT: Front/Rear Drives mounting to a space saving -SAEL PLATFORM ONE DRIVE-

Platform “ONE Drive” SAEL saving the DC Bus by the “ONE REEBORN” as much as the existing Electrical Cabinet end electro-mechanic. Nevertheless, the reliability comparison between our 2015 drive and the existing PM3 pushed the management to go for the total machine renewing. Last, but not least, was the Safety issue: switching every single inverter equipped by an active pre-charge on the DC-BUS. Today the Drive is switched and reengaged from the DC-BUS without stops (this is an important feature avoiding condensation from the dryer area). The inverter switch is activated from the control desk via a “locking selector”: an operation safe proof. This option was not available before. The job timeframe, shorted by the machine situation, had to deal with the lead time of some components, PLC, electro-mechanic. This forced SAEL to speed up the manufacturing within two months vs the four required in a normal situation. The strong synergy between the paper mill and SAEL speeded up the dismantling of



The extractable EEPROM flash memory used for every ONE Board. It allows quick replacement with no further settings

the old equipments. The involvement of SIMI Lucca (SAEL Service Point) gave a plus on wirings and the new cabinets installment. A huge task force who cancelled any doubt on getting the job delivered on time.

The SAEL Platform “ONE DRIVE” Launched in 2011, the “ONE Drive” is an innovative technological platform,

as much as the alternative to the most popular Drives available on the market. Since the 2011, against the market tendency, SAEL uses a unique control board who fits for all the applications: DC; AC; Chopper, Brushless and Reeborn (Reeborn is a system who saves the original power section of the existing DC Drives). It is by far the greatest solution having one



POPE Zone view at Cartiera FEDRIGONI - SAEL PLATFORM ONE DRIVE –



FEDRIGONI Verona. Machine view, from the wet zone to the pope

single spare part for all the equipments. Thanks to the EEPROM, in case of fault the replacement of the board can be easily made in 3 minutes: actually, the EEPROM supports the "Platform ONE Drive" and get stored all the parameters of the unit to be replaced. The operation can be easily handled

by people without expertise. No informatic skills or PC are required.

The ONE Drive inverter series, made for Paper Mill applications, are equipped by Film Capacitors vs. the Electrolytic normally mounted by the competitors: this allows to ensure a long life of the inverter vs. 60.000/70.000 hours of cycle. No regeneration procedures are required whenever the drives are stocked.

Last, but not least, SAEL supports the customers by the remote control installed into the DCS in Drive ONE. Any problem occurred can be detected and quickly solved.

The DNA of SAEL is to be Customer and Application focused. That's the successful key after over 36 years of practice in the automation field.

Some Job highlights

at FEDRIGONI: 1,6 Mw power installed over 30 Inverters as the entire PM3 Drive. To a more cost-effective spare parts solution, the Inverter sizes are optimized into 5 size only. In case of any fault, the machine can restart quickly having PLC and spares on stock. 1 single "ONE" Board is the only spare part related to the Inverter. Those units remained the same: either for the MASTERCAN 2011 or the actual; 2 DCS REDUNDANT Supervisory Stations with sophisticated tools of control and diagnostic in case of paper breakage; 7 HMI Operator PANELS (in redundancy to the DCS) show every motor setting and machine operator driving. The job immediately paid back the efforts made. The start up was good and met the scheduling expectations. Since the beginning of the offer everything was calculated escaping the material unavailability issues (Covid, War, and so on).

... From the Paper Mill:

"A standing ovation to the SAEL team who professionally solved the materials



The “PLATFORM ONE DRIVE WATER” Inverter series, equipped by ONE Card (unique board used for all the applications: DC-AC and Reborn) and Film Capacitors, gives a long life to the inverter.

and components unavailability issues: a critical daily problem to deal with. The openness of the paper mill people, the skills, and the high spirit of cooperation with the SAEL team, allowed to overcome this situation. During the engineering stage of the job, step by step, we countermeasured every single hit. The great result achieved offers us an unrivaled consciousness and serenity. Thanks to the good performances of the PM1 drive made in 2015, together with this great last job, we can feel safe for the next 30 to 40 years” ...

From the last years of continued growth, SAEL structured itself sustaining the increase of the jobs, as much as the technology evolution. The research pushed us to be more competitive against the biggest world-

wide brands and players – n.d.r. Paolo Andrighetti – using standard PLC combined to our “ONE Drive”. An easy architecture without patented hardware: This means less spare parts issue, flexibility, and friendly use. This is the Value selling proposition of SAEL. Since the beginning, the components and products research were our focus, our aim. Our accurate policy brought us to focus the technology into our drives, transferring into them part of the control and management”.



always with you