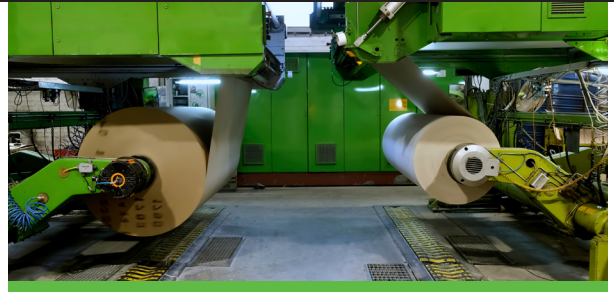


Industrial Pulp Mill Modernizes Obsolete Control Systems Without Ever Breaking Their Stride

RESULTS

- Reduction in unplanned downtime of 30 hours annually and 162 hours of maintenance related activity
- Customized modernization path to fit tight budget and time constraints and enable uninterrupted operations during modernization



APPLICATION

Cardboard manufacturing.

CUSTOMER

Based in Brazil, Suzano is a global leader in the development of products fabricated from planted eucalyptus forests. It is one of Latin America's largest vertically integrated manufacturers of eucalyptus pulp and paper. Products Suzano produces include coated and uncoated printing and writing paper, paperboard, tissue paper, market pulp and fluff pulp. They operate three integrated pulp and paper mills in the state of São Paulo (Suzano Unit and Limeira Unit) and one in the state of Bahia (Mucuri Unit); one non-integrated paper mill in the state of São Paulo (Rio Verde Unit) and a pulp mill in the state of Maranhão (Imperatriz Unit), and FuturaGene.

CHALLENGE

Operating on control technology from the 1990s, Suzano's eucalyptus pulp mill experienced unplanned shutdowns on their painting and printing machines. The process of backing up PLCs added to the growing hours of unplanned shutdowns. The pulp mill recognized its complete control system needed to be replaced. During these challenges, a new production contract for cardboard on a stringent time deadline meant that their MB6 machine would have to run continuously with no failures to fulfill the delivery. Under these conditions, a complete replacement would not be possible. To meet deliveries to their customers, the machines could only be shut down for a maximum of three days. There was no additional budget available, aside from the existing maintenance budget. A unique solution would be required to keep the machines running to fulfill this urgent demand.

"Emerson provided an innovative solution that allowed Suzano to upgrade a critical machine and achieve significant gains on machine availability and efficiency."

Suzano engineering team

SOLUTION

During consultations with Emerson, Suzano discovered a new option—the existing machines could be upgraded rather than replaced. The upgrade could be performed within the company's stringent requirements over a period of time without extensive shutdowns to the whole system.

Emerson identified and modernized 58 racks, including 14 obsolete peripheral controllers. Obsolete 9070 and 9030 PLCs were replaced with Emerson's new PACSystems™ RX3i control systems and the Genius I/O connectivity was replaced with PROFINET technology. The system upgrades were completed in segments without shutting down for any prolonged time. This required compatibility between the new technology and the legacy system.

Emerson worked proactively with the customer to develop a plan over a period of 2 1/2 years while meeting their budget and time constraints. The modernization was performed in three partial upgrade phases including replacement of software, hardware and the communications network. New engineering stations were replaced in all electrical rooms and an automatic backup system was included. The system went from 30 hours of unplanned downtime per year to zero. The upgrade completely eliminated the 162 hours of manual backup for its PLCs. The system now has easy to use and agile diagnostic capabilities and highly improved operations. Most important, Suzano can now deliver top quality product on schedule from a continuously running, high performance machine system – without ever breaking their stride.

RESOURCES

PACSystems

<https://www.Emerson.com/PACSystems>

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