

# Improve yield and reduce waste due to off-specification products

## PARTNER USE CASE

## Benefits

**Improved** quality and yield

**Reduction** of waste due to off specification product quality

**Long term** approach with a commitment to sustainability

**Improved** internal communications and workflow

**Implemented** in less than 3 months without CAPEX (capital expenditure), (Feb to Apr 2019)



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### Reference:

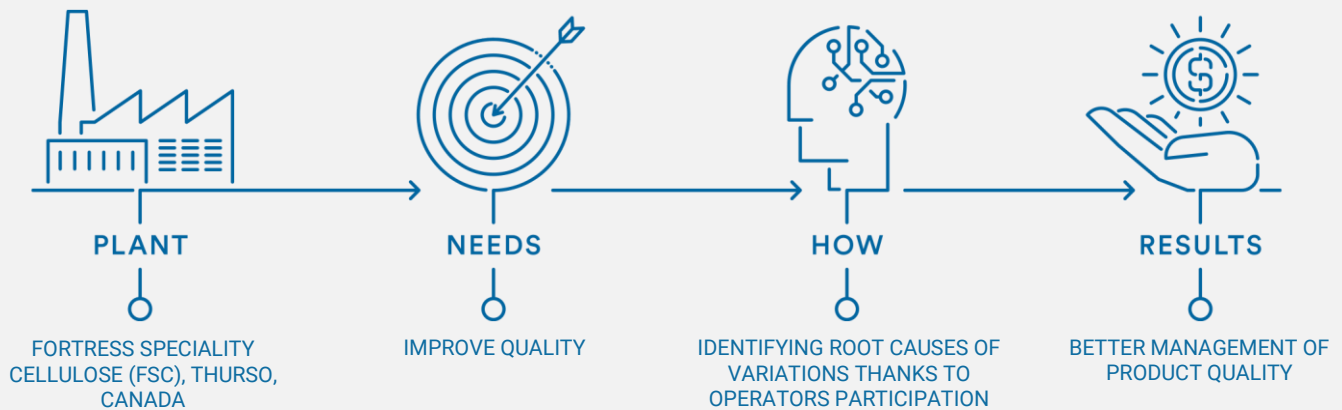
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## Context

The FSC Dissolving Pulp Kraft plant produces specialized cellulose for the textile manufacturing industry. The pulp is produced in batch reactors (digestors) from wood chips and goes through washing, bleaching and drying stages. There are hundreds of process parameters and **variables impacting quality and yield**. Moreover, there is between 36 hours and 48 hours transit time from the reactors to the final product and the quality test which complexify the analysis and delay the mill reaction time.

The mill has some product **quality issues** mostly in wintertime for causes that were not very well understood. This issue leads to **more waste** because of the off-specification product. It also forces the plant to produce again which results in **more raw material use**. Dissolving Pulp is a complex chemical process that has not been studied extensively yet. The mill hired multiple consultants and research centers that fell short of providing sound explanations.

As part of this project, **3E Eng** provided analytics services with **Pepite DATAmaestro** software to help the mill identify the causes and solutions of the quality issues. 3E Eng collaborated closely with the mill personnel for the whole project.

We identified the main parameters impacting the quality from hundreds of variables with data mining techniques. We provided a predictor for quality and a dynamic indicator of the process parameters for optimal quality with advanced modeling techniques. These tools helped the mill to **better manage the product quality, reduce waste and improve yield**.

