



## A STEP ACROSS THE CHANNEL...

**The Drive-automation system exclusively, developed for the Paper automation industry. Chosen by SONOCO Group and applied at Stainland UK; from the Sectional Control to the new Approach system.**

# SAELsrl. SONOCO Stainland UK

by: **Paolo Andrighetti, BU paper, SAEL**

Another win for the innovative **"Platform ONE"** by **SAEL**: the high performing system designed to manage the Paper Mill Automation and Drives, energy saving and cost competitive. To pursue its mission on premium quality production, and after a careful benchmarking made by its focused team, the American Group **SONOCO- Stainland UK** chose the technological solution proposed by **SAEL** vs. other important world top players.

### SONOCO Stainland UK

The Sonoco Group is a global packaging solutions leader: An International, American based Corporation, with over 165 plants in the world. Sonoco is a leader in high quality tubes and aims, providing solutions and services to Paper Mills; Construction Companies; plastic fibers and metallic films Companies; and Others. Since the beginning the Stainland UK Plant is the core for the entire Group production in UK.

### Typical problems encountered by the Paper Mill

After the Sectional Drive transformation done in 2018 – which involved the dry section with PLC and Inverter by ALLEN BRADLEY – the Paper Mill had to rebuild the

wet area in 2020. The head of the team Eng. Phil Woolley, together with Massimo Basta, visited many European and Italian Customers supplied by SAEL over the years, becoming progressively convinced of our Platform ONE solution as well our Intelliflex Drives. The quick phase out

### VW WATER COOLED SERIES with Safety Torque Off



**The inverters of the "PLATFORM ONE DRIVE WATER" series, equipped with ONE card (single card for all types of DC-AC and REBORN drives) and Film capacitors, guarantee an infinite life of the inverter.**

process of the Drives formerly used for the dry section, pushed them to spin around, looking to a longer life and reliable product like our ONE Drive is. It took time and several visits/ interviews, as well as a careful benchmarking process, but at the end they decided for SAEL.

The Platform “**ONE Drive**” focused on Paper Automation market, is the only one that uses a common Main Intelligent Board for all the applications like paper machine, winder, unwinder, wrapping machine, stock prep, sheeter, calander and so on (AC, DC, BRUSHLESS, CHOPPER and REEBORN). We’re used to say: “ONE Board fits all!”.

The ONE board is equipped with a plug-and-play Flash Memory Card, easy to be handled and replaced by anyone, Actually, **no setting and programming actions are required** in case of Drive replacement and re-start. The Platform “ONE Drive



consists of **LONG-LIFE Inverters** VT-VG-VW Series: Since 2007 Inverters engineered for a very long-life use. The components used are properly dimensioned as well as the use of Film capacitors instead of Electrolytic. (eg. An electrolytic capacitor has a life-cycle of about 70.000/90.000 hours; the film

capacitor is almost infinite). The design allows easy repairing in case of fault. All the features mentioned above, show the policy of SAEL: a choice against the typical philosophy of the common brands (Drives with a short life-cycle like in the commodity and home automation market). SAEL does not confuse the customer by



Wet area of the paper mill machine, SONOCO STAINLAND UK





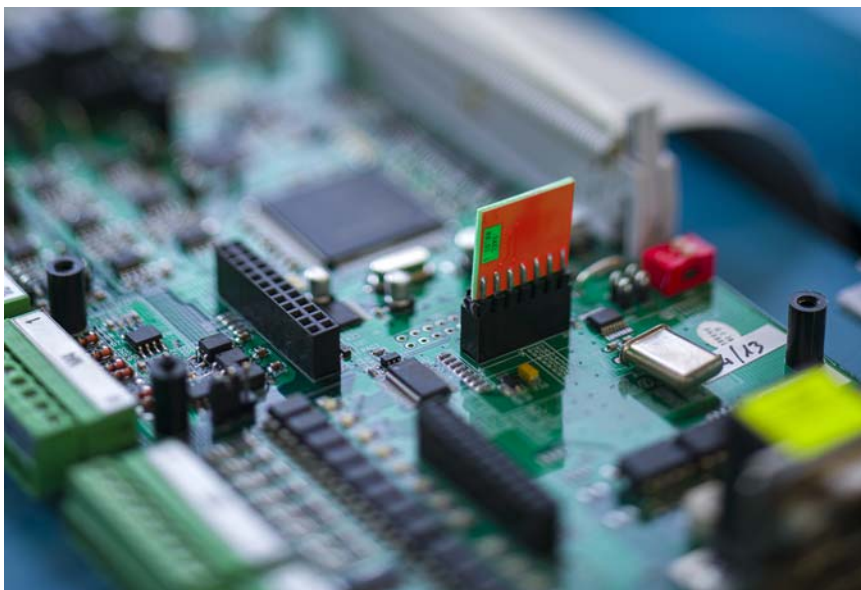
**PRESS ZONE MOTORIZATION, ALL THE AC MOTORS OF THE MACHINE HAVE BEEN SUPPLIED**

phasing out quickly the models: we go for the difference. The remote IWSA control (Internet Worldwide Sael Assistance) and the “DCS in Drive” – with a full diagnostic – complete the offer of the Platform ONE. The Main Control made for SONOCO is the practical example of that: the technical European manager Eng. Massimo Basta with his team, developed a flexible investment with

a low impact and cost. Another important step of this project was the safety of the entire machine having the option to select every single section – in safe mode, as well – Those are the value selling points of SAEL – expert in Paper Mill Automation since 35 years - that positively influenced the choice of SONOCO.

### **The project implemented by SAEL**

It was, and it will be, a strategic job divided in two steps by SONOCO. In August 2020 – Step One – we started the Sectional Drive supplying the new MCC cabinets of the “Approach” (all finalized to the Step 2: Forming Cylinders transformation, in April 2021). As a consequence, to



**The only regulation card that is the same for all our convectors DC-AC-BRUSHLESS-CHOPPER and REBORN (system that recovers all DC drives of any model) of the “PLATFORM ONE DRIVES” series.**





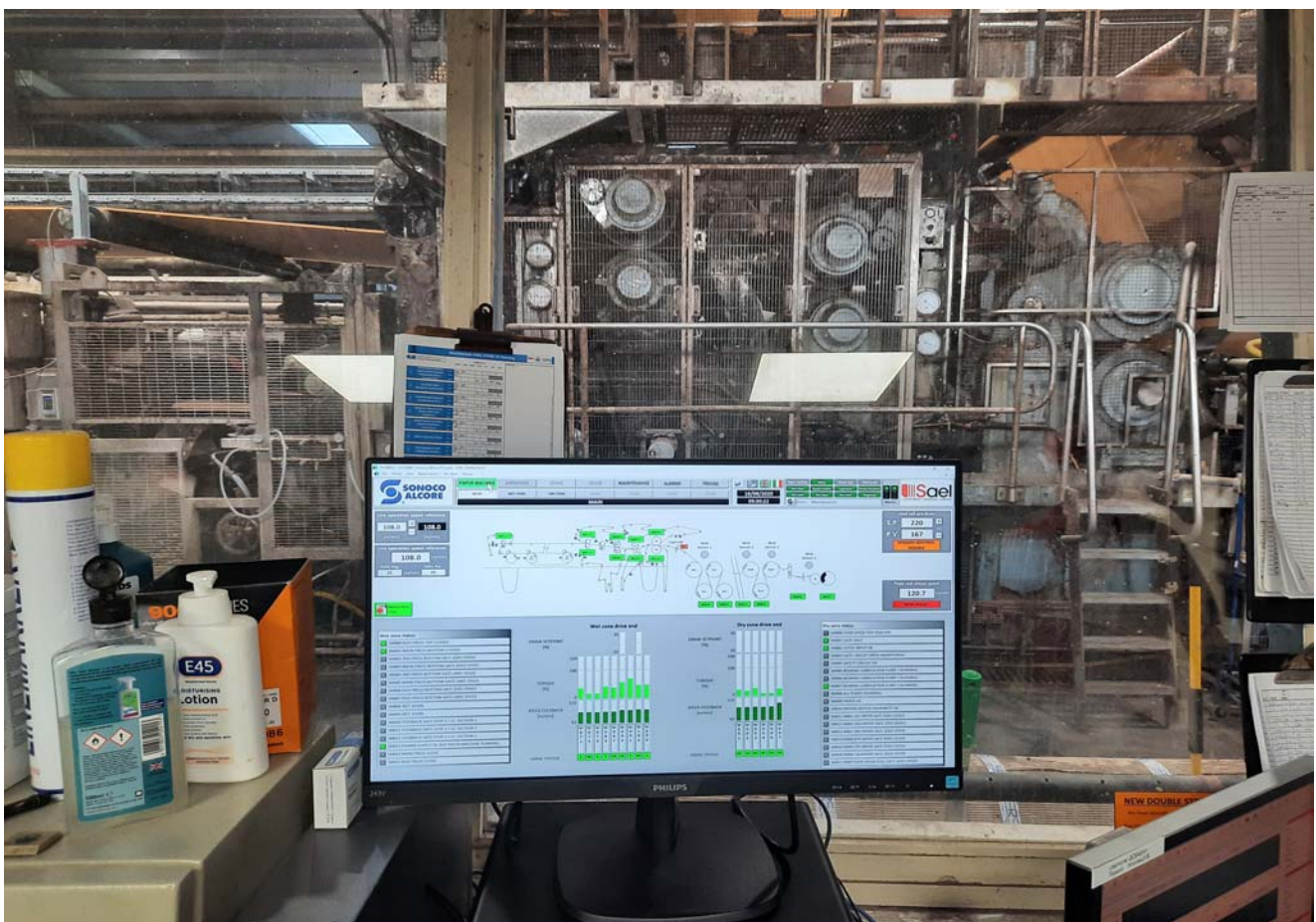
Detail and production of the “Intelligent Drive” inverters, an exclusive “PLATFORM ONE” series by SAEL

increase the production, the Paper Mill worked on structural modifications in December 2020. During the fifteen days of breakdown in August 2020, we supplied and started-up all the Paper Machine

Drives, as well as few Inverters of the new MCC “Approach”. The job made during the COVID-19 pandemic, immediately paid back the efforts and the long preparation occurred.

### Some highlights of the job at Stainland UK:

1,3 MegaWatt installed, divided in 26 inverters and motors managed by an AB PLC with integrated file Safe. To save spare parts and stock costs, the



DCS in DRIVE SAEL, wet area station - the absolute control of Drives - SONOCO STAINLAND UK paper mill





Wet and Dry area of the paper mill machine, SONOCO STAINLAND UK



POPE reel, SONOCO STAINLAND UK paper mill

inverters are standardized. Two redundant DCS Supervisor Stations, equipped with sophisticated software tools, used to manage and control all the machine operations (e.g. operations made in case of paper breaks). 3 Pulpits with operator panels (in redundancy with the DCS): in case of hardware crashes these enable the personnel to any manual operation.

In 2021, the paper mill also assigned us the orders for the revision of the MCC, new DCS and the engineering of all the cable routes related to the new approach. In addition to the inverters, soft starts and various Dol utilities, the MCC order given to us also provided for the supply of all AC motors involved in the reconstruction. By the end of the year, all this work will also be launched in Stainland and the entire paper mill will now rely on the Scalink and Siemens PLC 1500 series architecture.

Other “**PLATFORM ONE DRIVE**” features are the powerful “DCS in DRIVE” controller – version 2020 – that stores and displays on trends every operation, machine state and existing variable managed by our Inverters. A real engineering station capable to govern the entire machine, setting and programming every single device, every drive and existing hardware, PLC and so on. Since the beginning the customer got the potential of this Station that allows displaying and storing events happening in the electrical cabinets, rather than recording any action made by the machine operator, modifications included.

Through the “**Help Alarm**” – smart editing function - the “DCS in DRIVE” in redundant stations, permits to fix





problems and re-start the machine whoever the operator is. Clicking the alarm icon, the operator can get the electrical diagram related to the event, the sensor or hardware device involved. Moreover, allows to attach a video self-made for documentation scope. In case of problem/fault/error, the **"MAIL"** function, available on "SMS alert" (upon demand), generates a message to be sent to the technical team for a prompt intervention. Via PC the operator can access to the system wherever he is, simply using the **IWSA** option (standard on every DCS of SAEL): this function connects the technician to the machine for a quick re-start. Every operation made through the two PC's of the Paper Mill –linked to the other PC's of the plant via intranet – is available on "client" mode, accessing from other sources outside the network – without participants limit, for two hours maximum – Last, but not least, is the **"TREND"** function that helps on seeking regulation errors or other issues. It stores all the actions done and, In case of paper breaking, it shows if the root cause is generated by the automation control, or the operator, the drive, or whatever else.



**High efficiency  
SAVE MONEY  
and  
SPACE**



## SAEL BOX:

### Paper Mill specializations:

Born in 1987, Sael offers Integrated Systems and Process Controls for Industrial Automation. Within our mission, **Customers First.**

SAEL was awarded the title of tailor maker for any automation system. SAEL is now a leader in the Paper Industry.

The big technical imprinting allows us to offer custom solutions: from Heavy Duty up to the General Purpose. For the Paper Mill Industry, especially, SAEL offers highly sophisticated and innovative technical solutions.

Hardware and Software custom solutions for any customer needs. Beside the complete new equipment production, there is a focused Team who works on re-engineering – most of the time saving a lot of existing components like the original power section or electro mechanic parts and so on. The main application they are working on are: Sectional Drives with DC, AC and Mixed Technology; Motors



implementations; In-line / Off-line Coating machines; Analogical to Digital cascades conversion; Stock preparation by PLC or SAEL technologies; Rewinders and

Slitters with cutting units and frame position; Winders and Unwinders; DCS and QCS controls, close our experience in paper Industry



***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.***

