



More than just

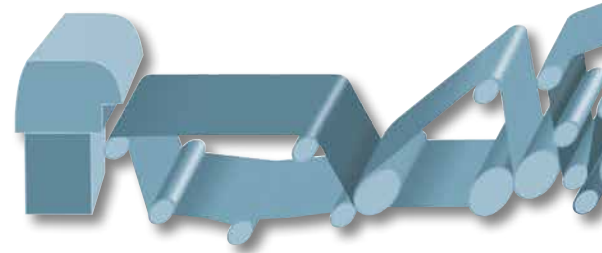
# Web Break Monitoring

Capturing of Critical Events and Process Optimization

*Leading the Way  
for Paper  
Production*

**ISRA**  
VISION

# Intelligent Pro Reduce waste, incr



## Web Break Monitoring to maximize the bottom line

The intelligent Web Break Monitoring system (WBM) helps for fast set-up times, increased production speeds and highest paper quality. WBM monitors web breaks and any other critical events. It automatically alarms for disturbance with images and alarm signals. To do so, critical process relevant positions are observed, recorded and analyzed using WBM camera. All video sequences are stored time and position synchronized. Recording and storing exact positions of the critical events allows defect causes to be identified immediately, even if these defects did not lead to web breaks. The advantage: Papermaker receive early warnings automatically and can take the necessary steps for immediate action. This helps to prevent breaks and to increase quality and productivity.



**All-in-One** provides more: web inspection system (WIS) and WBM are combined in one system. This way, where and how a defect first occurred in the machine can be determined even faster. It allows a more detailed analysis of web breaks, and provides direct real-time information about root causes of defects. It helps optimize the process and achieve better quality and profitability.

## WBM general features:

- Automated event capturing and alarming on detected events like: breaks, cracks, holes, edge flutter etc.
- All-in-One system and operation for WIS and WBM
- Intelligent Cameras with single housing concept

## WBM camera features:

- Integrated embedded processor for complete image analysis and long video sequence buffering
- Delivers automatically and immediately detected events to server and operator monitors without delays
- Strong LED flash light to illuminate any paper machine area
- Fast flashing within  $\mu$ -seconds for brilliant images at highest web speeds
- State-of-the-art cameras with fastest acquisition rates, highest sensitivity, highest resolution available (up to several MP size)
- No heat generation, low cooling
- 48 VAC power supply provides safety
- Easy set-up, installation and cabling
- Industrial wiper washer or brush cleaning for low or almost no maintenance
- Portable system set-up for quick placement anywhere across the web
- Standard GigE communication to system server
- Ruggedized housing
- LED life time over 10 years

## Smart Web Bre

- Embedded processor, integra
  - Operating at long distances,
  - One, combined operating stat
- Web Inspection System (WIS)

Release point  
analysis

Tail  
threading

## All-in-One Web Inspection Sys

Formation  
analysis

Defect  
marking

Process  
analysis

Position  
correlation

Root cause  
analysis

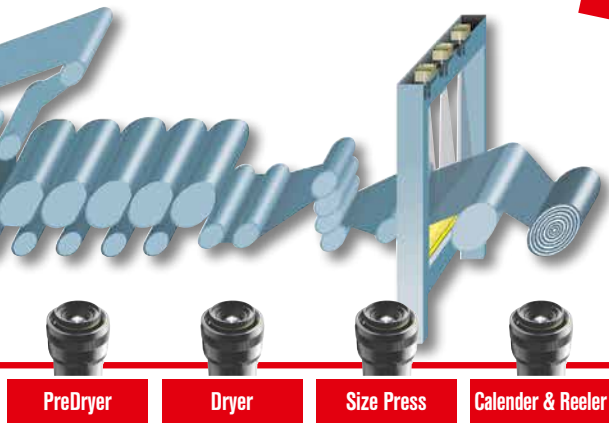
Statistical  
analysis

## What are the benefits ?

- Crystal clear images
- Reduces web break losses dramatically, typically 50%
- All critical events at any place in the machine under control
- Increase throughput, optimize process
- Increased runtime of components (such as wire, felt) as a result of proactive maintenance
- All-in-One system set-up of WIS and WBM

# Process Control Increase throughput

Prevention through  
Automation  
Instant feedback  
for fast reaction



## Web Break Monitoring

Equipped with LED, ruggedized, cleaning  
based on GigE

Application for:  
) and Web Break Monitoring (WBM)



### Whether wire-, trim-, press-, or other section ...

When a web break or other critical event is detected, WBM opens automatically an analysis display at the operator monitor. Automatically the relevant images of the camera positions on both sides of the machine including the actual break position and the preceding positions are shown. The images display precisely the piece of paper, which has created the break or event. All cameras are synchronized to each other. If the operator moves the cursor over any camera display, it zooms into full resolution to get more detailed information – perfect analysis, easy done!

### Options and applications

The Web Break Monitoring system offers several different analysis options like release point, tail threading, trim squirt, and web edge analysis.

Trim  
squirt

Web edge  
analysis

### Trim squirt analysis

prevents web breaks caused by dirt buildup on trim nozzle. Critical dirt build-up degree is continuously monitored and a prediction and warning is given to the operator early before the dirt clump normally would fall. The advantages:

- Avoidance of typically 3-5 web breaks per month caused by falling fiber clumps from trim squirt

### Release point analysis

for monitoring release point at various press rolls and yankee. Generates automatic alarm when release point position is out of tolerances. The advantages:

- Reduction of moisture spike and tension related breaks by fast corrective action of operating staff
- Improves paperboard yankee temperature control
- No more manual operator control necessary

### Edge analysis

inspects for flips, edge flutter, position and edge cracks. The advantage:

- Less breaks created by incorrect press rolls settings, draws and web guiding

### Tail threading analysis

allows for faster and guess-free start-up during web threading. Tail threading analysis allows staff to react and focus on right issues during the demanding threading process. The operators are guided through the different stages of threading. Web problems, tail cracks, flutter, tension and break is monitored during the entire threading process and immediate alarm and films are displayed, if something important happens. The advantages:

- Fast action due to visualization of defect, position, and root cause with no need to go inside the control room
- Repeatability and match to machine parts
- Video sequence saving for further analysis and optimizing

## System + Web Break Monitoring

Winder/Re-Reeler  
control

Defect  
tracking

Dirt  
counting

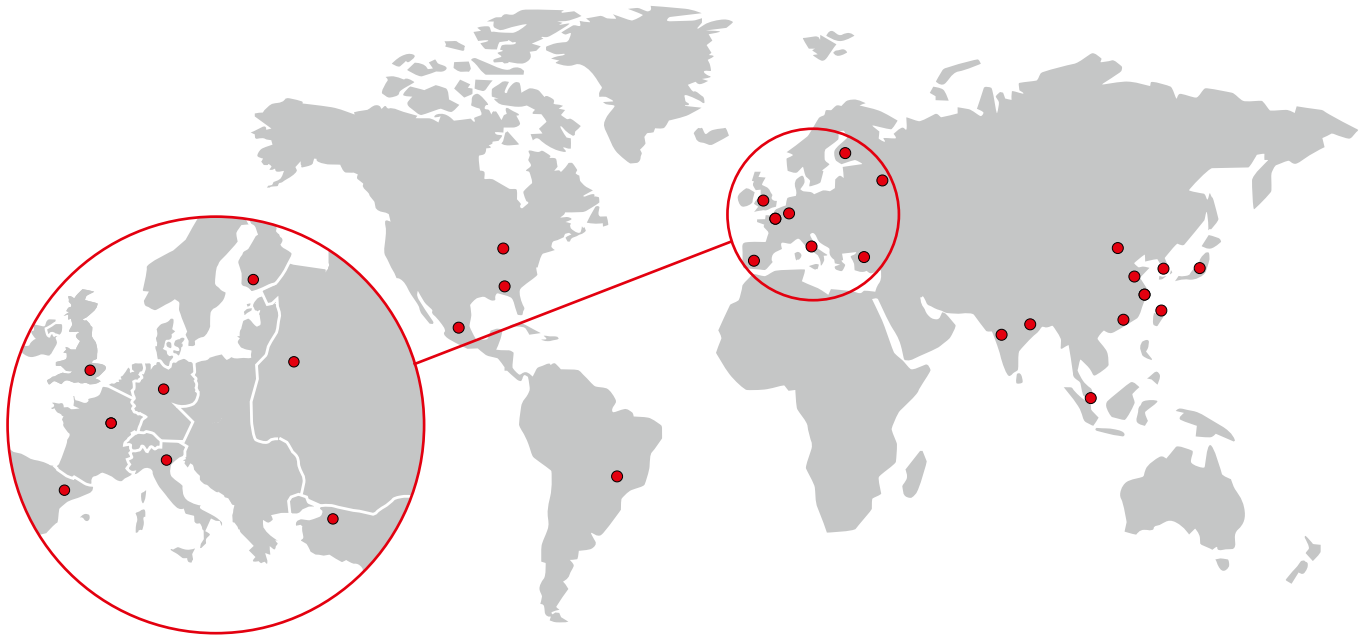
Slitting  
preview

Reel  
decision

Web break  
monitoring

- Knowing exactly where to optimize
- Just in a few seconds: visual video root cause where ...when ...what by automated sequence of interest pre-selection
- Reduction of machine downtime
- Increased product quality
- Prevention instead of action
- Root cause analysis for fast corrective action

# Innovations for Automated Optical Inspection of Paper



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