

# Modern Solutions to Improve Paper Making Efficiency

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## **ABSTRACT**

Papermakers have three prevailing objectives: quality, runnability and overall performance. Today the overall performance means aiming to the best possible efficiency of the whole production line and maintaining stable quality of the produced paper at target level. To meet this, it is vital to stabilize consistency, ash content, charge and chemistry at start-ups, in normal run and after grade changes. It's best done by measuring and controlling the wet end as comprehensively as possible.

This paper introduces two lately launched tools for wet end management: modular analyser to wet end chemistry and consistency sensor for wet end applications. The new analyser is first in the world that provides papermakers all the relevant wet end chemistry measurements.

The consistency sensor is stand-alone device that performs continuous measurements from one sample point. It is ideal for applications that require continuous consistency measurement from the wet end and for automatic retention control.

Retention is controlled by stabilizing white water consistency by changing retention polymer flow. This is the cornerstone for stabilising wet end. Efficiency of this control is shown by real mill examples. The performance of retention control can be improved by sustaining optimum chemical environment for retention polymers. This optimum chemical environment can be created by measuring and controlling charge in different parts of the process.