

TURNING A SHUTDOWN INTO A



PIT STOP

Just like super-fast pit stops in Grand Prix Formula One racing, ANDRITZ has been concentrating on helping customers to minimize shutdown times, utilizing its Metris OPP platform. The dedicated Metris Planning App is integrated into the platform and is already achieving remarkable results in shutdown efficiencies.

All sports have crucial moments that define a championship or round, but car races undoubtedly have one of the most emblematic moments to define the success or failure of a driver and his team: the pit stop.

The faster and more efficient the pit stop, the greater the success of the drivers and team in the race. Because of its importance in Formula One since 1982, when the first scheduled Pit Stop took place at the Austrian GP, pit stop time has been steadily dropping from the initial 18 seconds to the ones of today, being less than two seconds. With the development of technologies and teams increasingly integrated and prepared to beat their own records, pit stops can define a race or even the championship.

Just like Formula One racing, continuous process mills face the same challenges year after year, uniting technologies and people to make the stops efficiently and ever faster, with ever more daring production goals.

THE SHUTDOWN CHALLENGE

In this context, a shutdown may involve 25% of the annual maintenance budget over a period varying from 8 to 10 days. Another critical factor of this period is the number of tasks to be performed when processing more than 1,000 service orders, which will be executed by a contingent that can reach as many 1,500 people.

With so many activities being performed simultaneously by so many different people, and unlike car races, where the team knows itself and trains endlessly to manage the pit stop, in mills the complicating factor is that most of the people who perform the activities do not even know the mill. This reality makes the start-up of the production after the shutdown, and the resumption of historical levels of production, another important challenge in the management of shutdowns.

In addition, in this process there are two important trends to be considered; one of them, like the races, is the definition of

the strategic moment to stop in an effort to obtain the best result. The interval of completion of the shutdown has changed and put even more pressure on this crucial time slot. Historically, the interval between shutdowns has been 12 months in some regions; today it often extends to 18 months. The second trend is the increase in production volume in a single production line, which can now reach as much as 2 million t/a.

In this way, the quality with which this shutdown is performed must guarantee reliability to ensure uninterrupted operation for the next cycle, since the loss of revenue per day of a stopped mill can reach 5 MUSD.

All this makes the effective management of shutdowns increasingly essential to a pulp mill that is concerned with remaining competitive. It is necessary to have the right technologies and people to guarantee for the production success of the mill.

In such a scenario, the visibility of the progress of the shutdowns should be

fast and accurate. Taking a day to compile the progressive data of a shutdown is risky but, unfortunately, this is still the reality of many mills.

THE SOLUTION

Aware of these challenges, ANDRITZ has developed a new application which has been integrated into its Metris OPP platform, the Metris Planning App. The new app allows the online monitoring of the activities of the shutdowns as a whole.

This application combined the expertise of two ANDRITZ divisions: one with more than 25 years of experience in Industrial Maintenance, including shutdown management. The other with IIoT technologies, responsible for optimizing the performance of pulp and paper mill processes, with more than 50 contracts in 15 countries, some of them operating for more than 12 years. This division is responsible for the optimization of processes of over 34 million tons annual production.

Luis Binotto, Senior Vice President of ANDRITZ Process Optimization, says, "With regard to shutdowns, it is always important to ask yourself: 'Do you measure your stop in days or in total loss of production? Is meeting the deadlines and budget enough to be successful?' ANDRITZ's

expertise in shutdown management combined with the Metris Planning App solution brings light to these issues in that it enables real-time management of this process as well, such as mill monitoring during the distribution period."

HOW DOES IT WORK?

Cleiton Oliveira, ANDRITZ OPP Technology Coordinator, says, "With the Metris Planning App, the maintenance people go out into the field with their mobile devices, which already have on them the tasks

BENEFITS OF THIS SERVICE:

- Proactive and anticipated action in case of deviations between planned and realized activities
- Online monitoring of the entire Shutdown
- Visualization of the factory as a whole, by area or discipline, allowing those responsible for the scope to act immediately
- Integration with other applications integrating the Metris platform, focused on Asset performance – motors, valves, etc., allowing faster diagnostics in case of problems
- Reporting of problems by text, photos, or videos
- Specialized support by the ANDRITZ team



Shutdowns updated on time by mobile phone



Tree map information about shutdown activities status

that need to be completed and the list of equipment that needs to be checked. These tasks can be completely personalized and dedicated to each area of the mill, for example, woodyard, fiberline, recovery boiler, etc.

"When each piece of equipment is checked, for example, a chip pump, the dedicated box is ticked and the action is uploaded. Or, if the maintenance person spots a problem, or needs to add a comment, there is a facility to do this, including adding photos or even videos illustrating the status of the equipment. This information is then all synchronized into the Metris Planning App, giving a real-time report of exactly what action is taking place around the mill.

The ongoing maintenance at the mill is reported in real time, using a traffic light

system of red, green, and amber, which reveals the status of each area being monitored. At once, the planning tool reduces the chance of making repeats or errors, at the same time eliminating the need for reams and reams of paper and a lot of time inputting information into computers.

It also allows real-time management of both maintenance while the mill is running, as well as when on shutdown.

CASE STUDY – VERACEL

Veracel is a single line mill, with production of 1.1 million t/a, located in the south of the state Bahia in Brazil, operating 25% above its nominal capacity, with excellent rates of availability and performance in general.

The maintenance of the mill is totally outsourced, with ANDRITZ being responsible

for the management and execution of routine maintenance and shutdowns.

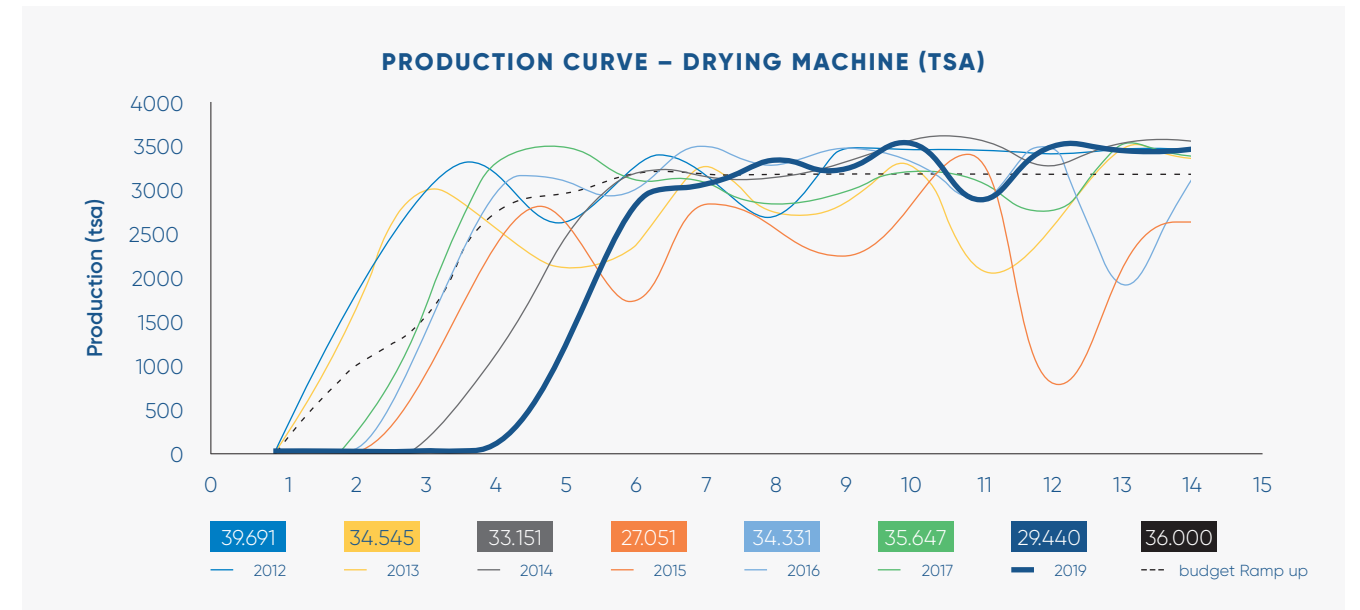
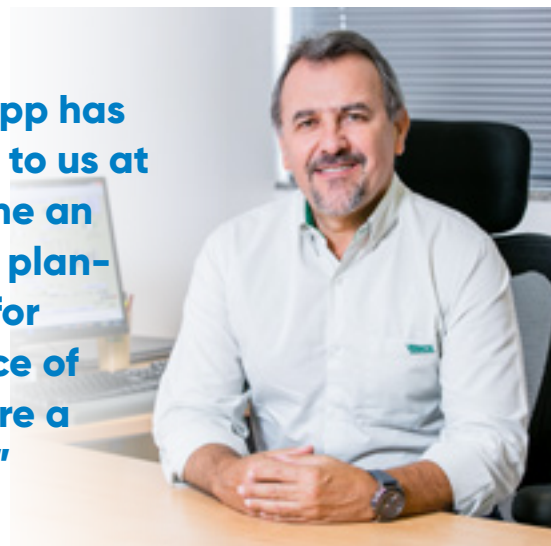
In the February 2019 shutdown, 2,678 work orders were executed in 10 days of shutdown, including maintenance, operation, and engineering, with a peak of 1,825 people working at the mill.

To manage this colossal planning, ANDRITZ used 22 mobile devices connected to the Metris Planning App, allowing it to follow the evolution of the line online and act promptly on the deviations, thus avoiding the deadline being compromised.

As important as meeting the deadline and budget is the start-up and stability post shutdown. To that end, ANDRITZ began to monitor production in the first 15 days after the shutdown. The graph above shows the evolution of this index over the last few years.

ARI MEDEIROS
Industrial Director
Veracel

"The Metris Planning App has made a real difference to us at Veracel and has become an essential tool for micro planning, and particularly for optimizing the sequence of actions and steps before a shutdown takes place."



Monitoring of production stability after shutdowns in Veracel over the past few years

Veracel has been using the Metris Planning App for some two years now; Ari Medeiros, Industrial Director at the mill, says, "The Metris Planning App has made

a real difference to us at Veracel and has become an essential tool for micro planning, and particularly for optimizing the sequence of actions and steps before a

shutdown takes place. It has also allowed us to identify areas where possible failures might take place, and areas where we can improve upon while the mill is running.

"Of course, we have always had to carefully plan shutdowns in the past, but the planning tool has enabled us to dramatically speed up the process. In terms of ease of use, it is important that you have good people to manage this tool to get the best results, and with our experienced mill engineers together with the knowledgeable people at ANDRITZ, we are reducing our mill shutdowns feedback information from taking one day to be on-line."

This same approach has been used successfully in other large capacity mills in South America and is now being taken to other regions. As in pit stops, the Metris Planning App combines technology and people to obtain better results. Do you want this solution for your mill? Get in contact with one of our experts to put your shutdown in the pole position.

ANDRITZ CURRENTLY OFFERS THIS PRODUCT IN THREE DISTINCT LEVELS OF COVERAGE:

1. Metris Planning App: Metris Planning App and setting it up from the planning in project program.
2. Shutdown support: Metris Planning App plus field monitoring for early identification of execution problems during the shutdown.
3. Shutdown Management: total shutdown management, starting immediately after the end of the previous one, with lessons learned and improvement points, and continuing throughout the year with ongoing reliability work feeding the next shutdown and selection of activities and contracting multi-annual packages with local suppliers.

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