

Use of Multivariate Analysis for Wood Kiln Monitoring and Control

Project's Statement

- Presently, the drying operation is not defined by the conditions of storage of wood and the climatic conditions before and after the kiln, whereas it should be.
- 10 % of the wood is over-dried, which translates to loss of productivity and higher energy consumption.
- Large volume of data (Temperature, moisture, dryness) is available in the sawmills, and is unused.

Objectives

- Develop tools to assist kiln operators to better operate the dryers;
- Determine the impacts of energy reduction measures in terms of GHG emissions abatement.

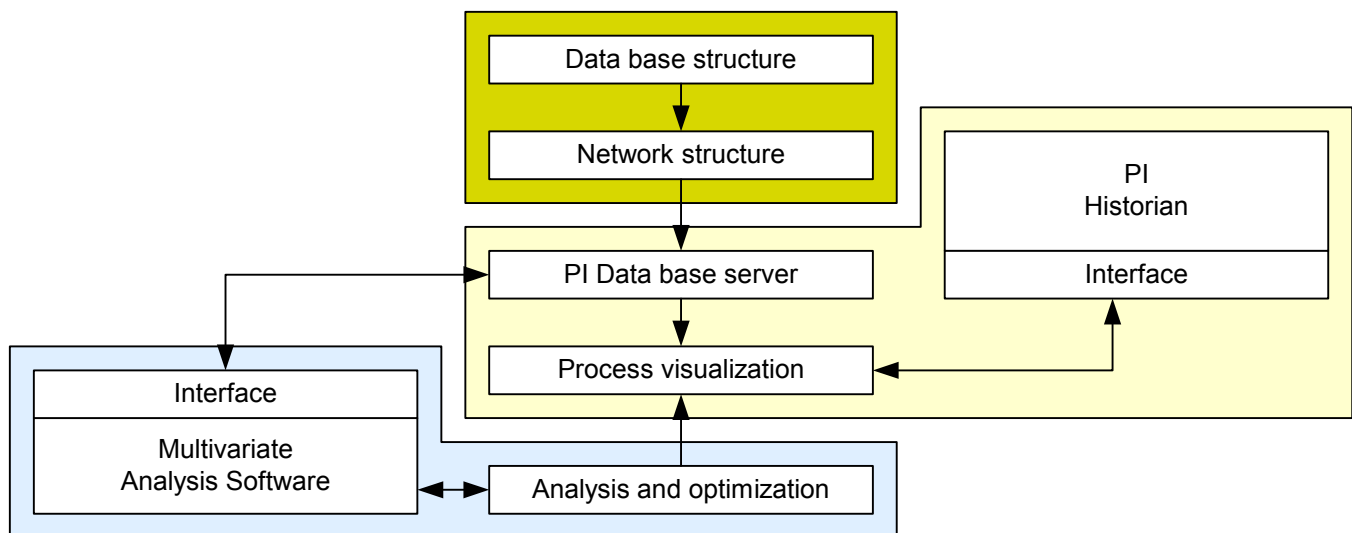
Project Plan

- Interconnect the data acquisition systems of the raw data of the mill;
- Build a “real time” database;
- Analyze the data by using *the multivariate* method and the *Umetrics* software;
- Obtain a model of the drier and new drying schedules;
- Develop interfaces for the visualization of energy consumption and the strategic management of the sawmill;
- Test the pilot system.

Impacts

- Reduction of 300 kilotons equivalent CO₂ per year, for Canada's wood industry;
- Improvement of the productivity.

Lumber drying process control - Road map



Project in partnership with: Forintek Corporation, Université Laval, Leduc Sawmill and OSI-Software