SHELTON VISION

SHELTON **WebSPECTOR**
HIGH SPEED TEXTILE INSPECTION SYSTEM

WebTRAINER - An automated style training function to ensure optimum inspection settings, where the system recognises new products and automatically trains itself on these before commencing inspection;

WebCORDER - A system performance validation feature that create a full web recording during the inspection process to enable the user to clearly see the system performance level and enable immediate feedback from detection sensitivity adjustments made in commissioning;

WebCLASSIFIER - A real time defect classification and grading engine that operates as part of the inspection process. Defects are classified by name and graded in real time and subtle defects can be reliably detected without false alarms. The classified and graded defect images are presented for a commercial review at the Review station.

Real time edge/centre/edge shade map creation using CTex colour monitoring system can be integrated to the defect map

Review and yield optimisation station ▶

The multiscreen Review station allows a fast commercial check of the defects detected and filtered. The same station runs the cut plan optimisation software to calculate the maximum yield from a virtual electronic defect map to provide typically between 1% and 3% of yield improvement over manual inspection. This adds the same percentage of turnover to your bottom line.

Optimisation ▼

After the Review process has been completed with the assistance of the Review wizard, the optimised cut plan can be created to find the optimum cutting plan for a large batch to small rolls.

Each large batch virtual defect map will be virtually 'cut' into small rolls according to pre determined rules set by the user.

These rules may include an allowable defect rate, minimum roll length, maximum roll length, defect length to be removed, laboratory samples to be taken, join cut out and many more options.

As well as the default setting cut plan, a series of alternative cut plans may be created with tolerances and quality or yield bias to improve batch yield.

The optimised cut plan will ensure maximum yield and may be used with the defect map alone, or in combination with a shade map.

There is full traceability of all cut plan decisions and reports can be generated for main causes of waste fabric.

Short pieces are virtually eliminated.

The cut plan can also be used to cut out waste at subsequent processes.

The cut plan/roll data can be sent electronically to users clients to pre plan garment cutting.

WebVIEWER cutting and packing machine control software

WebViewer software and hardware to control the machines used to carry out the pre calculated optimised cut plan.

The WebSynch unit connects the re roll/cut machine length device and the machine slow and stop circuit to the WebViewer software.

The actual fabric is initially synchronised to the start of the cut plan. As the fabric runs distance marks placed during inspection (eg. IR Ink) are used to dynamically calculate the stretch factor. This ensures the cut plan always matches the actual fabric length whilst going through the cutting machine.

This enables cut points, defect marking points, label application to be achieved with accuracy even when the re roll/cutting machine is running at high speed.

The WebViewer software slows and stops the fabric at the correct position in front of the operator, or on the automatic cutting machine will signal when to stop or label.

The WebViewer application converts the benefit of the optimised cut plan into reality.

The webViewer may also be used on single ply part cutting machines to enable the cutting machine software to 'cut around' defects and so further increase fabric utilisation. ▼
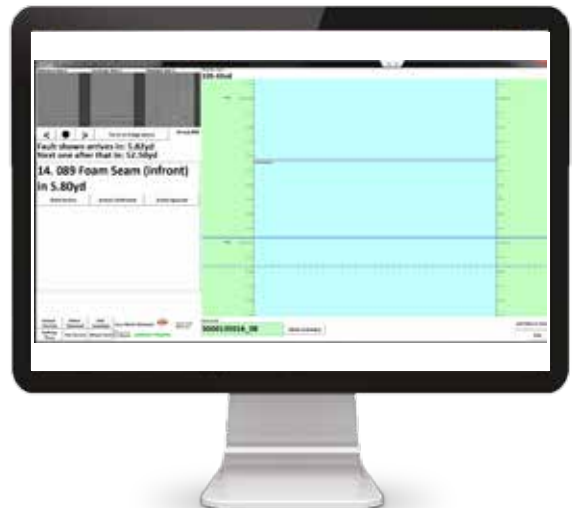
INTEGRATED SHADE AND DEFECT MAP FOR ULTIMATE OPTIMISATION

We have smart solutions for online colour monitoring, relaxing your fabric before cutting and to help you get more
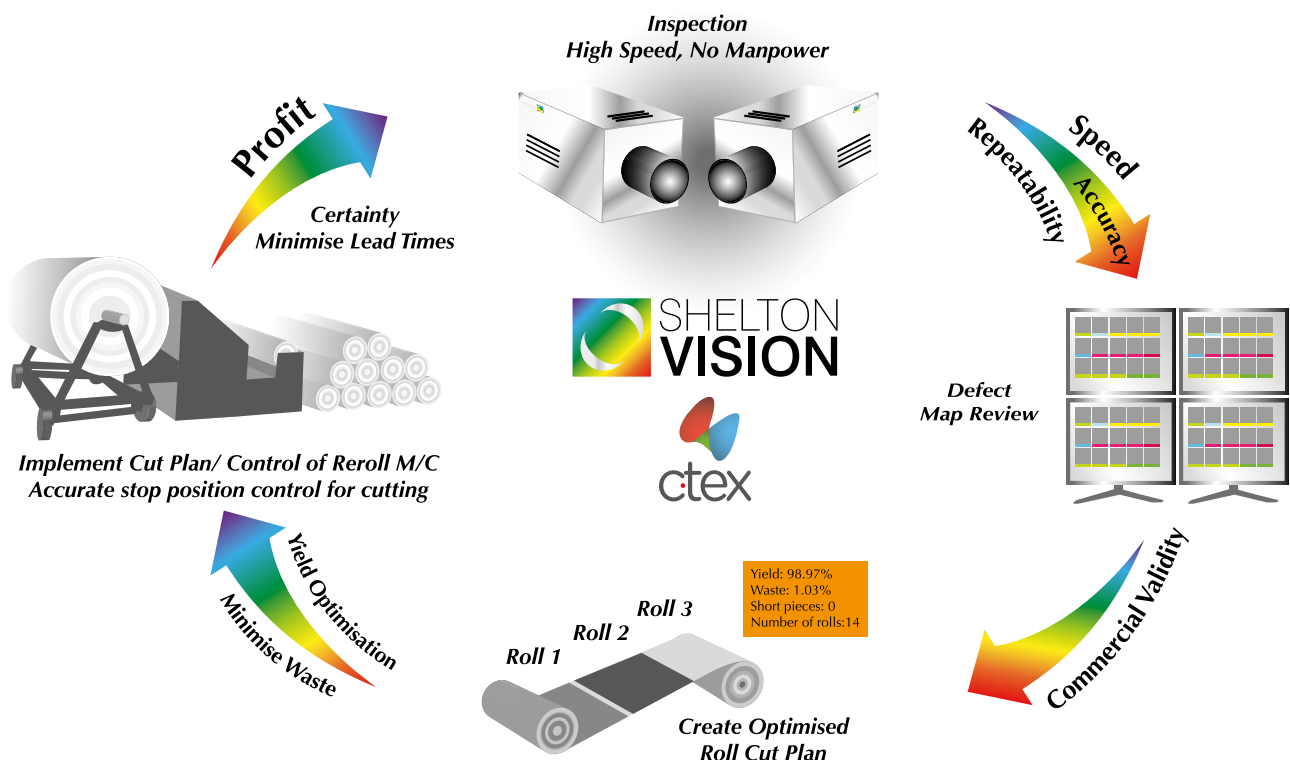
- c-tex colour: inline colour monitoring.

- c-tex colour consists of 3 sensors positioned across the fabric width.

- See colour variation within a roll in realtime.

- See colour variation within a roll using the c-tex colour roll maps.

- c-tex colour uses a simple traffic light protocol for within tolerance, caution and outside of tolerance.

- Segregate rolls accurately by using data from full rolls rather than swatches.

- See colour consistency within a full roll rather than analysing swatches.
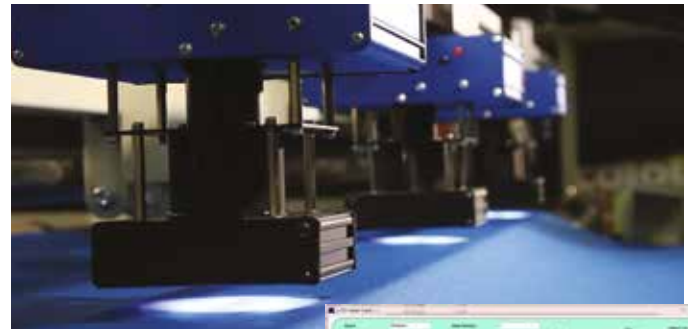
- Reduce swatching and manual QC methods for colour checking.

- c-tex colour can be retrofitted to any roll-to-roll process: c-tex relaxing machines, c-tex inspection machines, Inspection Machines, Debatching Machines, Continuous Dye Ranges, Compactors, Sanforisers and other finishing Processes.

The unique 4 step profit wheel process -

delivers an ROI of between 6 and 18 months by High speed accurate inspection, Commercial Review of the auto classified and graded defect map, yield optimised cut plan calculation and re roll machine cut plan control

Inspection
High Speed, No Manpower

Profit

Certainty
Minimise Lead Times

Speed
Repeatability
Accuracy

SHELTON VISION

ctex

Defect Map Review

Implement Cut Plan/ Control of Reroll M/C
Accurate stop position control for cutting

Yield Optimisation
Minimise Waste

Roll 1 Roll 2 Roll 3

Yield: 98.97%
Waste: 1.03%
Short pieces: 0
Number of rolls:14

Commercial Validity

Create Optimised Roll Cut Plan

SHELTON VISION

THE **BENEFITS** OF SMART MACHINE VISION SYSTEMS

- Real time, continuous bow & skew / bow bias measurement.
- Pattern inspection on stable fabric in process.
- Pattern repeat measurement.
- Infra red ink spray and reading system for distance synchronisation with edge tracking.
- Embossed surface inspection.
- In line, non stop defect label application.
- OPW in line dimension check and inspection.
- Cut part dimension check combined with inspection (eg.
- One Piece oven airbag/automotive sunshade panels).
- Fabric orientation and direction check.
- Fabric density check.
- Open fabric aperture measurement.
- Fabric aesthetic appearance check.
- Yarn break detection in warping/beaming.
- Yarn inspection in sectional warping.
- Medical device inspection.
- Fibre clump density analysis.
- Composite web and AFP inspection.
- Laser scanner 3D surface inspection and analysis.
- Cast & machines 3D component surface inspection Special projects.

By selecting the Shelton Vision solution, you will benefit from

- Accurate, consistent and reliable inspection data.
- Increase inspection and rolling throughput.
- Reduction in manpower costs.
- Reduction in claims from customers.
- Increased profit from roll cut plan yield increases estimated at more than 1% of sales due to accurate auto defect classification compared to manual inspection and rolling.
- Full support from a dedicated Technical Account Manager from Shelton.
- Systems are supported remotely under annually renewable support agreements designed to maximise system operational capability and minimise downtime.
- Optimised combined shade and defect map for full piece control and shade batching.
- Provide garment makers and fabric users with accurate roll data for cutting prior to shipping the fabric.
- Avoid costly re supply and negotiation by shipping known quality.
- Enable use of previously rejected rolls by providing accurate defect position and type data to fabric users.
- Provide consistent process performance reports.

- Reduce power consumption.
- Reduce inspection floorspace needed.
- Avoid duplication of inspection by eliminating the need for fabric user incoming goods inspection.

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