

**The Need in Continuous Measurements of Material Properties and
Process Optimization in a Pulp Mill**
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properties and process optimization in a pulp mill**

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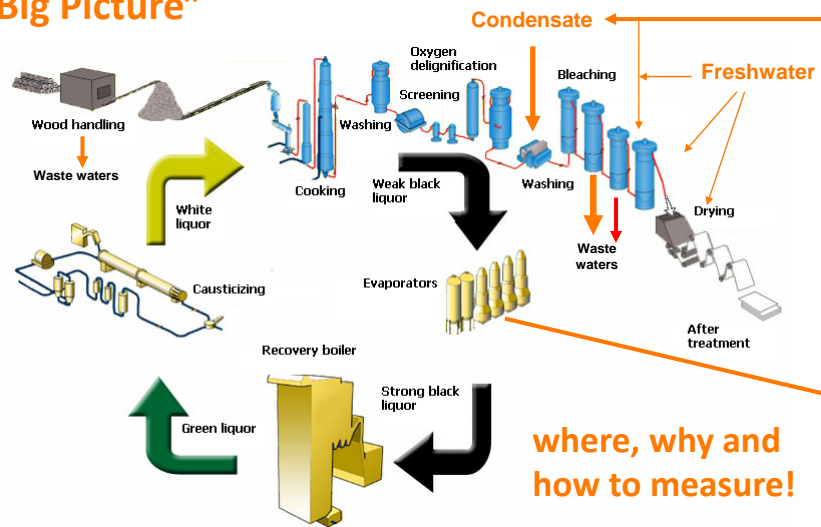
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Content

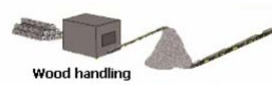
- "Big Picture", where, why and how to measure!
- Wood handling
- Fiberline
- Chemical recovery
- Pollution control



"Big Picture"



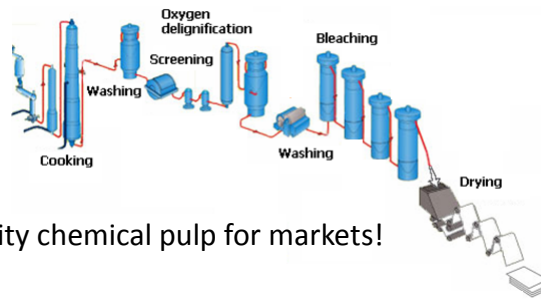
Wood handling



Purpose is make good quality chips for cooking!

- Better informaton are needed from:
 - Dimensions of the chips (particularly from thickness)
 - Bark content of the logs / chips
 - Water balance should be optimised!
 - More water used the more effluent is formed!
 - Quality of the effluent is harmful for the performance of the activated sludge plant

Fiberline



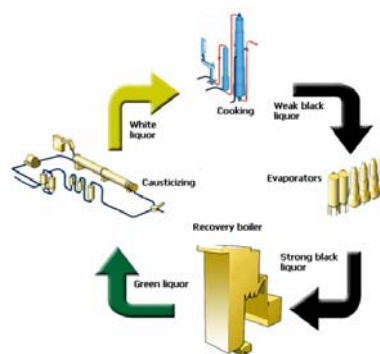
Purpose is make good quality chemical pulp for markets!

- Better information are needed from many places (e.g.):
 - Moisture of chips (cooking performance)
 - Dissolved solids of various liquors (washing performance)
 - Wash loss vs. oxygen delignification vs. pulp quality
 - Water balance should be optimised!
 - Alkali content of liquors (cooking performance)

Chemical recovery

Purpose is recovery the cooking chemicals and produce energy to mill and paper machines or other customers!

- Better information are needed from many places (e.g.):
 - Dissolved solids of various liquors
 - Alkali content of liquors
 - Concentration of NPE's



Pollution control

Purpose is reduce amount of air and waste water emissions and increase the amount of solids!

- Better information are needed from many places (e.g.):
 - Wastewater quality (COD, P)
 - Air emissions quality (particles mainly fine ones)
 - Water content of the solids
 - where and how the water is bonded to the material

Muito obrigado!

and greetings from Mosambique!
Clean technologies research group has a teaching
module of Industrial Environmental Engineering
ongoing with UEM (Maputo)