



# Putting Autonomous Control To Work in Pulp and Paper

Rising costs, increasing sustainability demands, shifting consumer preferences, and an aging workforce are pressuring mill operators to innovate. One key area that can solve these challenges and unlock immediate cost savings is optimizing the use of chemistry and fiber composition in the pulp and paper-making process.

Here's how leveraging predictive analytics powered by artificial intelligence (AI) and machine learning (ML) can solve operational challenges mill-wide.

 <b>Challenge</b>	 <b>Solution</b>
<b>High Chemical Costs</b> Chemical dosing accounts for a significant portion of production expenses. Mills often face overuse without precise control, leading to unnecessary costs and waste.	<b>Efficient Chemical Management</b> AI-driven autonomous systems help optimize chemical dosage, reducing waste by up to 25%. This leads to reduced raw material consumption and energy usage, cutting costs across the mill.
<b>Inconsistent Product Quality</b> Paper and board quality variability can lead to off-spec products, rework, or waste, impacting profitability and customer satisfaction.	<b>Real-Time Quality Control</b> AI and machine learning review data from the pulp and paper-making process to deliver real-time adjustments. This helps mill operations maintain product quality within set parameters, increasing target adherence by 98%.
<b>Sustainability Pressures</b> Mills are under increasing pressure to reduce their carbon footprint, waste, and water usage while maintaining production efficiency. Even more so as consumer preferences shift toward more eco-friendly and green products that use alternative materials.	<b>Minimize Environmental Impact</b> Because autonomous control can optimize the use of raw materials and chemicals, it can help mills achieve significant reductions in carbon emissions while also decreasing water and energy consumption.
<b>Operational Complexity</b> Managing complex, ever-changing variables like fiber quality in pulp and paper production often requires real-time adjustments that can overwhelm manual processes.	<b>Close the Skills Gap</b> AI automation reduces the reliance on manual interventions, enabling mill operators to focus on higher-value tasks while maintaining seamless operations with fewer errors.

## How Chemistry & Fiber Optimization Drive Mill ROI



**25% Reduction in Wet Strength Chemistry**  
 Autonomous control ensures the right amount of chemistry is applied



**33% Reduction in Wet Tensile Variation**  
 Tighter control over tensile strength, minimizing variability and enhancing consistency



**50 Tons Annual Reduction in Carbon Emissions**  
 By optimizing chemical usage and production efficiency, mills can significantly reduce carbon emissions and waste



**Up to 2% Reduction in Wood Fiber Consumption**  
 Process improvements lead to more efficient use of raw materials like wood fiber



**\$600K+ Annual Savings Per Line**  
 AI-driven optimization results in substantial cost savings by reducing waste, improving product quality, and optimizing resource usage

AI & ML PREDICTIVE ANALYTICS IN ACTION

### How 4 Mills Are Improving Their Bottom Lines With Autonomous Control

Explore how four pulp and paper manufacturers are capturing significant ROI and gaining a competitive advantage by optimizing their processes with emerging technology.

[GET A CLOSER LOOK](#)



## About ProcessMiner

ProcessMiner, in exclusive partnership with Solenis through the OPTIX™ Applied Intelligence platform, is at the forefront of modernizing the pulp and paper industry. By integrating advanced AI, machine learning, real-time and predictive analytics, the platform delivers actionable insights. This enables mill operators to optimize production processes, reduce waste, and achieve consistent product quality. Visit [Solenis](#) to learn more about OPTIX Applied Intelligence.