

Best Practices Panel

Forest and Paper Products

Brown Stock Washing KPIs



Standardize the way to look at KPIs from the Brownstock Washers (BSW) and deploy it through out our mills.



CHALLENGE

Each BSW is different, has different data available, and the KPIs presented are calculated manually or not at all

- The BSW process is generally known and understood. We need a way to make its KPIs more consumable by the process engineers and operators

SOLUTION

With the use of AF we were able to create a template that can be deployed to other mills, and can be visualized using PI Vision.

- In collaboration with the EA team we worked on a template and dashboards to show the most important KPIs for the BSW process

RESULTS

- Standardization of best practices
- Sharing of knowledge and expertise through WestRock
- Able to benchmark operations against: design, other like-kind BSW systems across the company (~30), best in class.
- New control variables identified
- Will be able to optimize the performance through these new KPIs.

Challenge – Solution - Results



International Paper, like many companies in pulp and paper, is facing a workforce turnover. Newer and better tools are required for the younger and less experienced workforce.

CHALLENGE

Inordinate amount of time spent pulling and shaping data instead of acting upon what the data says

- Need to assess performance at a glance
- SME's retiring, new engineers need different tools

SOLUTION

Displays with modern techniques to give more intelligence around larger datasets and real-time performance

- PI AF, Event Frames, PI Vision, PI OLEDB Enterprise, PI Integrator for Business Analytics
- BI tools like Power BI and Tableau

RESULTS

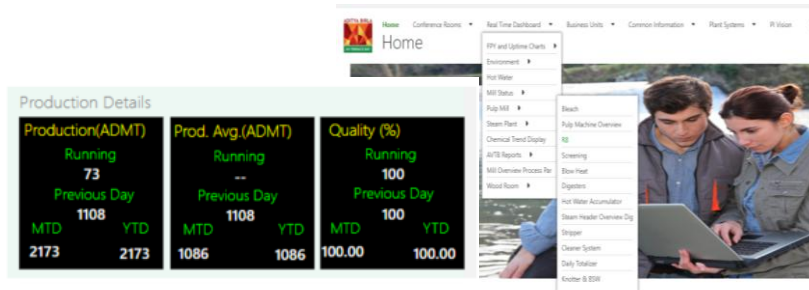
Financial impact TBD, but can attack problems that were hard to get to before

- Machine Centerlining
- Digester performance and steam usage
- Sheet break re-thread performance

Mill Wide Intelligence Delivered Throughout



Overcome technology issues in order to have a better operational awareness, collaboration, and capture more profits



CHALLENGE

Very old control systems (Moore controller & ABB Infi90)

Partial implementation of DCS

Lack of mill wide Monitoring System

Production losses

Unplanned outages

SOLUTION

Using AF, PI ProcessBook, SharePoint, and notifications

AVTB and ECGIT build a corporate and standardized view of operational KPIs from the shop floor to higher management

RESULTS

Reduced downtime and improved efficiency due to Mill Wide View of operations.

Accomplished a single version of the truth across the mill

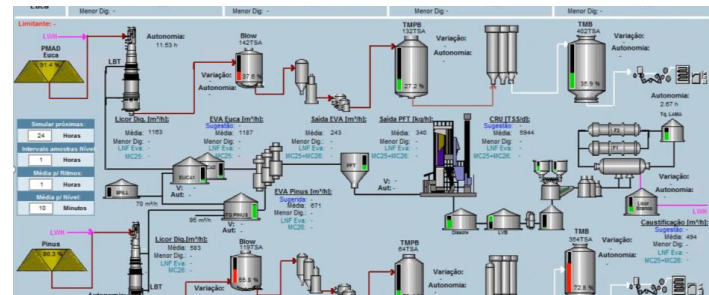
- ~15% Energy consumption savings
- Reduced man hours invested in steam and chemical reports

Track and Trace, Extraordinary Results



“The most important asset in a mill is the information and knowledge we can achieve from data.”

The goal is to transforming data from the logs to the final products to obtain extraordinary results.



CHALLENGE

Track and trace of the product throughout the supply chain

Control of chemical consumption and inventory

Maintenance predictions in recovery boilers

Determine the production pace aiming stability and maximum production

SOLUTION

The universe of PI System components, Klabin and IHM built traceability and decision making aid applications to provide the right insights

- AF, Event Frames, Asset Analytics, Future Data, Notifications, Web API, PI Vision, PI DataLink, PI ProcessBook, and several PI System Interfaces

RESULTS

Effectively trace and forecast the product production rate and operational KPIs affecting quality in the supply chain

Expedited logistics and services in the mill with **zero production stops** related to low chemical inventory

\$4.8 million in savings per avoided boiler shutdown (\$29 M thus far)

Full array of reports and a decision making aids to understand performance in different areas making possible an **additional 3400 ADT/yr**

Feeding the Machine Learning Engine



International Paper Needs to Extract 5-10,000 PI Tags of 1-Minute Data to Train the Machine Learning Engine.



CHALLENGE

Initial Estimates Predicted 100+ Days to Extract the Data

- Enterprise Initiative Across 30+ Facilities

SOLUTION

PI System tools identified largest delays and AF fixed the biggest offenders.

- PI OLEDB
- Asset Analytics
- PI Integrator for Business Analytics

RESULTS

Various techniques **reduced the extraction time by 80% - 90%**

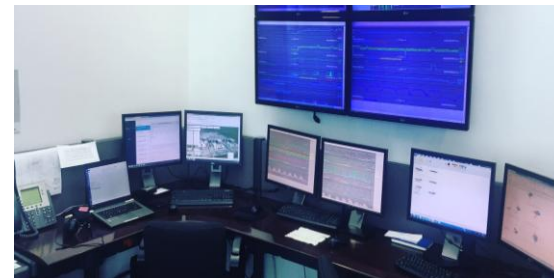
DT Initiatives for Power Generation



Mitsui & Co. Power Development
and Management Americas

MPA AS A CENTER OF EXCELLENCE

MPA provides O&M services in a increasingly competitive Mexican Electric Market. In addition, there is a need to increase the number of assets under this service.



CHALLENGE

Provide high-quality service of O&M Monitoring with the current resources in a competitive liberalized Electric Market

- Reliability and Efficiency of the plants are key to stand out
- Provide similar service to other Mitsui & Co. generation assets

SOLUTION

Start using cutting-edge PI System functionalities for optimization of time and resources

- AF hierarchy development
- Asset Analytics for efficiency calculations and automatic reports
- Condition based Maintenance: PREDICT-IT (ECG)

RESULTS

There are already some important results despite it is still “work in progress”

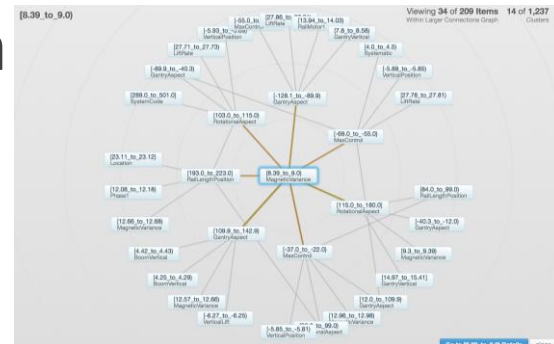
- **80% reduction of time** consumed in Condition Monitoring
- Events are captured **20% earlier** than before
- Availability improvement is estimated in 2%*

* Hard to estimate due to many factors involved

PI System Data And the Knowledge Graph

Leverage PI System data to meet company objectives.

Close the gap from the plant floor to the C-suite.



CHALLENGE

PI System has a lot of data
Silos of knowledge related to the data

SOLUTION

Machine Learning to correlate and provide context for the data.

PI System as a Knowledge graph.

RESULTS

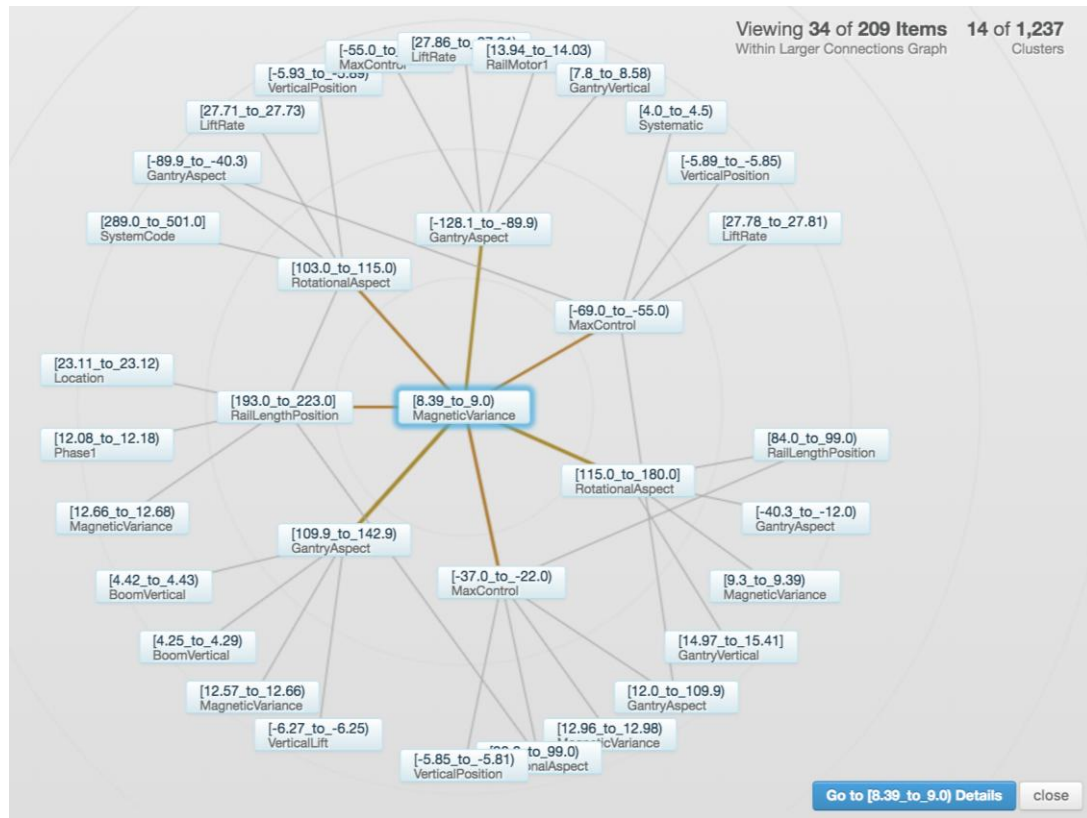
Leverage plant data for C-suite objectives

Saves time knowing what data to pull

Quick evaluation to know if right data is being collected for a use case

Predict outcomes with reasons why

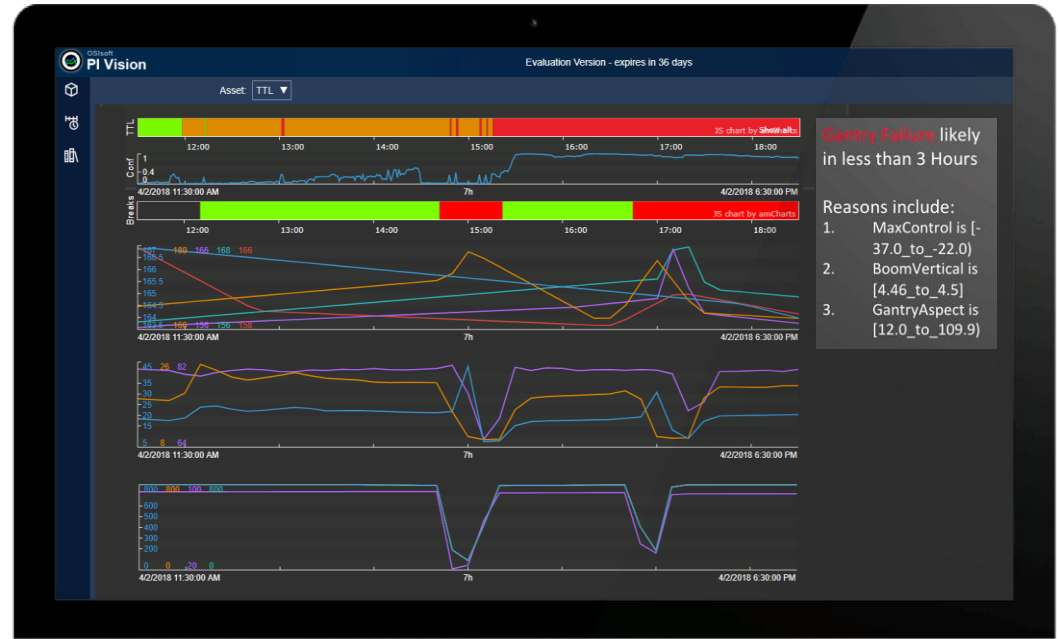
Provides Correlations & Context



Predict outcomes with reasons “why”

“Why” provides context and believability

No failures expected for 3+ Hours ■
15 Mins to 3 hours from failure ■
Failure Event ■



Questions

Please wait for the **microphone** before asking your questions

State your **name & company**



Please remember to...

Complete the Online Survey for this session



Download the Conference App for OSISOFT Users Conference 2017

- View the latest agenda and create your own
- Meet and connect with other attendees



search **OSISOFT** in the app store

Merci

谢谢

Спасибо

Danke

Gracias

Thank You

감사합니다

ありがとう

Grazie

Obrigado

STAY WITH US FOR OUR 2ND USERS GROUP MEETING