



ENERGY SAVING FIRST!

A new project SAEL - CUTES Europe Ltd, with focus on Vacuum Pumps Energy Saving, got start at Favini Group. This partnership developed a specific solution line to master either the vacuum system or the liquid ring water cycle.

SAEL s.r.l. FAVINI papemills

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The hurdles of the Energy on Paper Mill, pushed SAEL and CUTES Europe Ltd, together with the experienced technical team at FAVINI – led by Eng. Salvatore Vettese - to start a pilot project at FAVINI GROUP mastering an energy

saving solution for vacuum pump drives. The landing of the project is forecasted within December 2014.

At the same time, and focusing on energy savings as well, SAEL will implement the Pulper management on DCS and Drive.

Due to the double positive impact of project - either on energy saving or TEE valorization - the payback will be in a short time.

After a bunch of meeting focused on savings in the Paper Mill, few energy meters – one each consumption area users – have



The “PLATFORM ONE DRIVE” Inverters, with ONE card inside (one board for different drives: DC-AC-Brushless and Reborn) and Film Capacitors, gives an infinite life

been installed. With a specific tool developed for this application, the SAELs DCS Scalink stores the consumption data on each user (from date to date). Having this tool the saving explorer phase by inverter, got started for all the areas in the plant.

Energy Saving Improvements

To fulfill all the MC machines vacuum needs of today, the traditional vacuum systems are not flexible and oversized. This happens having a false air regulation management. However this approach has two weaknesses: in case of high vacuum levels, especially.

- The first is related to the treated volumes, which, in the presence of false air and because of gas expansion effects, rise up to high levels. This imply to use higher machines, getting higher consumptions of course:

- The second is the pump curve volume regulation compared to the vacuum level, which implies over production of vacuum itself and higher consumptions as well. Due to new materials used today, like draining elements, felts and presses, the vacuum requirements for each user are getting higher. Moreover the today's technology allows much higher accuracy to control the flux regulation of the pump.

The SAEL ONE DRIVE PLATFORM, implemented by the CUTES Europe Ltd vacuum control features, is a drives line dedicated to high demanding vacuum pumps. Particularly used on applications where the vacuum floating level is related to the machine use: like Flat Table – The production or the basis weight needs different set points for each position – the Felts Conditioner – where the variation is a life cycle specific trait, due to the natural closing and compaction over the production -.

Due to different productions, FAVINI was looking for volume



Typical Cutes Europe installation with series of pumps for felts conditioning

variations linked to the Flat Table vacuum as much as to the Felts. They chose our high flexible system who can pick and work on a single component / position offering less scraps caused by false airs or expansions. Moreover having the DCS by SAEL with CUTES Europe ltd features inside, it is possible to control the production trends – providing information on countermeasures or saving inputs.



Section of the water liquid ring with closed loop management

Pump data and regulations

A right balanced system is based on focused needs. CUTES Europe ltd and FAVINI's tech Team did a good job working tuned on that aspect. They picked a bunch of pumps on different sizes and a minimum vacuum requirement closed to the lower system

consumption and recycling/ integration of the existing. Defined the minimum requirement for each position by custom algorithms, the system automatically sets the speed of each pump using the ONE DRIVE. Against the traditional way on

selecting liquid ring pumps, or blows, or radial ventilators due to a required curve, this system allows the customer to automatically select the right application based on specific area needs: this means the best ratio



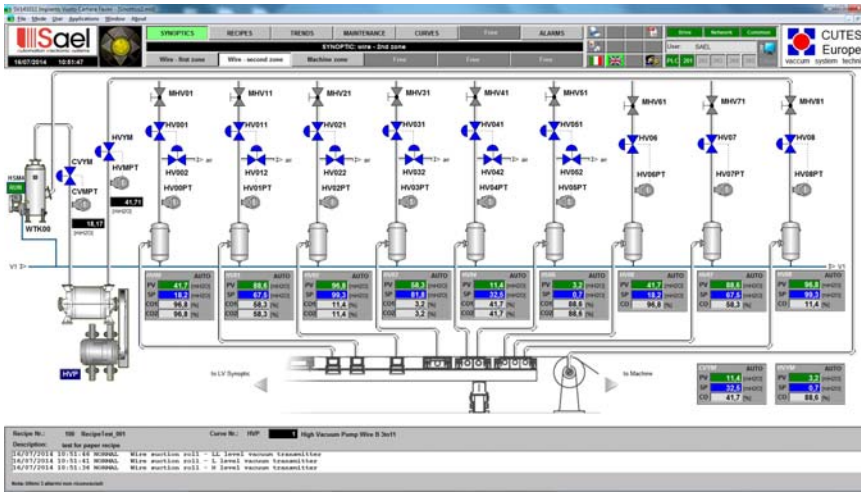
Pumps Drive Electrical Cabinet equipped by the exclusive "PLATFORM ONE" drives

CUTES Europe Ltd Box: Paper skills

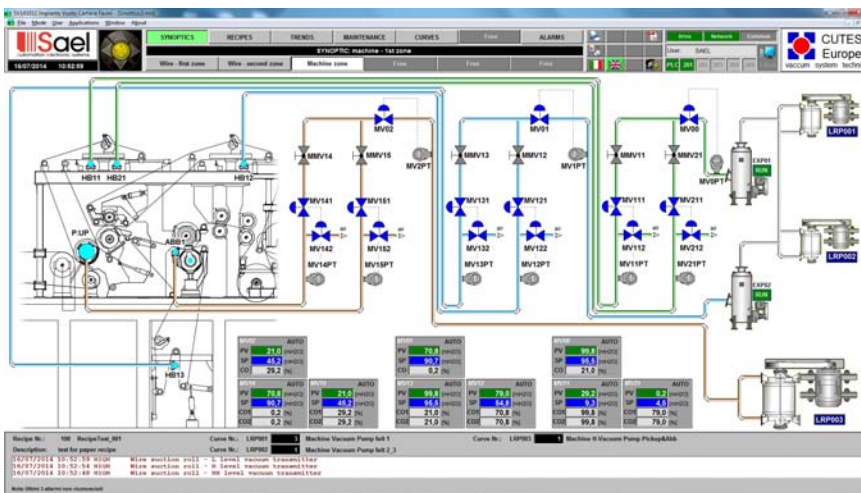
CUTES Europe Ltd produces liquid ring vacuum pumps, roots blowers, radial ventilators. Over hundreds of applications in Europe and Middle East award the Company as a leader on Paper industry.

CUTES Europe Ltd is a customer oriented Company who rises skills and products at the same time. It offers specific inspections and on site investigations providing the best solution for new and existing machines on Paper industry.

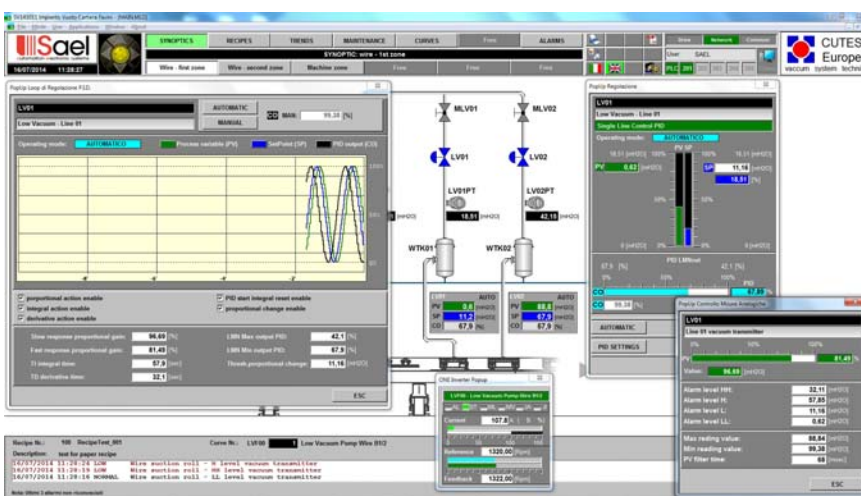
The last frontier is the vacuum control and regulation system, implemented together with SAEL. This partnership developed a high performing solution line to master either the vacuum system or the liquid ring water cycle.



Top page Vacuum Couch



Page Vacuum on machine



Bottom page Vacuum with popup

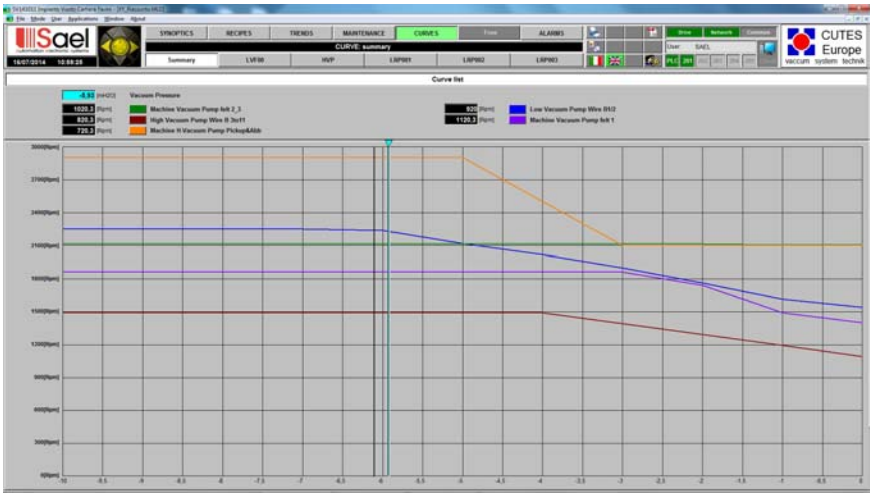
between consumption and volumes per unit. The custom DCS – developed in partnership with SAEL – used to manage the water flux for liquid

ring, as much as the vacuum system regulation, riches 95% on closed cycle at FAVINI.

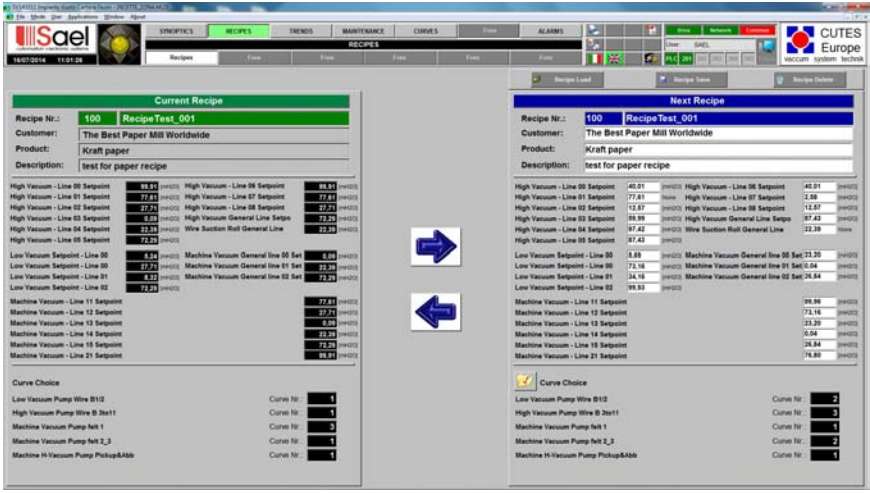


SAEL Box: Paper skills:

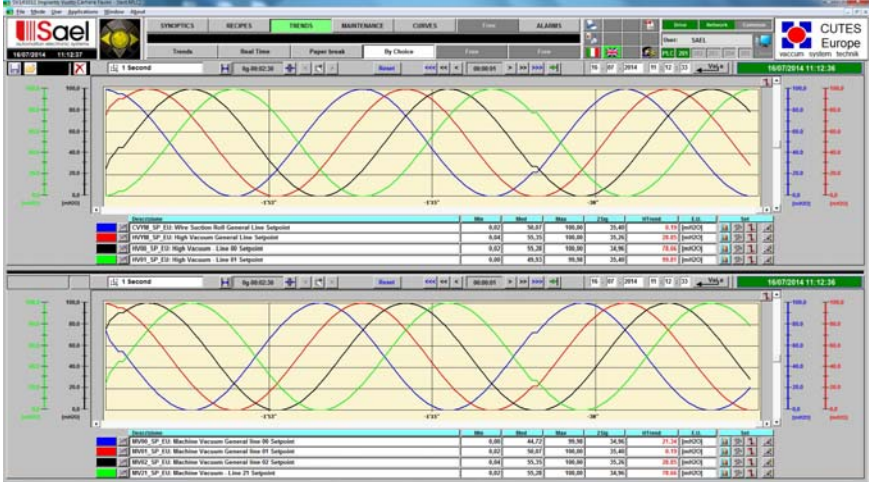
Since 1987 it works on Automation Industry, SAEL produces components, electrical equipments and automation controls for different markets. There are two complementary divisions in the Company: Systems and Products. The interaction of those two groups generates integrated solutions for any applications. The main focusing markets are: Paper, Steel, Wire, Plastic & Rubber, Cnc and Special machines. The core business is the Paper Industry with over 27 years of experience and thousand of equipments installed over the world. Customer oriented, SAEL offers high quality hardware and software solution supporting any specific need: cost effect! SAEL works either on new job or existing installations – revamping – where most of the time the old components (the SCR bridges, Electromechanical components) are re-used. The main applications on Paper Industry are: DC, AC or Mixed technology Sectional Controls; Motors implementation on existing paper drive machines; In-line or Off-line Coating Machines; Revamping of drive controls from analogical into digital; Calanders and Supercalanders; Stock preparation by DCS; Slitters; Syncro and Fixed Knives Sheeters; Winders and Unwinders.



Resuming page with Vacuum curves



Menu sample for specific paper



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