PREDICTMARK

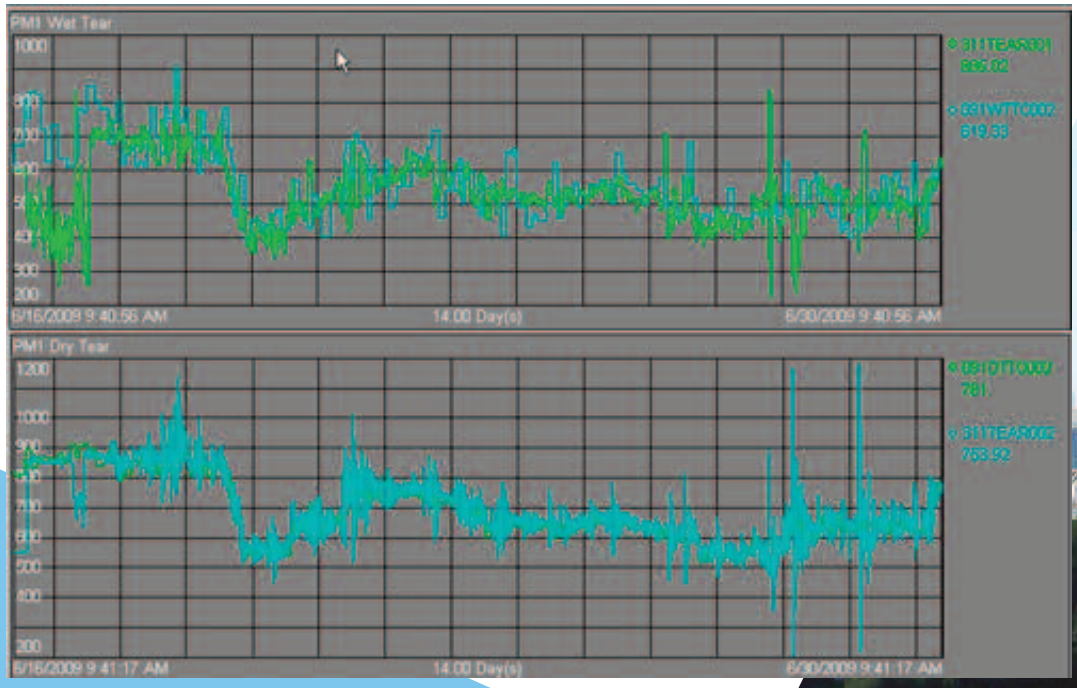
The application solution to property prediction

THE PREDICTMARK PROPERTY PREDICTOR APPLICATION SOLUTION represents the latest technological advancement for Pulp & Paper applications to improve process performance, reduce variability, chemical usage and energy consumption.

Predictmark is a model based advanced mathematical solution for predicting real-time values for final product properties like tear, ring crush, tensile, etc. Predictmark utilizes industrial databases tools like OPC or PI to collect real-time data from process variables that influence the final product property. The process variable values are saved in the application's internal memory along with the corresponding actual property values of the product obtained from either the laboratory or a robotic on-line analyzer. The advanced mathematical model is then constructed to predict the actual property in real time, based upon the continuously updating process values that represent the changing process.

EXAMPLE: WET AND DRY TEAR

Linerboard Tear is a typical example of this technology currently being used on a board machine in the southern USA. In the past, tear readings were obtained periodically at the end of a reel, or in some cases every second or third reel. With this frequency, when a problem was detected, and corrections made, a considerable amount of off spec paper had to be dealt with. The graph below is an example of tear readings produced for the operator every minute. With this information, rapid corrective actions to either chemical flows or basis weight are made to minimize the off spec product.



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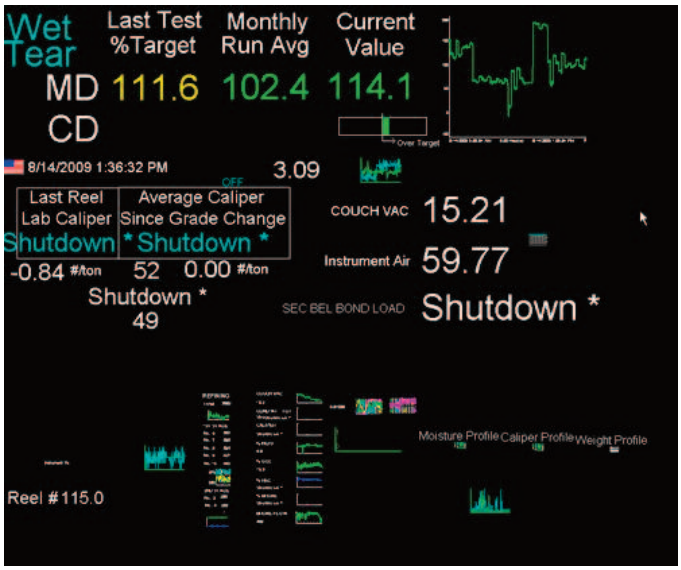
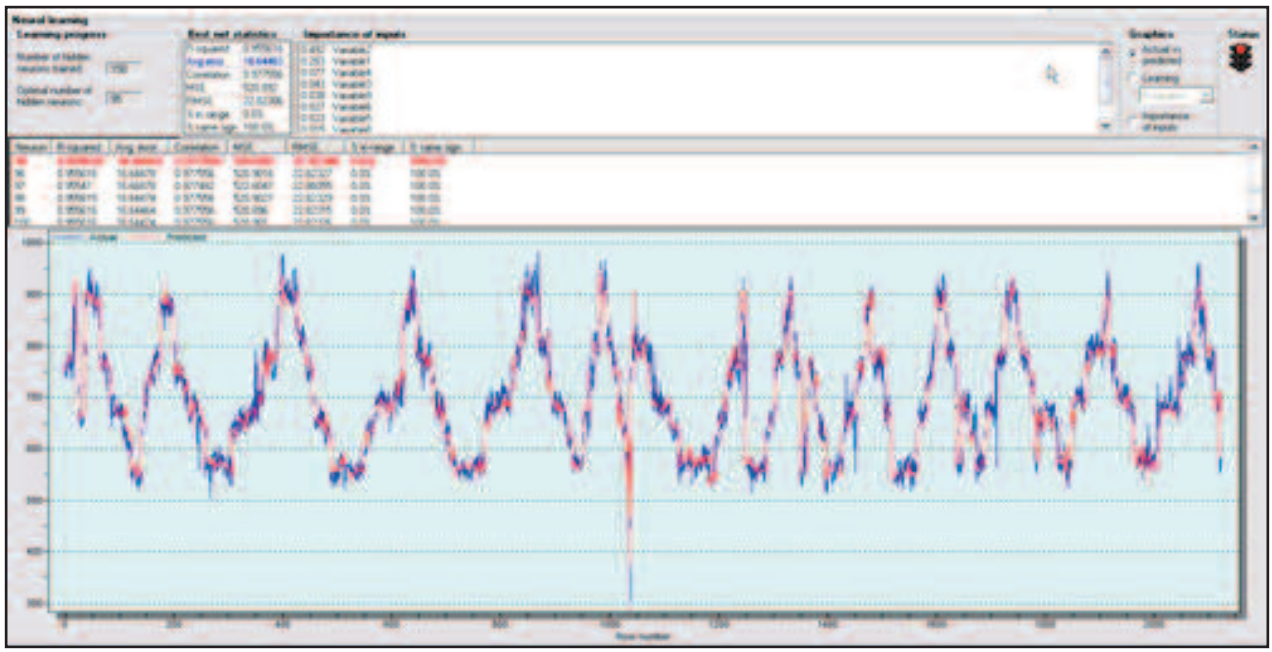
TO THE RIGHt is a typical operator display, showing the actual predicted value (updated every minute) along with a horizontal bar indicating the direction in which the tear is shifting. An eight hour tear trend is also displayed.



BELOW is a predicted vs. actual trend of the dry tear model versus the lab values with an R-squared value approaching 96%.
This technology is not new, but has rarely been used in the pulp and paper industry in the past. Today's requirement for improved performance is forcing paper makers to reconsider the technology to improve their bottom line.



THE NEXT STEP
Based upon the success of the prediction model, the southern mill is now considering closing the loop utilizing the Predictmark property as the input to a Model Predictive Controller (MPC) to save chemicals, fibers and energy.

CONMARK SYSTEMS is offering several different solutions of the Predictmark to improve process performance.

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