

Success story

System 800xA's Integration Capabilities Offered Ideal Solution for CMPC's Talagante Tissue Cogeneration Plant



CMPC is one of the biggest players in the paper and pulp industry in Chile. They produce high-quality tissue papers for their clients. They were facing a challenge in the operations of their plant in Talagante, Chile. They needed to reduce the power consumptions of their plant and bring their profitability up; for this purpose they turned to ABB for their highly efficient automated and digital solutions.

First cogeneration project for a company dedicated to the manufacturing of toilet paper in Chile

The requirement that CMPC had for their Talagante Tissue cogeneration plant was the installation of machinery and system composed mainly of a gas turbine, whose hot combustion gases are used in two processes.

Almost all of the gases, 80% of it, pass through a heat recovery boiler. This boiler has the capacity to generate 25 tons of steam per hour. The other 20% of the gases aren't going to go to waste, they will be sent for the drying of the paper machine 3 (MP03).

The purpose of the cogeneration plant was to replace the current supply of electrical energy from the central grid (SIC) and the current system of steam generation boiler.



IMA Soluciones Tecnológicas: A trusted partner and expert in System 800xA

CMPC required a better system to control their automated processes and electrical systems for their cogeneration plant. They had to suffer significant losses because of ineffective process controls that were present in the existing plant. They turned to [IMA Soluciones Tecnológicas](#) and System 800xA.

System 800xA provided CPMC with an operator interface for the new cogeneration power station for the CMPC Tissue paper plant in Talagante, Chile. It also presented them with more efficient control process and improved management of their electrical systems, as well as exchanging data with existing System 800xA.

IMA Soluciones Tecnológicas is a well-established system integrator in Chile. The solution presented by IMA Soluciones Tecnológicas met all the technical requirements for the cogeneration plant, based on the ABB System 800xA, which is a worldwide proven system.

IMA Soluciones Tecnológicas also integrated an RTU 560

system in the Talagante plant. The Remote Terminal Unit allows for seamless communication with System 800xA via OPC. This culmination of this whole process is when the operators can easily monitor all the electrical systems of the plant through 800xA. The processes that are most affected by the inclusion of RTU 560 are:

- Defined communication protocols
- Characteristics of availability of links
- Timestamp
- Sampling rate and periodicity of definite information
- Alarm selection and groupings

IMA Soluciones Tecnológicas provided CMPC with System 800xA 5.1 FP4 with AC800M and PLC Connect connectivity. They also offered the clients with an integrated S800 local and remote I/O, as well as redundant Modbus/RTU, Ethernet/IP, Profibus and dnp3.0 communication interfaces along with System 800xA.

The system was implemented on two physical servers which were running VMware ESXI. Each of the servers has the



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capability to run the system independently, but the workload can be divided with two servers to improve efficiency. For easy management, the operator and engineering stations were virtualized and controlled remotely. The whole system is supported by a redundant gigabit network using the RNRP protocol.

This alone resulted in a reduction of 80% in physical hardware costs, rack space and a significant reduction in energy use. This was designed so that with good maintenance practices, the system uptime is above 90%.

Improved operator effectiveness is a key success factor for plant business

After the implementation of the whole system planned out by IMA Soluciones Tecnológicas based on ABB System 800xA, the operators can handle a large amount of information on the plant under the same system. All the necessary information can be found on the integrated and configurable environment, according to the types of users accessing it.

The biggest change that the system has brought is the flexibility of the user interface, which can be modified depending on the user.

This allows each user to focus on the actions to be taken, with all the information necessary for that particular action. There was an instant reduction in the probability of errors, resulting in an increase in productivity.

Marco Donoso, Tissue Electrical Control Maintenance Manager of CMPC, had this to say about the IMA Soluciones Tecnológicas and ABB solution, “The distributed control system System 800xA is known in our two plants, and in our experience this is the system that gives us greater confidence and security.”

The biggest benefit to CMPC from the integration of 800xA was that their engineers and operators will be able to operate the interface in a personalized way, according to the particular requirements of each user, a feature that wasn't available with any other solution in the local market.

The other advantage with System 800xA is that energy savings, either electric or thermal, is very apparent. The system brings a significant decrease in energy usage, which very important for CMPC.

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