Syncro Jagenberg Electrical rebuilding

Sarego Paper mill - Burgo Group

Burgo Group possesses two SINCRO JAGENBERG of the last generation: one at Sarego and the other at Toscolano Paper mill. Further the last fault of the Control Techniques drive, as much as the unavailability of spare parts quickly, the management got the idea to rebuild and renew the control of those machines. The competitiveness of the SAEL drives, together with their long life insurance, pushed the changing of the whole existing drives – reusing most of the electro mechanic components of the equipments – such as the better cost effective solution.The sheeter control electrical cabinets have been modified and hardware upgraded on two days. Within the following three days of tests, the production has been optimized achieving new performances never got before.

SAEL s.r.l. Sarego Papermill

by: **Paolo Andrighetti SAEL s.r.l.**

A fault occurred to Drives at Toscolano paper mill – blades drive application – was enough to warn the Management and go for a change. Actually all the drives mounted on this application are 10 years old: their spare parts were not longer available.

It is a common strategy of many SAELs competitors to obsolete their Drives after few years. This allows to be focused on the new technologies but obliges the customer to manage a machine with the electrical section who gets old much faster than the mechanical one.

SAEL approaches the market in a different way: the after sales department can repair any old equipment (no matters how old it is) and the R&D, continuously focused on the new technologies, improves the Drives with a full compatibility vs. the former versions as much as the existing systems. Moreover SAEL can work on existing competitor equipments, offering full revamping / rebuilding and saving a lot of their parts – offering a great cost saving and value selling, in fact.

Burgo Group has two machines equipped with the same Drives who mount Electrolytic capacitors inside – near to the end of their live cycle, actually -. Due that the switch to SAEL

Blade Drive Unit – One of the two Brushless systems, Sarego, Burgo Group

was a must to overcome the solution. Actually the Platform ONE inverters by SAEL are the only drives equipped by film capacitors – infinite lifetime – and they can be easily linked to the majority HW and SW architectures used.
The sheeter cam algorithm – which is the core of the system – as much as all the other operations within the paper mill application (positioning, pull controls, load balancing, electrical shafts, and so on) are inside on SAELs ONE regulation board. One board is used as spare parts for all our drives (DC, AC and BLDC).
The system had to face with the present global automation management – three S7 400 PLC as much as many video keyboards -.

Easy game for our products expressively made for that. No main SW modification was made to the existing system were allowed, and the full integration with the existing parts was mandatory – ensuring no changes to the original diagnostic functions -.

The mounting od the new drives into the original electrical cabinet was quick and efficient. In a very short time we changed the old drives, the DC-Bus – on phase off – and its capacitors: older than the others within the drives.
Thanks to their own functions, the new ONE Drives allowed to remove many auxiliary analogical/digital boards originally used by the existing system. – This means less spare parts and higher reliability, of course -.

Within one week – tests and settings included – the machine was ready to produce. Moreover was possible to fulfil an important paper mill need: To use the machine with one drive/ motors in case of single fault.

Syncro Jagemberg Electrical Cabinet – Next Gen after the rebuilding – Sarego, Burgo Group

Actually the tests made did confirm this point: Having one motor/drive only, we reached 70% of the full performance normally got with the whole system.
The communication between the existing system and the "ONE PLATFORM" Drives is made by a Profibus interface.
A CANBUS network is used to manage the signals between the Drives and the PLC. A second Syncro-high performance CANBUS network manager the data exchange between Blade 1 and Blade 2: The pull motor and the blade motor are synchronized by this second network.

We've got the order on 2014-10-31 and the delivery was fixed for the year-end shutdown.
Thanks the Team job made by the paper mill technicians and our people was faster than ever. After two days of wirings activity we started the tests (without and with paper).
Due that the machine was ready to go before the plan.
The paper mill managers as much as the maintenance people were happy to confirm the hit of the target: Speed, performance, and production timing.

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"ONE DRIVE PLATFORM" by SAEL

"ONE DRIVE" Platform technology, launched on 2011, clearly represents

Up side: Cutting section, Unload and Packing; Unwinder section view – with motor braking solution – View of the cabinets during the commissioning and testing.

New DC-BUS and new Capacitors: in the future the Unwinder section will be powered by the same unit – using the braking energy backing from the motors – offering further energy saving.

a benchmark alternatives to the market drives. Its
philosophy is based on a reversed concept vs. the existing devices available today. Actually one single board controls all the AC, DC drives, Choppers, Brushless and Reborn - the universal DC drives replacement -
A single board as spare part for the customer, Reborn and ref loop. Nothing else!
The replacement can be done within 3 minutes due to a flexible data memory - flexible, easy to place by everyone not experienced on drives - . No programming, no parameterization or difficult passages given by specific tools. Nothing else!
"ONE DRIVE" inverters meet the paper industry needs because of film capacitors use vs. electrolytic normally used by other drive manufacturers - Due to the use of non perishable components this gives a no stop life vs. 60k to 70khours in average.
The Tele-control allows a remote diagnosis of the system though the "DCS in drive ONE". This completes the platform bringing a couple of main key performances: Easy spare parts replacement and a long life system.
The cost saving policy pursued by the Paper Management customers, according to the drive partner selection, pups up the Value Selling of SAEL. Reliable, tough and rough, competitive drives and systems.
SAEL does not stop its action by the first taking place or sales. The after market, the continuous technical support and the updates are a must offering free stages to any customer interested. Thanks to those activities over the years SAEL got a lot of input from the customers who have been reversed into innovations.
Of course the multiple step update philosophy mentioned above will allow the Customer to revamp the complete Drive within Reborn based on ONE Platform or
AC on Platform ONE either as a great Value Selling advantage.

THE SUCCESS:

hardware architecture simple and carefully documented; Programs and SW accessible to the maintenance people.

SAEL, born to serve

The Syncro Jagemberg New Generation is a unique machine such as a piece of jewel for Sarego. The high competence and efficiency of Sarego's Team and SAEL hit the target. The stop was planned and managed every minute. Nevertheless, within those little spaces, we found out the time to congratulate each other and wish a Merry Christmas.