How Will Digitalization and Automation Change the North America Woodworking Industry? PELICE 2018

Hauke Jeske | April 2018







Mega-Site Structure by Region (Q2 2017)





Wood-based Panel Production – that easy?



Improve the interaction by automation upgrades



System Configuration Today





From Single Machine to Process / Plant Control

Single machine control

- § Few operators in front of many screens
- § No overview of the process





Process/plant control

- § Process key figures at a glance to optimize plant output
- § Better and faster control reduces costs



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Technology Behind it – Components





Forming Station – Spreading in Sequence

- Savings of raw material and resin
- Faster production start, faster product change, less downtime
- Existing equiment can be used/modified





Automated Product Change

- Minimum changeover times and material losses
- Diversity becomes controllable by administration of production recipes
- Reproducibility of quality is ensured
- All process parameters correspond with the correct recipe right from the start of a new production





Multi-Opening Presses

- Modern drives with encoder
 - § Faster and more precise positioning of screens (approx. 1 - 3 seconds)
 - § Faster positioning of the loader (approx. 1 second)





Connectivity – Support for Daily Life



Motion over time recording

Link to other sensors (bathroom scales)





Health monitoring system





Database

Big Data



Big Data



Time Series Analytics

Prediction of component life span

Outlier Detection

Find outlier in data streams

Anomaly Detection Is something abnormal?

Event Chains

Root-cause relationships











Big Data







Connectivity in Your Plant

- Example: Idling dryer (forgot to shutdown or avoiding need to restart)
 - Consequence: Specific energy consumption is increasing
- Solution: Transparency and awareness!







Speedometer









Smart Monitoring





- Datasheet, manual
- Maintenance instruction
- Explanatory film
- FAQs, trouble shooting





- Electronic spare part catalogue
- Check lists
- Safety documentation



"Hey Jakob...

... show the overview of the dryer area!"

... any hints for process optimization?"

... filter alarming for hydraulics!"







Jakob can answer with over 170 years of experience!

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