

CUSTOMER CASE STUDY

AVEVA™ PI System™ gives Klabin a bird's-eye view into paper production

Klabin
Partner - IHM Engenharia
Industry - Forest and paper products

Challenge

- Avoided two boiler shutdowns for \$9.6 million in cost savings

Solution

- Added 3,400 air-dry tons of production each year

Result

- Automated notifications to avoid production stops due to low chemical stock

Whether it's a package delivered in a cardboard box or the packaging on your favorite six-pack of beer, chances are you have interacted with Klabin, Brazil's largest producer and exporter of paper and pulp, producing more than 3.5 million tons at 17 facilities across Brazil and Argentina. Klabin used AVEVA PI System to streamline operations from the start at the Puma plant, its newest and most expansive facility to date. AVEVA PI System allowed the company to create real-time digital models of pulp production, from tree harvesting through drying. This holistic overview saved the company nearly \$10 million in maintenance costs, increased its production by 3,400 tons, and automated notifications to avoid costly production delays.

Getting to the root of the issue

The Puma plant's engineers collect data in real time from more than 20,000 process-measure instruments, 3,000 control valves, 3,500 motors and 600 pumps. In an operation that large, a slight error or unseen malfunction can cause massive delays. AVEVA PI System ensures that data from any and all of these assets is available in one central location that's accessible at any time.

For example, data on one pulp batch showed an unusually low point in the brightness of the pulp coming out of a drying machine on a particular day. By using AVEVA PI System to compare data at every step of the process – from the cutting of forest logs through chipping, bleaching and drying – Klabin's engineers quickly traced the problem with the pulp brightness to an issue with part of the bleaching process, upstream from the drying machine. This analysis would have taken much longer, or in some cases, not have been feasible at all, without AVEVA PI System and its ability to integrate data from across the enterprise.

“We can correlate this information with cutting time, age, density and percentage of each species that made that pulp.”

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Heli Rabelo
Analyst, IHM Engenharia

Better data, faster decisions

In addition to making troubleshooting much easier, AVEVA PI System also accelerated decision making at Klabin's Puma plant. Before AVEVA PI System, engineers would take hours to evaluate the effect of potential changes to the production process. Now the team can simulate decisions in real time and react more effectively across the plant to optimize the pace of production for ever-changing operating conditions.

Not only that, engineers can be more confident in the decisions they make because they are based on a single source of data from across the plant, and they can easily adjust if things don't work out as planned. After implementing AVEVA PI System, the company produced an additional 3,400 air-dry tons per year – equivalent to an extra day's worth of plant production – without any additional staffing.

“This is really helpful in decision-making for factory coordinators since they have a tool which permits them to evaluate the stability of the factory and to take an action much faster when something's not going well.”

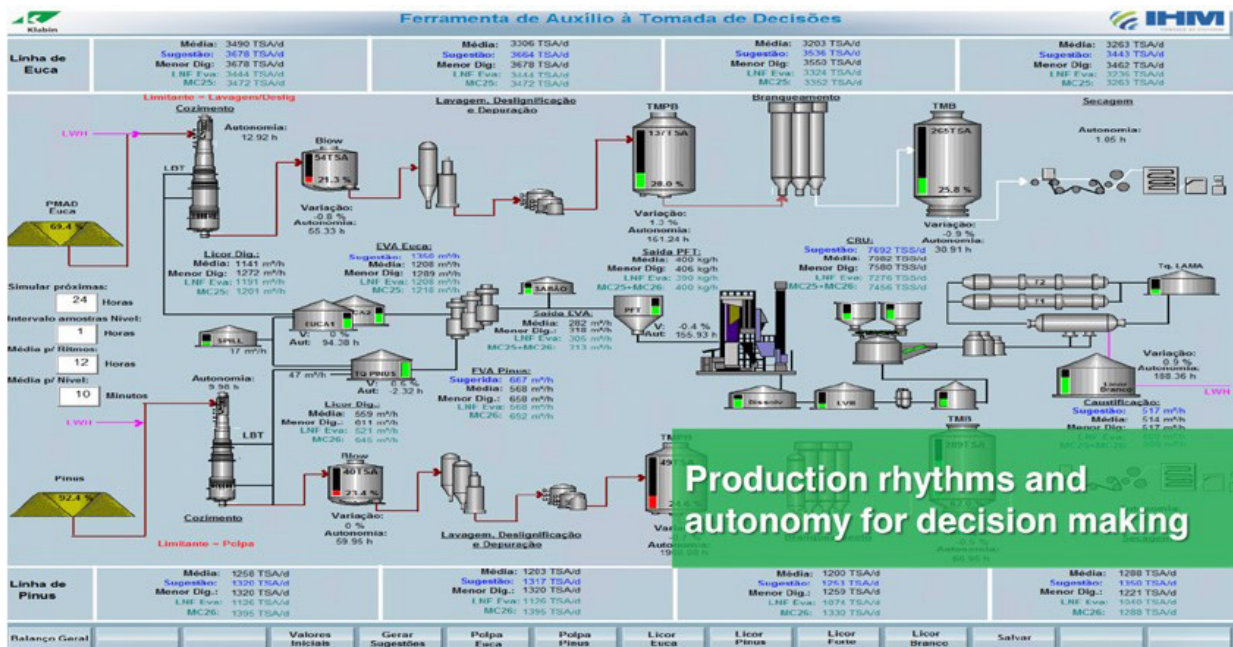
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Analyst, IHM Engenharia

A step ahead of the competition

In an organization as large as Klabin, every person has his or her unique role to play in making everything run smoothly. AVEVA™ PI Vision™ allows users such as managers, engineers and operators to customize dashboards for their specific roles. Managers can track KPIs across the entire Puma plant and make sure current processes are on track with previous batches. Operators can easily monitor machine functions and receive notifications when there are issues with their assigned assets. “The data is in our hands,” said Raquel Goulart, a department specialist at Klabin.

“In total, we have 85,000 variables of the various integration systems, and the PI System keeps it all in one place.”

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Heli Rabelo
Analyst, IHM Engenharia



Klabin uses AVEVA PI System across its entire production process at the Puma plant, enabling faster decision-making and millions in cost savings.

Klabin used the notifications capability in AVEVA™ PI Server for both real-time issue notification and predictive maintenance issues. In one specific use case, notifications saved 80 hours of production loss by avoiding failures in the boiler system before they happened. Logic built into AVEVA PI System triggers a notification when atypical behavior occurs in the boilers, allowing the appropriate people at Klabin to troubleshoot before disaster strikes.

Thanks to notifications in AVEVA PI Server, Klabin avoided water boiler contamination that plagued other paper plants in Brazil, and it avoided two boiler shutdowns, totaling \$9.6 million in cost savings.

Moving forward, Klabin will further integrate AVEVA PI System into its operations by creating a daily management report that highlights lagging KPIs and helps management focus on the most mission-critical issues across the Puma plant.

For more information about AVEVA PI System please [click here](#).

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