MOISTURE DETECTION TO REDUCE WARP IN CORRUGATED BOARD PRODUCTION

The challenge

- Unknown and varying moisture content in the paper leads to warping in corrugated board production.
- Warped corrugated board leads to failures in postprocessing and is the main cause of production rejects.
- Currently, no being able to measure moisture results in >1 billion € overall losses per year due to rejects.
- Monitoring moisture content would allow automated machine control and reduced rejects.

The current approach

- On-demand manual one-spot measurements of moisture using hand-held devices.
- High manual effort, insufficient data, no process automation possible.

The better way

- Material sensors can be used to detect the moisture content.
- Use multiple sensors to resolve the moisture distribution across the whole web width.
- Use the gathered information to set the perfect moisture level using automated machine control.

The benefits

- The Senorics sensor solution helps improving product quality and reducing rejects, which is:
  - Good for your profit: Reduced rejects = reduced costs
  - Good for customer relations: Less complaints = higher satisfaction
  - Good for the whole process chain: Reliable post processing = higher process efficiency
  - Good for the climate: Reduced rejects = reduced water and energy consumption for recycling (>1 Mio. t CO2 per year)

The Senorics solution

Senorics’ innovative spectrometer-on-chip sensor solution is:

- Process compatible: Seamless in-line integration in the production machine.
- Continuous, reliable and fast tracking of paper moisture content.
- Cost-effective: Multiple measurement spots possible.
- Robust: no moving parts included in contrast to conventional spectrometers.

Senorics in a nutshell

- Robust, small, mobile.
- Broad spectral coverage.
- Low cost & powerful.

The next step

Are you interested in our solution? Please visit our webpage for more information or contact us.

Dr. Robert Nitsche
Business Development Manager
Phone: +49 351 850 32 413
robert.nitsche@senorics.com

SENORICS IN A NUTSHELL

- Robust, small, mobile.
- Broad spectral coverage.
- Low cost & powerful.

USE CASE SUMMARY

PAPER & PULP

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ASTOUNDING REAL LIFE DATA
- Worldwide annual production of 250 billion m², which is the size of Great Britain.
- 2/3 of German products are packed with corrugated board.
- 2% of corrugated board production is directly recycled as rejects.

REFERENCES:
1 freedoniagroup.com/industry-study/world-corrugated-boxes-3339.htm
2 wellpappen-industrie.de/data/04_Verband/05_Publikationen/03_ZahlenFakten/ZahlenFakten-2020.pdf

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