Our commitment is to deliver TotalVision™ results

Papertech's TotalVision™ systems continue to provide exceptional results and return on investment (ROI) for our global customer base while giving new industries new ways to improve their product quality and line efficiency.

Combining web monitoring and web inspection into one unfied system, our TotalVision™ quickly and accurately pinpoints defects and their root cause with real-time synchronization. All of our components from our WebView self-cleaning camera housings to our high efficiency LED lighting are designed to be simple to integrate, install, and service.

As with any business in a rapidly changing global economy, Papertech needs to be agile and responsive to changes in markets and we're now excited to be providing our technology to a host of new industries beyond our traditional pulp and paper sector.

We are especially proud of our service team who consistently go the extra mile to make sure your TotalVision™ system is performing at its best and giving you the ROI you expect. All of our systems are of course fully warrantied and supported 24/7 by our service team from initial installation.

Kari Hilden, CEO

A Global Presence - Sales + Service available in all papermaking countries
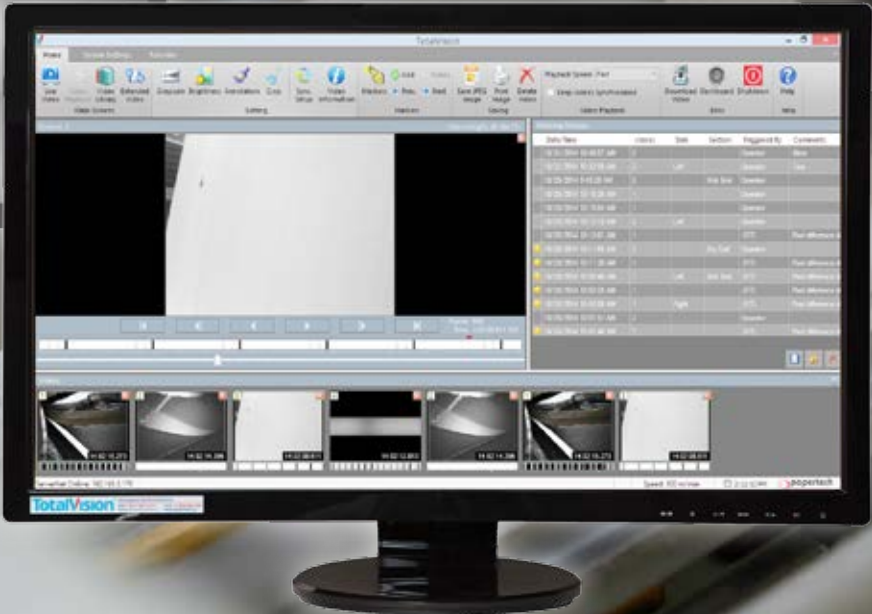
Argentina • Australia • Austria • Belgium • Brazil • Canada • Chile • China • Colombia • Czech Republic • Denmark • Finland • France • Germany • India Indonesia • Italy • Japan • Mexico • Netherlands • New Zealand • Philippines • Poland • Russia • Serbia • Slovakia • South Africa • South Korea • Spain Sweden • Switzerland • Thailand • Turkey • USA • UK • Vietnam

TotalVision™ solutions using web inspection and web monitoring systems

papertech

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Papertech 108 - 245 Fell Ave., North Vancouver, BC V7P 2K1 Canada • Toll Free: +1 877-787-2737 • Tel: +1 604-990-600 • Fax: +1 604-990-1606
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TotalVision™
FOR TISSUE

Machine Vision Solutions for Tissue Production & Converting Lines

{Web Inspection + Web Monitoring Systems + Application Specific Event Capturing Solutions}

Papertech — TotalVision™ (WebVision + WebInspector)

TotalVision™ effectively solves tissue production and converting problems using event capturing and web inspection solutions

WEBVISION® Event Capturing Solutions

- Operators can quickly identify the root causes of process interruptions, often before they happen.
- Cameras monitor critical process points.
- System provides "same web" synchronized images across all camera views immediately after event.
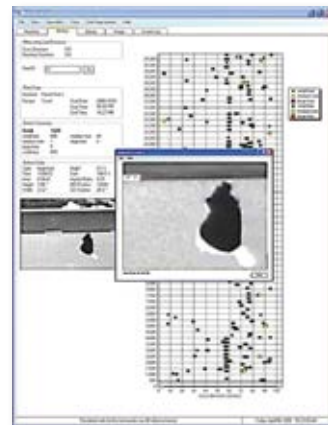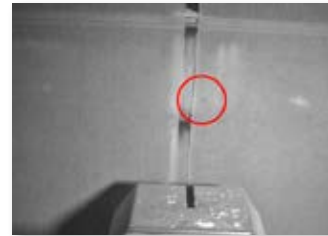
+

WEBINSPECTOR Quality Control Solutions

- 100% inspection of all critical defects.
- Reel defects classified, mapped and stored.
- Periodic defect sources found (Yankee, felts, wire, rolls).
- Root cause identified when combined with WebVision® (WMS) = integrated TotalVision™.
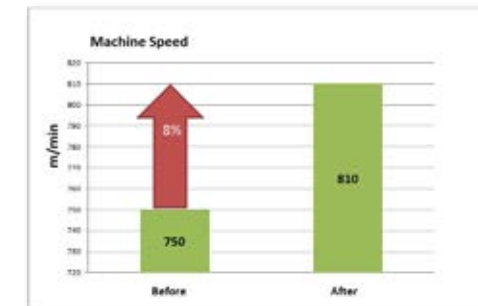- Allows reel maps to be passed physically or electronically to converting plant to qualify each reel.

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TotalVision™

Web Inspection & web monitoring to eliminate the root causes of process interruptions from defect to root cause.

Tissue production line solutions provided by Papertech

Forming
- TotalVision identifies process interruption root causes and web defects in forming stage.
- TotalVision monitoring of trimming, pick-up for process interruptions and defects.

Pressing
- TotalVision identifies pressing and felt related break/defect issues.

Drying / Creping
- TotalVision for post-drying creping issues: Edge cracks due to blade wear, periodic defects due to felts, rolls, and yankee.
- TotalVision for web absent/present at edges for safety reasons such as potential yankee fires.

Sheet Transfer
- TotalVision for process problems and web quality concerns.
- Web ink marking for converting optimization via unwind control system.

Reeling
- TotalVision for reel turn-up analysis.
- TotalVision for slitter cut analysis.
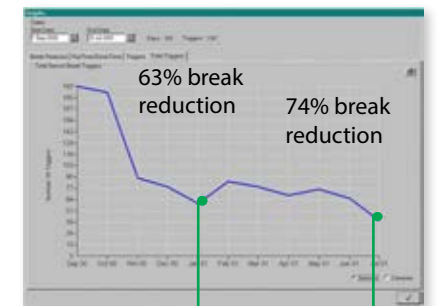
Image courtesy of Tosotec, Italy

Record production through break reduction

Within months a TotalVision™ solution increased machine efficiency and allowed a significant machine speed increase. Overall result: A less than three (3) month payback.

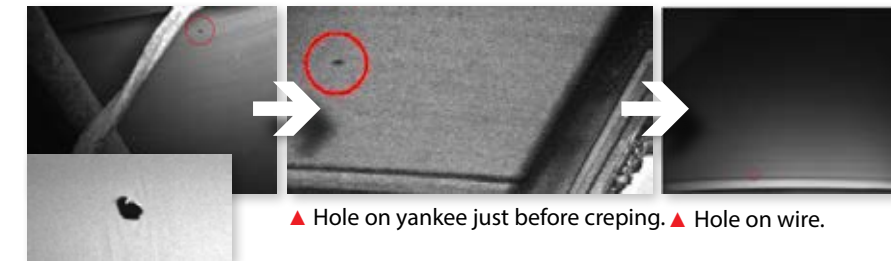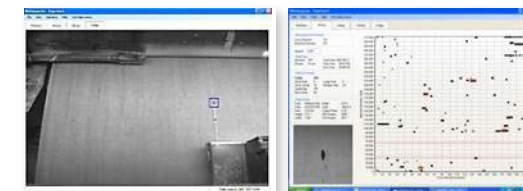actual mill graph showing number of break triggers per day

Web Breaks: Before 3.3, After 2.8 (15%)
Machine Speed: Before 750, After 810 (8%)

63% break reduction — 74% break reduction

2.4 breaks per day, after 5 months — 1.7 breaks per day, after 10 months

Machine details:
- Annual production: 25,000 tons
- Trim width: 3.8 m
- Machine speed: 1050 m/min.

TotalVision™ advantage: Track defects to the source

Defect as potentially seen by WebInspector®. Information is transferred to WebVision web monitoring system.

▲ Hole on pre-scanner and hole as seen by WebInspector.
▲ Hole on yankee just before creping. ▲ Hole on wire.

Result
Root cause found: Incorrect additives.
Conclusion: Additives required adjusting.

TotalVision™ for Diaper / Folding / Packaging Line Solutions

Safety - Improves overall line safety by providing visibility to inaccessible and gated machine areas.

Efficiency - Improves overall line efficiency by solving the root causes of process interruptions via synchronized visibility of the process.

Quality - Improves product quality by providing tools to identify quality problems and to reject poor quality product.

Service - Improves service capabilities with remote visibility of machine sequences at up to 500 images per second.

Frequency Based

Event Capturing
Capture causes of missing events (e.g. package passing by). Determine causes of changing event frequencies.

Live Monitoring
Allow visibility of inaccessible processes.

Explore Process History
24 to 96 hours of process history can be viewed all the time and analyzed for faults.

Enhance Existing Machine

Vision Sensors
Dynamic triggering to see how a fault happened, not just what it looks like. (e.g. see how material movements cause a flipped tag and not just what the flipped tag looked like).

Faster and more detailed results with a TotalVision™ system

- Overall result: A less than three (3) month payback.
- Web inspection solutions to identify process and quality problems.
- Web monitoring solutions integrated to the web inspection application to allow pinpointing of the root causes of process and quality problems.
- Rewind optimization systems with or without marking/reader systems to allow product to be allocated in converting processes to reduce process interruptions and to maximize quality.
- Event capturing systems in the converting processes that identify the root causes of process interruptions.
- Machine embedded and manufacturing floor-based measurement solutions that provide immediate feedback regarding product quality.
- Event capturing solutions in the packaging process to avoid unwanted bottlenecks.

Images captured by WebVision® at Folding / Packaging Line

Wrapper – Slight signs of roll skew/uneven travel
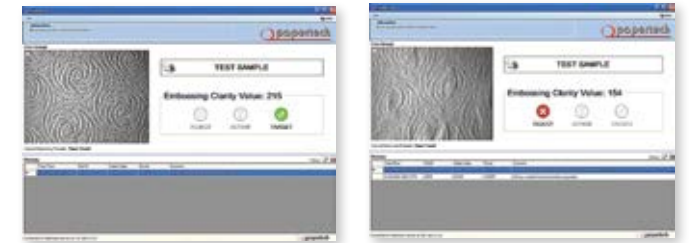
Wrapper

Folding line – Stacker problem

Diaper line splice

New applications
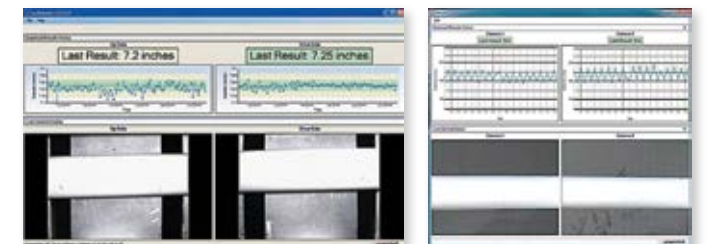
EmbossAnalyzer™ Quality Control Solutions

- Automated accurate offline measurement eliminating human judgment in rating embossing quality.
- Allows input of customer defined quality scale.
- Has been already adopted by a major tissue producer as their essential quality control step.

Acculog™ - Advanced Capturing Solutions

[Log diameter automatically measured as log rolls towards the accumulator]

- Proven log diameter measurement within ±1 mm accuracy.
- Eliminates manual measurement.
- Immediate alarming if off specification.
- Increases line efficiency by eliminating post rewinder problems on the packaging line.
- Reduces customer claims for out of spec product.

MUV-e Cart - Portable Capturing Systems

The MUV-e is a portable cart system containing the core components of the TotalVision™ system. The MUV-e can accommodate two capture units and run up to four cameras with synchronized WebLED lighting to create an effective and extremely mobile production troubleshooting system.

- Completely sealed system.
- Dust proof.
- Extreme reliability.
- Designed for harsh environments.
- Complete camera system.
- Plug it in and capture video.
- Complete bundled software suite.
- Interlink multiple systems for additional cameras.

Tissue Machine

MUV-e Cart

TotalVision™ Complete Tissue Converting Line Solutions

Unwind TotalVision
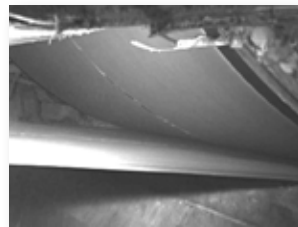
Improve product quality and machine efficiency
Intelligent product allocation and machine operation based on knowledge of incoming product quality (assumes WebInspector® on tissue production machine).

Improve claims and product quality
Incoming product inspection with optional poor quality log ejection.

Improve machine efficiency
Find root causes of process interruptions.

Laminator / Embosser

Improve product quality
Offline EmbossAnalyzer™ and possible online monitoring of embossing quality.

Improve product quality
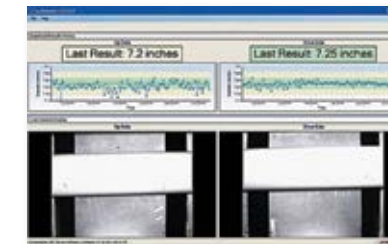Online monitoring of glue presence on applicator roll.

Improve machine efficiency
Find root causes of process interruptions.

Acculog™

Tissue log diameter measurement system
Continuously measures and ensures the diameter of each log to ensure production is maintained within quality limits.

Log Saw

Improve machine efficiency
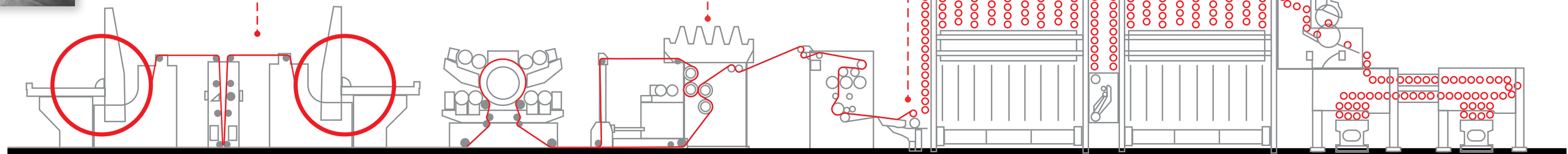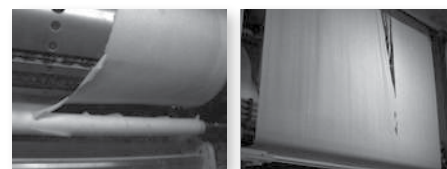Monitor log saw blade to determine maintenance requirements.

Image courtesy of Futura SpA, Italy

Printer TotalVision™

Improve product quality
Online monitoring of print quality.

Improve machine efficiency
Find root causes of process interruptions.

Improve product quality
Possible measurement of print-to-perforation distance (feasibility study required).

Rewinder

Improve product quality– AccuLog™
Reject poor quality logs based on incoming product quality inspection.

Improve machine efficiency
Find root causes of process interruptions.

Improve product quality
Measure log diameter.

Safety
Improve line safety by providing visibility of and ability to capture unwanted events in inaccessible machine areas.

Efficiency
Improve line efficiency by capturing and identifying the root causes of process interruptions via synchronized same piece of paper visibility of the web across all camera views.

Quality
Improve product quality by providing tools to identify quality problems.

Service
Improve service capabilities with remote service offerings that include picture by picture visibility of stored events at up to 400 images per second.