



Corrugated Board Quality Assurance with Online Quality Control System

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We are committed to moving our customers performance forward

17,000 professionals serving customers globally

Global leader

Unique combination of technologies, services and automation for pulp, tissue, board, paper and energy.



220 years
of industrial experience

3,935M
net sales 2021



EUR **98** million
R&D spending
in 2021



~1,300
protected
inventions



MEMBER OF
**Dow Jones
Sustainability Indices**
In Collaboration with RobecoSAM

References

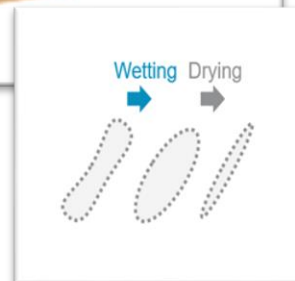
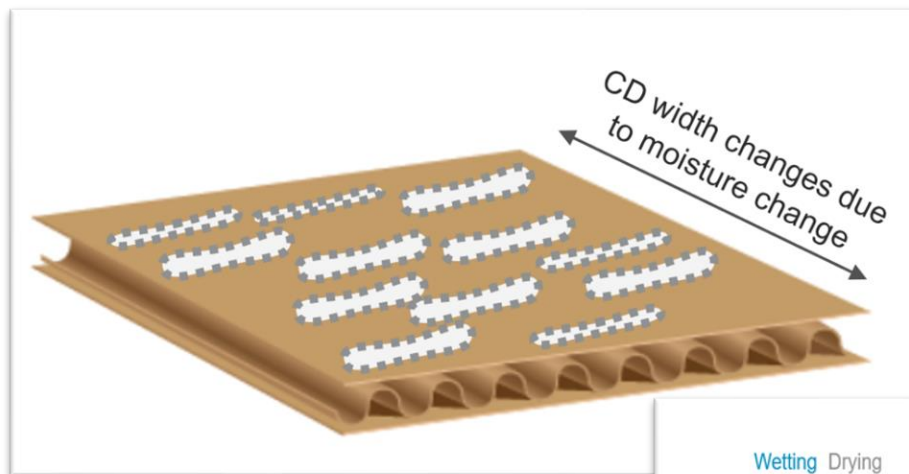
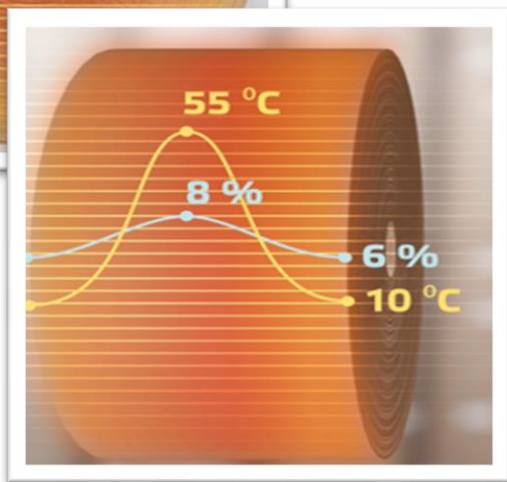
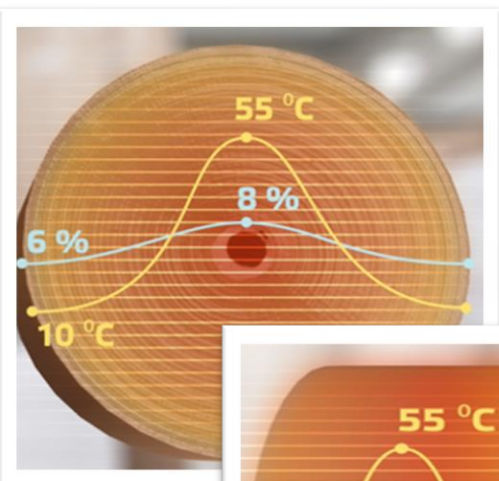
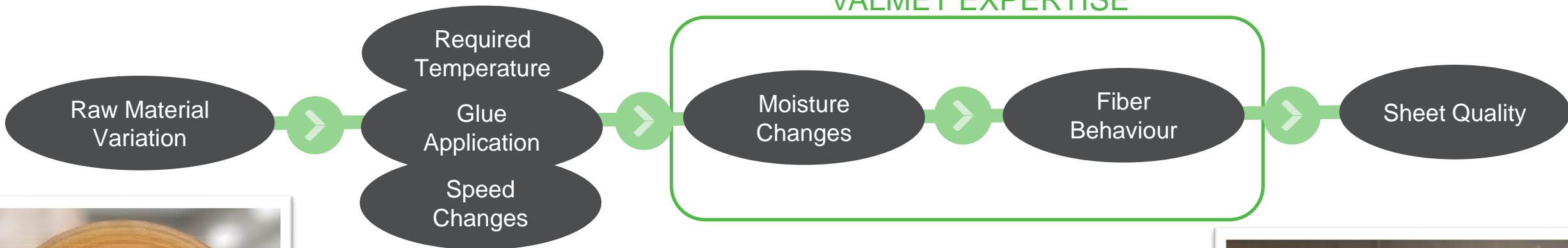
Corrugated Board Industry

- ✓ **Over 40 Valmet IQ system installations mostly in Europe**
 - 40+ online measurement systems
 - 30+ water spray systems
 - 20+ close loop control systems
 - **Various machinery types with different technical age**
 - **REPEAT ORDERS FROM CUSTOMERS**



Corrugating process affects to fibers!

VALMET EXPERTISE



IQ Quality Control System for Corrugators

- ✓ Paper machine based QCS for corrugators
- ✓ Online Moisture, Temperature & Warp sensors to give real-time information from the process
- ✓ Fast actuators to reducing process limitations such as over-drying and uneven cross directional profiles
- ✓ Truly close loop controls based on online measurements

● Multipoint Moisture & Temp.

- After heaters, before glue caps
- One for every paper/layer



● Moisturizer

- Triplex area
- Sprayboom per layer



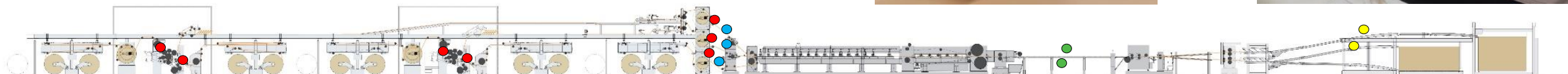
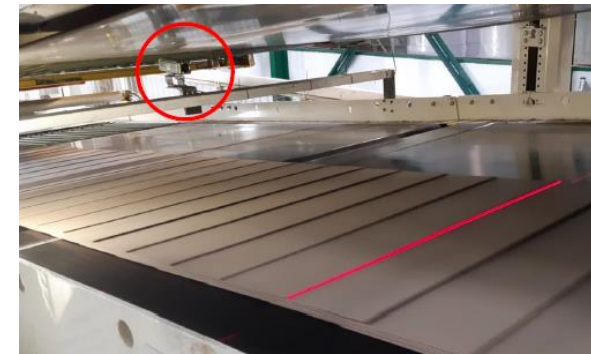
● Single-sided moisture meas., and/or MW total moisture

- After Double facer,
- IR for Top & Bottom liner
- MW for total moisture



● Warp measurement

- Stacker conveyors



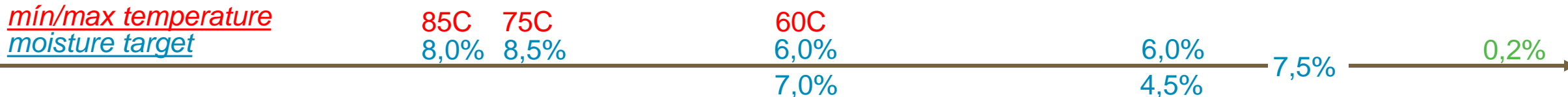
QCS General principle

Real production situation!

Current production parameters:

Grade in production	B 140TL – 90RF - 140TL
SF glue gap	0.155
Triplex glue gap	0.135
Speed	250m/min
Steam pressures	1,0bar / 2,0bar / 3,0bar
Shoes down	6/7
Valmet IQ QCS	Automatic

Grade specific targets from IQ QCS database



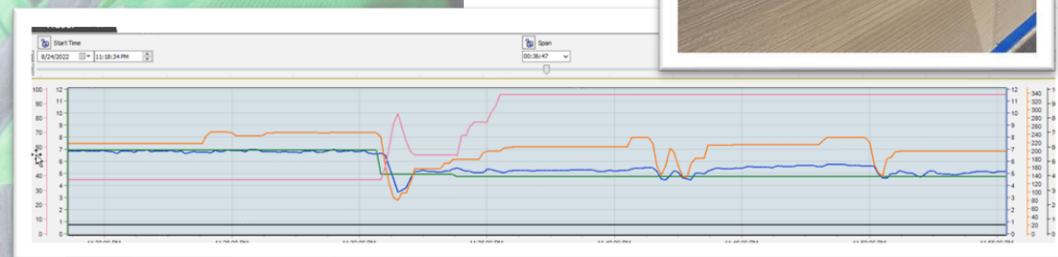
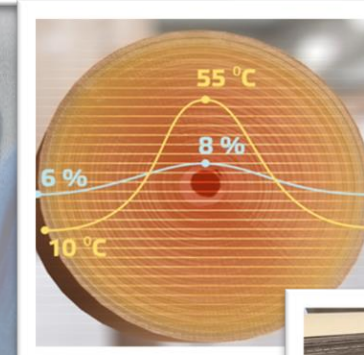
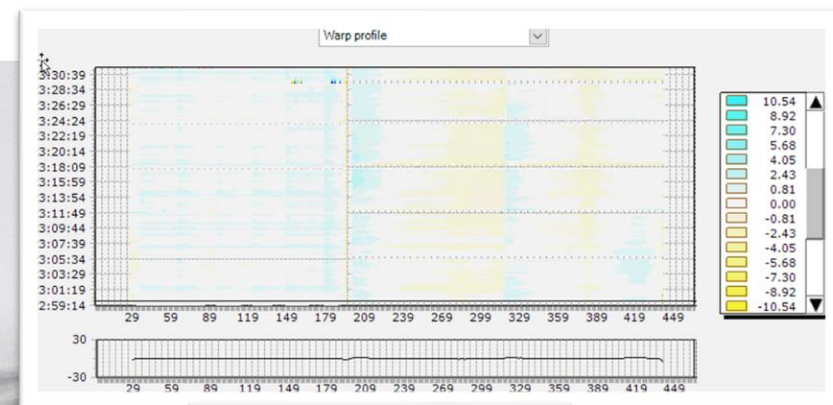
Online measurements, Automatic wrap-arm control




IQ Moisturizer used when level moisture increase, or CD-profiling needed

Summary

- Model predictive controls based on real measured quality
 - Actions based on online data, no delays
 - Operators have more time to manual tasks
- Detailed root cause analysis
 - Paper quality vs. Corrugator process
 - Advanced data stored in reporting database for continuous improvement
- Harmonizing process parameters
 - Uniform grade parameters between shifts / production runs
 - Stabilize sheet behavior in WIP area with moisture target-based production
- Maximize box plant performance / OEE
 - Reduce plant waste level
 - Improve quality
 - Higher speed in Corrugator
 - Converting productivity





You will find demos and Valmet
experts from Booth #430,
Thank you!

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