



SAEL s.r.l.

**bilancio 2018 ancora
con il segno più**

Paolo Andrighetti, technical-commercial responsible of SAEL paper division, draws a forecast balance of the company's activities during 2018, highlighting the strengths that have allowed the acquisition of many new orders/projects both in Italy and abroad.

by: **Fabrizio Vallari Edinova**

After recently having celebrated the 30th anniversary of its foundation, the Italian company **SAEL** draws a preliminary statement of the year about to close: numerous open orders, increase of activity abroad, continuous spread in the paper sector with Platform ONE, the innovative and performing system that allows, combined with the new series of drives with water cooling, to reduce drastically the size of the electrical cabinets, at the same power used. Over the years, the company has created an important market share of electronic applications dedicated to the world of paper, relying in particularly two elements in the relationship with its customers: the research for the cost savings of the installations on one hand and the reliability of products and systems on the other hand. The turnover related to the activities in the Paper Division (which covers 75% of the company's overall business cycle) is increased at 2018 by a 10% compared to the previous year. With an increasing turnover and around 60 employees (increasing up to 120 including the service points spread through the Italian territory) the company has registered an increase in orders from abroad, with many European paper mills that show understanding and appreciation of the difference between a "commercial" product and that of SAEL, made to last and build specifically for the paper mill. "The good result is mainly due to the systems born in recent years that are now applied in all the

paper mills"-declares Paolo Andrighetti, technical-commercial responsible for Paper Division of SAEL- and the reuse the existing drives, largely reducing costs. In practice we are able to put old machines and electronic equipment back to conditions of maximum efficiency with costs much lower than new ones. And we are proud because the results we are collecting allow us to deal with the sector's big multinationals.

Enhancement of the Service point Network.

In line with the company policy aimed at strengthening its presence more and more in the areas established in the paper mills- in order to guarantee assistance that goes beyond the classic supply of Automation and Drive- in the last year SAEL has created new service points. In Lucca for example, except the historic Service Point of Simi & C has began a partnership with Elettronica



The inverters of "PLATFORM ONE DRIVE" equipped with ONE card (the only card for all type of drives DC-AC-Brushless)

Lucense, a well-established company in the area for more than 40 years, in order to meet the growing demand in the Lucca area, allowing SAEL to replicate in the area what is done in the main factory of Vicenza. In the region of Lombardia instead, together with AISCON of Cernobbio(Como) with which SAEL is collaborating for some years now, is created another center that in addition to the drives allows to better follow all the paper mills of the area and to provide 360 degree of automation in the related mills.

“The firepower, knowledge and flexibility in every area of the paper industry- states Andrighetti-permits to guarantee to the customers one service of consulting and know-how that is offered only by the emblazoned international firms. The use of Open Source, typical of our philosophy is to train and to provide our Hw-SW to the personnel of the paper mill, saving the paper mill from the problem of the obsolescence of electronic systems and the impossibility of maintenance people to intervene on the plants, that in the recent years have been penalizing the end customer.

The goal of SAEL in the next few years linked to the service points is to make the facilities autonomous in dealing with and

implementing every request of our customers with personnel exclusively from the area”.

-New Systems- The first Drive for paper mill cooled with water:

This year, after numerous applications carried out in the last two years for the sector of TBM and machine for metropolitan and Tunnels, we have particularly refined the range of our water cooling inverters. The experience gained in this field and the ultimate performance, also in the aspect of energy saving, has led us to propose also the water cooling in the paper mills.

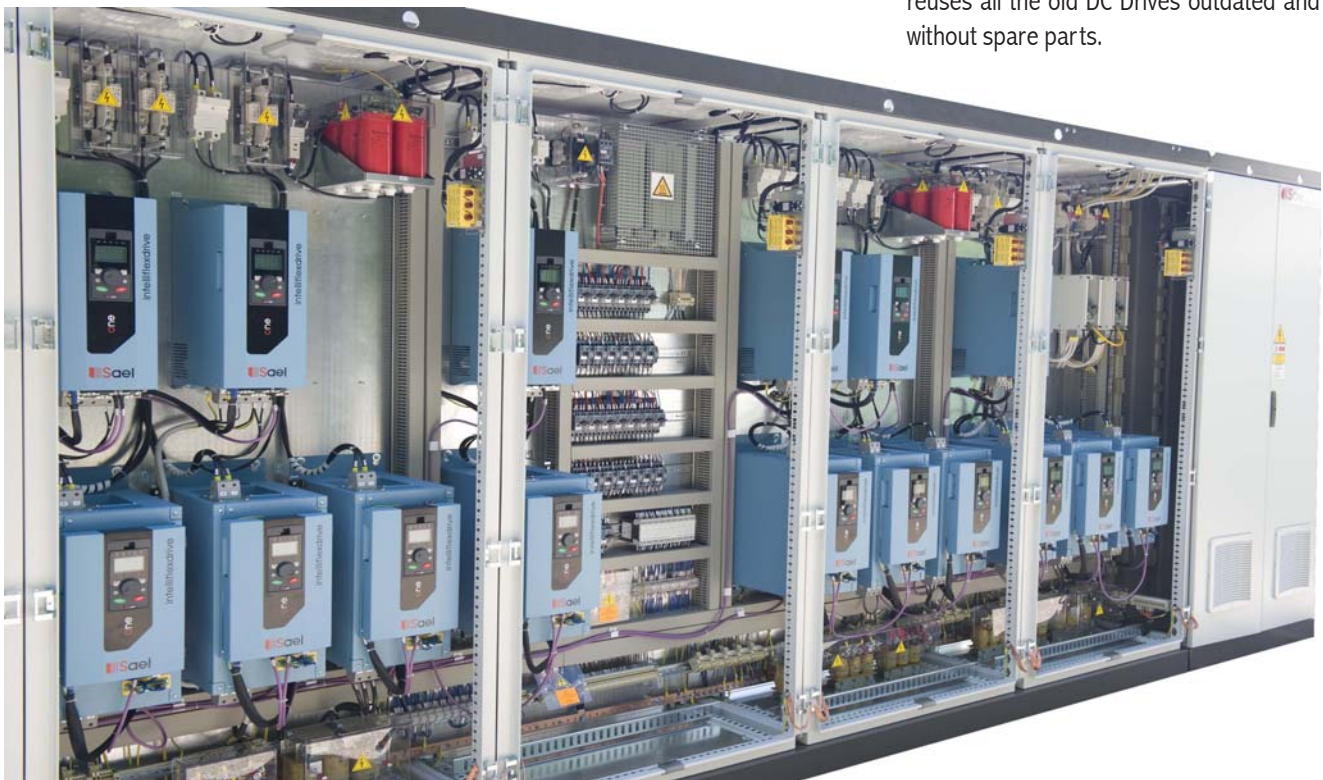
For these reasons, the reduction of space and driven by the high trend of Cartiera SACI group in search of high technology products and systems, we will carry out the first water cooling plant in paper mill PM3. In December 2018 we will start-up the new sectional drive that will replace the old drive system together with many transformations that will be done in the paper machine. The drive system will control

The powerful points of the system “Platform ONE Drive”



REBORN one CARD replaces all old obsolete cards of all DC drives existing in the market, reusing the existing cabinets; guaranteed save of up to 50% of the investment “PLATFORM ONE DRIVES”

The technological “Platform ONE Drive” launched at 2011 from SAEL represents an innovative and effective alternative in the Drives market. In full contrast to the market, SAEL from 2011 uses only one regulation card that controls all the Drives produced by SAEL: DC, AC, Chopper, Brushless and reborn, with the latter being the system that reuses all the old DC Drives outdated and without spare parts.



Electrical cabinet of sectional drives with inverters of series “PLATFORM ONE” drives.

In practice customers need only one card as spare for all drives, Reborn and reference cascades. SAEL also guarantees its replacement in the event of an electrical fault at only 3 minutes, having equipped ONE with a ductile memory that contains all the data and software, removable and easily replaced by anyone, even without experience in the drive.

Actually no programming, parametrization or operation reserved to the world of technicals with the aid of PC is necessary to restart with a SAEL Drive in case there is a replacement.

The inverters of series "ONE DRIVE" realized with the philosophy of primarily meeting the needs of the paper mill, have been equipped with film capacitors, in stead of the electrolytic ones used by other competitors(that have a lifetime of around 60/70.000 hours depending on how they are used) while the lifecycle of every inverter of SAEL is infinite, as there are no internal components that deteriorate.

Telemanagement and the possibility to monitor any single problem coming for our drive through the "DCS in Drive ONE", complete the platform that other that saving the spares, guarantees their easy substitution and one long life of the system. The careful technical analysis that is done in the cost reduction of the paper mills, in the choice of reliable Drives and the after sales service offered by the supplying company, have enabled SAEL to emerge in the electronic automation and Drive suppliers.

**VT3-VW Series
Water Cooled
with S.T.O.**



The new inverters cooled with water, developed to drastically reduce the overall dimensions "PLATFORM ONE DRIVES WATER"

The most relevant activities realized by SAEL group between the end of 2017 and 2018 are:

- Tecnopaper- New winder 2500m/min for paper mill Bulleh Shah- Winder Valot
- Argentina-Winder Pol-Mak Poland-Bashundhara(Bangladesh) 2 Winders for Tissue with GAP Calender;
- Cartiera Papiro Sarda paper machine drive and DCS.
- MBM- embosser Mosaico Lugo;
- PM3-revamping Varidur-sectional Drive of paper machine, first plant with cooling water inverters-revamping and expansion of PLC control and SCADA in successive steps, for various sections of the machine such as pulpers, stock preparation, felts,

presses, dry part, calanders and various auxiliary systems, including new systems and equipment. Implementation and progressive expansion of a data system for consumption (electricity, heating and other energy carriers) and production, for obtaining tax refunds and monitoring continuously the production parameters.

-Cartiera Saci- Fan Pump 200Kw - modification of MC1-MC2-revamping and expansion of PLC control and SCADA in successive steps, for various sections of the machine such as pulpers, stock preparation, felts, presses, dry part, calanders and various auxiliary systems, including new systems and equipment.



The only regulation card equivalent for all types of motors DC-AC-BRUSHLESS-CHOPPER AND REBORN (system to reuse the old drives of all models), of series :PLATFORM ONE"





The new electrical cabinets for the drive of Calander 1-2 of Burgo and of the calander 2-3 of Ermolli paper mill

Implementation and progressive expansion of a data system for consumption (electricity, heating and other energy carriers) and production, for obtaining tax refunds and monitoring continuously the production parameters.

-Bulleh Shah Pakistan – Revamping of reel KL200 Valmet – Splicing table reel KL1000.

-Cartiera Di Nebbiuno- Automation and Inverter Pulper 200Kw.

-Mosaico Chiampo – Revamping Winder De Juilliis;

-Mosaico Lugo – Pope reel A.Celli:

-Toscotec – Drive paper machine Cartiera Di Rivalta and DCS of machine- Cardboard machine Stretchers- Electrical, fluidic and software engineering, electrical cabinets and electrical system for the Vinda Group and for other customers in Italy and abroad- For Cartiera SACI control panels and software PLC and SCADA for new calander with floating cylinder;

-TOSCOTEC, for ISTITUTO POLIGRAFICO ZECCA DELLO STATO(Foggia).

Electrical engineering of control system DCS ABB, electrical and fluidic engineering on machine, electrical panels supply, software logic for machine control, software for pope reel control with safety PLC.

Cart.GIORGIONE – Complete revamping of drive system, PLC and SCADA for pope reel of machine, implementing a clear operator interface and including new functions for diagnostics.

-Reno De Medici Ovaro – revamping Winder Variflex;

- Milltex 9 sheeter Syncro paper mill destination China- Sheeter

Syncromaster MEL Greece- Embosing machine at Italian paper mill- Sheeter Syncro paper mill destination India.

-Cartiera Ermolli – automation and drive Calandra 3- automation and drive

- Automation and drive calander 4 –

New central thermal power station; Supervisor and control of the new central thermal station in the plant, with automation interface with Modbus TCP and OPC DA 2.05

-Freiria – pope reel automatic line Non woven;

-MEL – revamping sheeter Duplex

Jagenberg – Revamping sheeter

Bielomatic – automation and drive of couch roll;

-ST Macchine – Automation and drive pulper destination Russia;

- Cartiera Del Vignaletto – rebuilding of drive MC5 and fan pump;

- Toscopaper – Modification MC aspiration cylinder and fan pump - MCC cabinet and machine system for 160Kw vacuum pump- new cabin for cogeneration and gas lines – cabinets for the exchange of lines from gas



The VARITOP Jagenberg BURGO where is rebuild the drive and automation: telebock-Teleset-Teleperm-PLR



Rebuilding Drive and Automation- Jagenberg Dublex sheeter, MEL Thessaloniki Greece



New drive and automation, of Milltex sheeter, MEL Thessaloniki Greece



Global DCS, MC3 Cartiere Saci

to cogeneration - on-board wiring machine for the suction cylinder, pickup and steam tank;

-Mosaico Lugo – revamping Sheeter T2 Jagenberg;

-Burgo Sora – revamping Vari roll

-Burrows Holland- revamping sheeter;

-Cartularia – revamping winder Jagenberg;

-Group Cordenons – revamping embosser 4;

-Burgo Villorba – revamping calander 2;

-ESSITY (SCA France) – DCS and drive pilot machine with Hicredit – SCA converting; Alimentation lines, network and service for new lines.

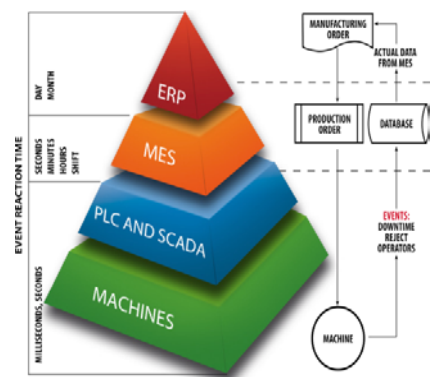
-Cartiera di Rivalta – drive for helper wire;

-Cartiera Pieretti – drive for press, helper wire and calander.

-SOFT – Drive and automation complete machine Non Woven;

- Industria Papelera Divino Ninos (Bolivia) – Start up drive and DCS for paper mill. PCC panels, MCC panels and wiring for water management, stock preparation, headbox and machine service.

Start up water treatment: PCC panels, MCC panels and MCC panel wiring for vaccum pumps.



- Reno de' Medici: interface MES (Manufacturing Execution System)

Data collection and common front end for measurement and control of the various machines present in all the plants, initially those of Villa Santa Lucia, Santa Giustina and Ovaro. The system is based on a Scalink station in every plant, that performs bi-directional data exchange with the upper level using the OPC UA standard.

- Burgo Group Sarego: Industry 4.0, the plant of Sarego of Burgo Group has been chosen to test the brand new data acquisition from the plant through Oracle that uses the OPC UA standard. The Scalink supervisor, used in this case as a concentration point for all plant data and storing historic values, has been successfully updated to support the OPC UA server functionality.



Automazion and DCS Press area - MEL Grece - Shoe Press Voith



MEL paper mill, Sectional drive



Sectional drive and DCS, Cartiera di Vignaletto, Verona Italy

- Burgo Group Sarego: Migration of the Cellier system, the Cellier system for the stock preparation of the paper mill of Sarego Burgo Group has started to have serious problems of obsolescence. With the use of Scalink supervisor, a special data exchange interface is created in order to allow a gradual replacement of the existing system without interrupting the service.

-RAIPAPER SRL – Paper machine modifications for both the wet and dry parts. 2 systems for plant fiber optic network and cisco firewall/server VPN-upgrade of printing machine.

-A. CELLI PAPER SPA – Start-up intervention of winder T100S, Mexico-winder Tissue T80S – revamping of winder Tissue –South Africa.

-A. CELLINONWOVENS – Substitution of masterdrive Sinamics at winder, China – installation and commissioning on paper machine TOSCOTEC, Indonesia – 5 upgrades of masterdrive Sinamics – 2 upgrades z-fold winder nonwoven.

-Cartonificio Sandreschi Srl – Thickening screw system.

- SER.PA.M SA Paper mill Greece – New panel for dry part and wire helper.

-Lacquacard Srl – electrical panel with PLC for purification management.

-Tronchetti – Project and realization of core cutter (anime)

-Isola Della Carta Srl – upgrade drive for PE coating.

-Cartiera S.Stefano Sas – Automation winder with printing.

-Century Paper and Board Mills Ltd – Modification to add size press PM4.

PCMC- Paper Converting Machine Company – Winder and machine on board wiring.

-U.C- United Converting – Winder and on board machine wiring.

Thermal power plants:

Implementation, through Scalink API, of the mathematical models developed by the University of Genoa for the main components of turbogas thermal power plants.

Using these models it is possible to evaluate the deviation in time from operating curves in the different regimes. In addition, the start-ups and stops of the gas turbines and steam turbines were memorized so that the various operations could be compared.



Box SAEL:

Specialization in the Paper Industry

SAEL operates from 1987 in the sector of industrial automation, as a designer and manufacturer of electronic control and regulation products and equipment for machines and plants in various sectors. The sectors in which has more experience and numerous applications are: Paper Industry, steel industry, wire industry, plastic and tires, machine tools, special machines. In particular the paper and related industries are for SAEL fields of strategic intervention. Strong experience and high technological solutions and innovations, offers to its customers Hardware and Software architectures directly linked to the requests proposing diversified solutions aimed at optimizing costs, management and quality. The activity is

based, in addition to the new, on the rebuilding of all the electronic automations in which, in some cases, it is possible to reuse also the power of the existing converters and the electromechanical drive part. The specializations in this sector are: sectional controls with DC, AC and mixed technology; additions of motors on existing drives; Coaters in line and offline; conversions of analogue cascades to digital; calenders and supercalandres; Stock preparation with PLC or SAEL technologies; winders and slitter rewinders; synchronous or fixed blade sheet cutters; pope reels and unwinders.

The “PLATFORM ONE DRIVE” Inverter is made for Paper Mill Industry. They are the most innovative solution in the market. Their mission is the long life, and easy to be repaired; flexible and easy to drive. All our drives are equipped by the ONE Card – A Single board fits all the drives: DC, AC, Brushless and Reborn -, Film capacitors for a long life inverter.

