

Solution, Research and Innovation: the strenght of SAEL

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for SAEL's Paper Division, provides an overview of the company's activities over the past post-Covid year, highlighting the strengths that have enabled the acquisition and supply of many new orders both in Italy and abroad.



**High efficiency
SAVE MONEY
and
SPACE**

Sael
automation electronic systems

by: Carta & Cartiere editorial staff

During these challenging three years, our business world has had to grapple with issues stemming from the advent of the Covid pandemic: from plummeting sales to organizational difficulties during continuous lockdowns; from delays in investments (even those already defined and assigned) to the current and persistent difficulty in sourcing materials increasingly hostages to the economic policies dictated by multinational corporations towards the world of System Integrators. We all speculated that the post-COVID situation in 2023 would bring a respite, but we were wrong... The current microprocessor war and the ongoing supply instability are still putting every company to a tough test. Fortunately, this largely affects **SAEL** only minimally, as the company, leveraging its DNA, offers products and materials entirely produced in-house. This has allowed them to continue keeping pace with supplies, ensuring spare parts and product support for items that have been in operation for nearly 37 years a significant gap when compared to competitors who, even just 10 years after adoption (in the best-case scenario), render their catalog obsolete. The year 2023 will conclude with numerous ongoing projects, increased activities abroad, and the

continued dissemination of the **ONE Drive platform** in the paper industry: an innovative and high-performance system that, thanks to the new series of liquid-cooled drives, drastically reduces the size of electrical panels (for the same power used), ensuring significant energy savings and greater protection of components in the panel (electronics/drive) never seen before. The paper-related business has always been **SAEL's** main focus. In fact, in 2023, our market share reached 75% of the entire portfolio, increasing by 15 points compared to the previous year.

What can be attributed to these excellent results?

Over the years, **SAEL** has carved out an important space in electronic applications dedicated to the paper industry, leveraging two key elements with its customers: the search for savings in installations on one hand, and the reliability of its products and systems on the other. We have recorded a significant increase in orders from foreign investor clients, demonstrating an understanding and appreciation for the difference between a "commercial" product and that of **SAEL**: built to last and specifically designed for paper mills. The

good result can largely be attributed to technological solutions developed in recent years, now adopted by all paper mills, often reusing existing controls and significantly reducing costs. In practice, we manage to restore old machines and electronic equipment to maximum efficiency with costs much lower than buying new ones. We are proud to note that the market's consensus leads us to a direct comparison with major multinational companies in the sector.

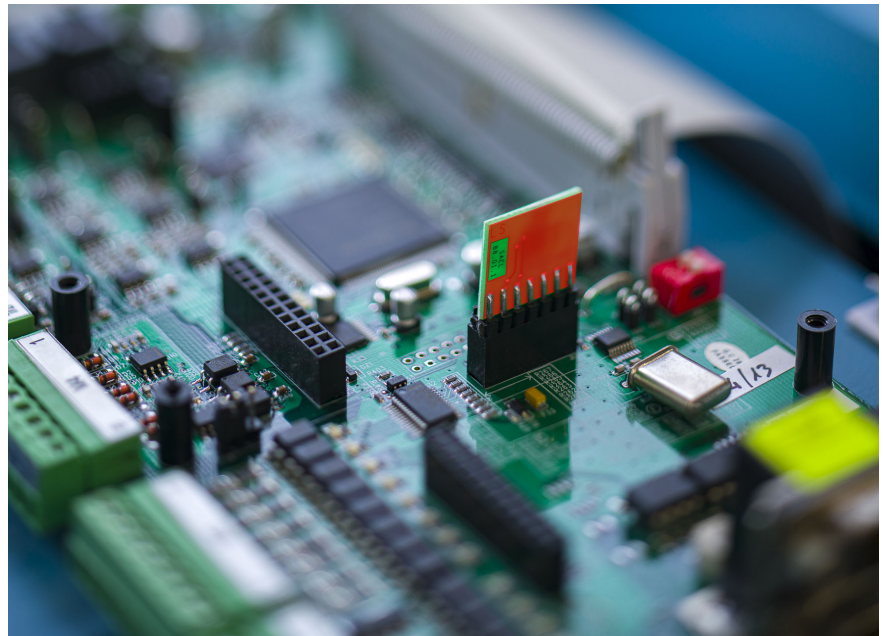
How are the new innovative commands for paper mills water-cooled performing?

After a long history of implementing and fine-tuning our controls, investing many resources to meticulously refine and engineer the range of our liquid-cooled inverters, we have launched three more controls in Europe in the last four years. The extensive study conducted over these six years, coupled with the twenty years of experience gained in other water cooling sectors on drives, has led us to achieve excellent performance, especially in terms of energy saving (already four active commands with a total installed drive power of about 8.5 MW and one in development for 5 MW). This success is increasingly



Jagenberg VARISTEP rebuilding: after 7 days of start-up, the first lifting, immediately judged satisfactory - PLATFORM ONE DRIVE SAEL

encouraging us to propose water cooling in paper mills. The advantages are significant: reduced space, elimination of all fans on drives/electrical panels, and in all air-conditioned control rooms. No contamination from dust and moisture, even in an acidic environment, resulting in the preservation of electrical components while simultaneously ensuring high energy savings and cost containment that increases proportionally to the cost of materials used for energy production. Six years after the first installation of this technology, of which we were pioneers in the European paper industry, we are very proud of the great feedback received on energy savings. The inverters installed in the control panels of our four reference paper mills (Saci-Ermolli-Fornaci-Sonoco GR) and the condition of all electrical and electronic components within the panel appear as new. Consider that one of the four paper mills, given the performance achieved, has also invested in liquid cooling for the entire pulp preparation, replacing all existing inverters with PLATFORM ONE SAEL's Liquid Cooling.



The removable memory that equips each of our electronic boards allows quick replacements without any programming.

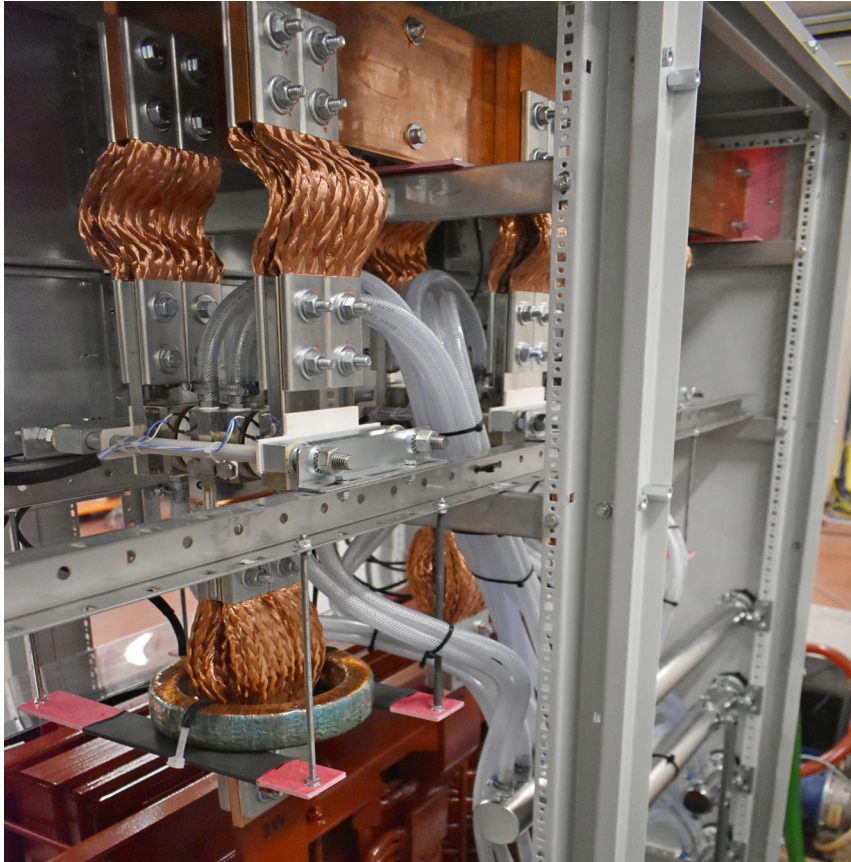
What are the strengths of the Platform ONE Drive system?

The Platform ONE Drive technological platform, launched in 2011, represents the true alternative to traditional systems in the drive market: effective and innovative. In

contrast to competitors, since 2011, SAEL has used only one control board that commands all produced drives: DC, AC, Chopper, Brushless, and Reborn (the latter is the system that recovers all obsolete and spare parts-depleted DC drives. In practice,



In the BURGO group, during the 37 years of SAEL's activity, almost all types of existing Rewinders and several JAGENBERG - BIELOMATIK Sheeters have been rebuilt, re-commissioned and installed in the different production sites; some photos of the different winders: JAGENBERG VARIPLUS - VARITOP - VARIROLL - VARIDUR - VARISTEP - BELOIT - SDW - VOITH - DEJULIIS



UP and Down pictures:
At SAEL we have been dealing with water cooling for more than 30 years, examples of some typical applications done. On the left a 5000 amp DC drive, below a multidrive cabinet for a Tunnel Boring Machine and the View of the machine

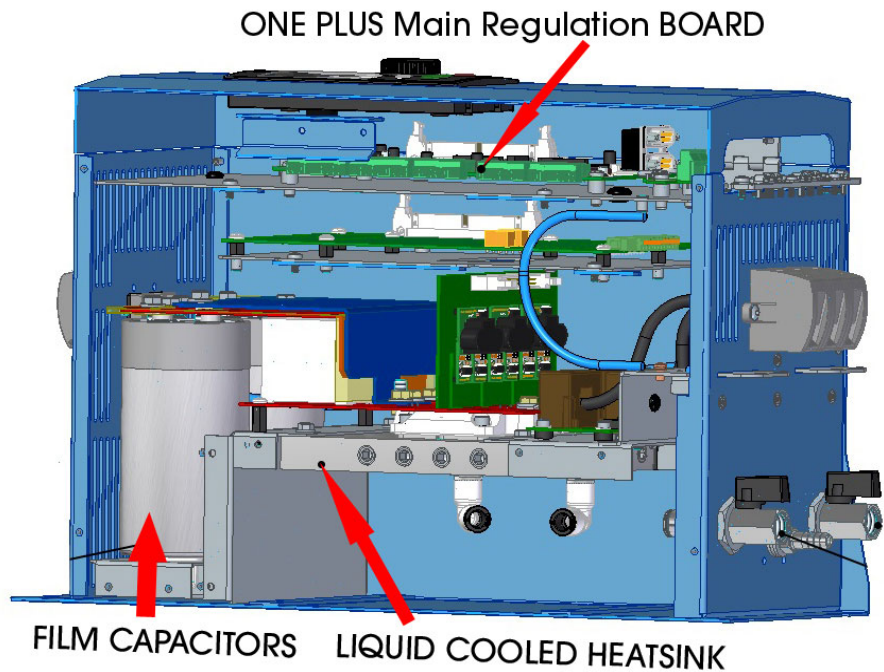
**RIGHT - Multidrive cabinet:
N° 9 motors x 400Kw driven**



Look the size of the man standing between the white and red Tunnel Boring Machine

customers need only one board for the replacement of each drive, a Reborn system, and the cascade of references. **SAEL** also guarantees their replacement in the event of electrical failure in just 3 minutes, as **ONE** is supported by a flexible memory containing software data and settings: extractable and easily placed by anyone, even without experience. In practice, in the event of replacement, no programming, parameterization, or operation reserved for specialists using personal computers is necessary to restart with a **SAEL drive**.

The **ONE Drive series inverters**, created with the philosophy that prioritizes the needs of paper mills, have been equipped with **FILM capacitors** instead of the electrolytic ones used by competitors (with an average lifespan of 60/70,000 hours depending on usage). The life cycle of each inverter is infinite since there are no internal components that deteriorate over time, no capacitor regeneration procedure is necessary in case of spare parts stock, even after years of disuse. Remote management and the ability to monitor every single issue that occurs in our controls through the **DCS in Drive ONE** complete the platform that, in addition to saving on spare parts, ensures their easy replacement and a long life for the system. The careful technical analysis carried out in paper mills for cost reduction, the choice of reliable control drives, and the after-sales service offered by the company have allowed **SAEL** to emerge significantly in the field of electronic automation and control suppliers in paper mills.



VW WATER COOLED SERIES
with
Safety Torque Off



A STEP BEYOND...

6 years of great returns in “save energy” since the first implementation.... After equipping our inverters with film capacitors and a single “ONE” board for all sizes and types of drives, now and without delay liquid cooling has arrived. The great advantages: reduced space, elimination of all fans on drive-arms and air-conditioned rooms, no dust and moisture contamination even in acid environment: they preserve electrical components while ensuring, at the same time, important energy savings. Inside the cabinet all the component after 6 years of opeation, are praticly new.