

Case Study

Honeywell's OptiVision Drives Efficiency at Montes del Plata Pulp Mill



“Honeywell has helped us achieve our goals to consistently meet quality requirements and schedules and continually driving efficiency through the operation.”

- German Albin, Industrial Information Systems, Montes del Plata

Background

Montes del Plata's industrial complex is the largest private sector project in Uruguay's history. Located in the department of Colonia, Uruguay, it has the country's second pulp mill, and is its largest. The company, jointly founded by paper and pulp giants Arauco from Chile and Swedish-Finnish Stora Enso in 2009, is a significant contributor to the country's GDP.

Supplied largely through its own plantations of 145,000 hectares in 11 departments of Uruguay, its industrial complex has the capacity to produce 1.3 million tons a year of Eucalyptus cellulose pulp and enough renewable energy based in biomass to supply the mill and transfer a surplus to the national electricity grid. The pulp is exported to markets around the world to produce writing papers and tissue products.



The \$2.2 billion facility includes its own port and 80 MW power system. The pulp is produced, warehoused and shipped at the mill. Starting-up in June 2014, a year later, production at the plant already averaged 3,700 tpd.

Honeywell's OptiVision order-to-cash solution for pulp, paper and flat sheet industries has been integral to meeting the plant's requirements for planning, scheduling and delivery of orders.

Benefits

The use of Honeywell's OptiVision solution at Uruguay's largest pulp mill has helped it achieve stability and efficiency as it produces up to 4,000 tpd for export to the world's markets.

Providing tracking, monitoring and efficient allocation across production, inventory and shipment, OptiVision integrates tightly with the ERP, bailing and laboratory systems to enable the plant achieve efficient warehouse utilization, tight quality control and timely dispatches.

Special developments for the project, such as a mobile application for clamp truck drivers for faster, more accurate warehouse movements and monitoring, have brought further benefits. Integration with the plant historian, Honeywell's Uniformance PHD, improves process diagnostics and generation of KPIs to drive continuous improvement.

“All the users of the OptiVision agree that its implementation at Montes del Plata has been a massive success. It has helped us achieve our goals to consistently meet quality requirements and schedules and continually driving efficiency through the operation,” said German Albin at Montes del Plata.

Challenges

As part of its continuous improvement practices, Montes del Plata needed a solution to identify the golden run – a way to benchmark their best production standards and continuously improve upon it. This defines the optimized strategy to

manufacture each specification of product at the best cost, consistency and quality. The results would establish a benchmark from which to standardize quality factors, measure and evaluate deviations and help optimize production.

The information needed to coordinate sales, quality, tracking and laboratory information. It also needed to optimize the inventory and warehouse operations to improve utilization, reduce time required to identify and make units ready for shipment, and avoid demurrage costs. Half of the product marketed under each of the joint venture partner's brands, introduces additional complexity to be addressed by the plant's planning, inventory handling, invoicing and shipping systems.

Solution

OptiVision oversees the entire order to delivery process, integrating closely with the plant's ERP system, its bailing system (Balematic) and the plant historian (Honeywell's Experion PHD) for a comprehensive solution.

Production and Warehousing

Production, split 50/50 between the joint venture partners, is planned in daily campaigns. As each 2-ton unit is produced it is given a unique barcode and bound with four others into a discharge unit for picking by clamp trucks. OptiVision collects all unit and discharge information – including time, weight and quality – from the baling system to provide reliable production tracking.

During production, OptiVision's Quality OptiMISER data historian and analysis tool uses information from the quality control systems to make online unit classifications. Unit production information, including date, weight, grade and quality information, is sent from OptiVision to the ERP system hourly.

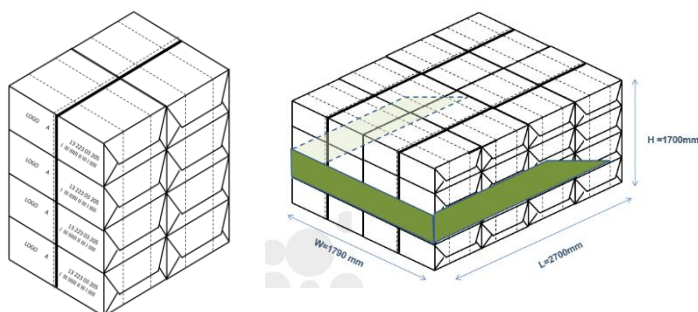
After online classification at the point of discharge, OptiVision assigns warehouse space and a mobile app directs clamp drivers to the correct zone and bay for each discharge unit.

Because of the delay in receiving lab results, OptiVision also handles reallocation of units after quality confirmation. Lots can be held, downgraded or rejected to be repulped. Units can also be rejected by clamp truck drivers due to visual defects such as cut wires, bad printing, or non uniform height. Movements and rejections are, again, captured and tracked through the software.

Laboratory tests are processed by Quality OptiMISER, and lab tags replicated to make all results available in the plant historian.

Orders and Shipping

Purchase orders from clients are processed in the ERP system. Once approved, these are sent to OptiVision with details of the vehicle type and consolidation port, whether the mill port or third party port. This also indicates whether the unit will be loaded to vessels, container or trucks.



OptiVision automatically allocates appropriate units to fulfil order requirements while minimizing warehouse movements for more efficient loading. Internal dispatch orders are planned and released to clamp trucks, with drivers only able to pick units that match the orders requests.

As orders are loaded, these are recorded in OptiVision to continually track inventory in the warehouse inventory, and a shipping message is sent to the ERP with the list of units loaded to generate invoices.

Interfaces

OptiVision integrates tightly with the baling system, ERP and plant historian:

- Receiving unit and production messages from the baling system
- Receiving sale orders from ERP
- Sending laboratory results and production numbers to Experion PHD
- Sending unit production, reclassification and repulping information, as well as shipping confirmations to ERP
- Receiving information from SAP Business Warehouse for reporting through integration with SAP Business Objects.

Reporting systems like SQL Server Reporting Services and SAP Business Objects run reports over the OptiVision database quickly and easily. Interfaces between OptiVision and both the ERP and the baling system are handled using flat files, making

integration simple and maintainable even for those without knowledge of both systems.

An OPC interface with the historian, meanwhile, enables the use of laboratory results and pulp production data for process diagnostic and KPI calculations.

Next steps

Following the success of the project, Montes del Plata is now looking to enhance the solution at the plant by optimizing some of the process involved.

For More Information

Learn more about how Honeywell's OptiVision solution can optimize production, visit our website www.honeywellprocess.com or contact your Honeywell account manager.

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