

# ExtractEye™ – Extract more information from PulpEye®

## QUALITY MONITORING

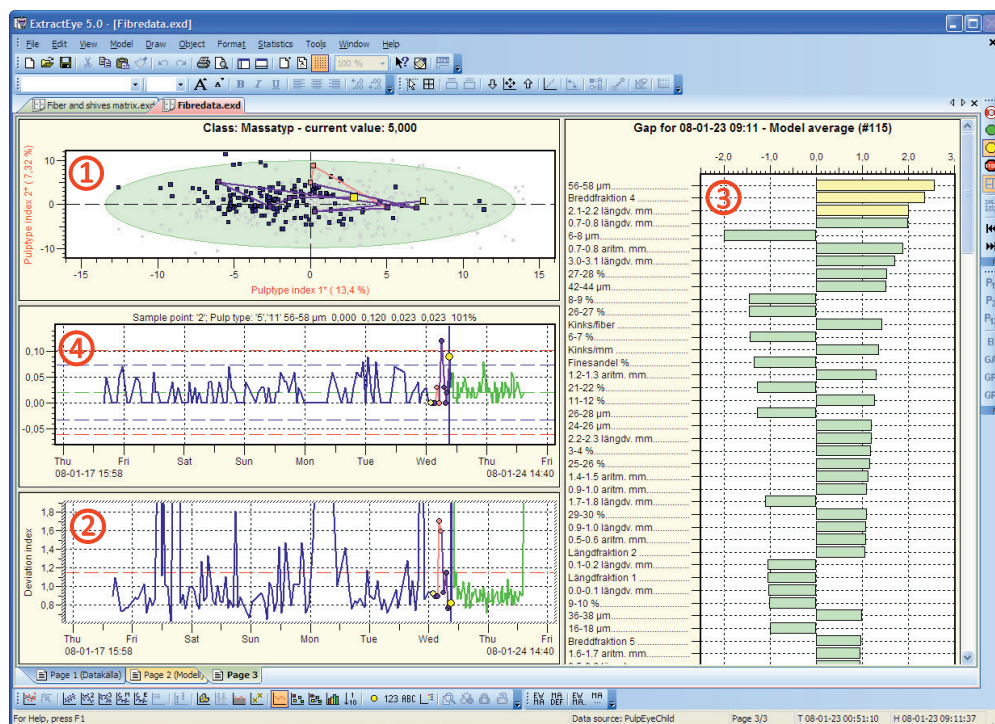
Fiber classification – is the pulp today the same as yesterday? Find unusual or deviating fiber data.

## PREDICTION

Calculated values on-line, e.g. energy requirement for beating, pulp strength or wear in refiner tackle.

## FAULT DETECTION

Detect disturbances or degradation in instrument performance.



### Get an advanced and powerful overview

of fiber distribution data compared to a reference.

ExtractEye™ uses the full information potential inherent in the fiber distribution data.

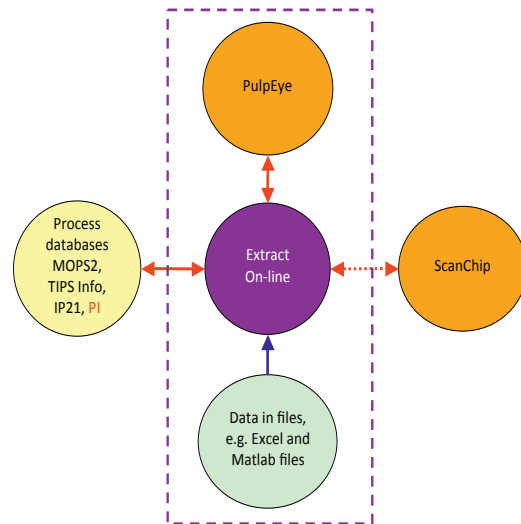
1. View the location of a new pulp samples compared to a reference. If the observation (the blue square) is inside the green ellipses the new pulp sample is similar to the reference. Identical pulp samples will have overlapping points and thus the more similar two pulp samples are, the closer they are to each other in the plot
2. View the overall stability in the fiber distributions. If the line is below or slightly above the red dotted line the fiber distribution is similar to the reference. Just click on an observation to show a sorted list of variable deviations for that observation in diagram 3.

3. Deviations for individual variables compared to the reference average – sorted to always show the largest deviation on top.

4. View the trend for the variable with the largest deviation. Click on a variable name in diagram 3 to update the trend plot with data for that variable.

**A good way** to use this kind of monitoring is during the daily morning meetings in the mill. If the line in diagram 2 is flat the fiber distributions are stable. If there are spikes just point and click to find out what is causing the deviations

# ExtractEye™ package – Pulp On Target



Nearly 400 variables are available from a fiber sample analyzed with PulpEye®. ExtractEye™ can handle and visualize this data efficiently.

Data can be exported to file formats that overcome the 256 column limit in Microsoft Excel®. Time series or scatter plots are easily created using drag and drop. Fiber distribution and shives data can be visualized in 2D color maps.

Advanced statistical methods like PCA (Principal Component Analysis) can be used for monitoring and follow-up of variation in fiber distributions compared to a reference. PLS (Partial Least Squares) can be used to predict pulp properties from fiber distribution data.

- ExtractEye™ communicates with the MySQL database in PulpEye® using ODBC.
- There are also interfaces for communicating with process database like MOPS2, TIPS Info, IP21 and PI.
- Data from different sources, e.g. fiber data from PulpEye® and process data from TIPS Info can be combined in a Microsoft Excel® document which can be opened in ExtractEye™ for data analysis.

## OUR SERVICES

Applications for quality and process monitoring  
Advanced problem solving

## COMPETENCE IN

Process analysis  
Pulp- and papermaking  
Wood chemistry  
Statistics  
Programming



Extract Information AB



Garvaregatan 24A  
602 21 Norrköping  
Sweden  
Mobile +46 (0)70 676 11 85  
Fax +46 (0)11 12 08 82  
Email [info@extractinformation.com](mailto:info@extractinformation.com)

Box 279  
891 26 Örnsköldsvik  
Sweden  
Phone +46 (0)660 29 56 00  
Web [www.eurocon.se](http://www.eurocon.se)

## BUSINESS CONCEPT

Effective and advanced analysis of lab and process data to increase productivity and quality evenness in pulp, paper and board production.

More information about our products and services can be found on the Internet at: [www.extractinformation.com](http://www.extractinformation.com)