

BioVision System

Now you can edge and trim for grade and value. Combining color vision technology with high density geometric scanning, BioVision offers sawmills the highest value optimized decisions with grade and recovery performance.

- Solid Wood Products**
- Sawmill Systems
- Dry Kilns
- Planermill Systems
- Scanning & Optimization
- Machine Controls

- Engineered Wood Products**
- Veneer/Plywood Systems
- Engineered Wood
- Non-Wood Technologies
- Scanning & Optimization
- Machine Controls

- Customer Support**
- Service
- Training
- Parts
- Upgrades



BioVision Overview

Today's demands for increased recovery, faster throughput, lower cost and higher grade extraction require more than geometric-based decisions. The BioVision system takes the next evolutionary step. Designed for transverse edgers and trimmers, it makes value decisions driven by the accurate detection of natural and manufacturing defects, using a combination of geometric optimization and visual defect scanning.

BioVision's modular design allows you to implement this capability easily with a bolt-on upgrade to your existing MillExpert scanner, or gain the added benefits of value-based solutions by installing the fully configured system right from the start.

Increased Grade, Recovery and Value

Increasing recovery requires decisions and actions based on the variables that affect the ultimate grade of the wood. Trim or edge with confidence in the final appearance grade of the piece. Applying BioVision technology in the sawmill increases your finished grade outturn and recovery, thereby increasing your total value.

Edger grade extraction provides value through re-manufacture or rip based on the ultimate grade of the wood. For example a #3 appearance due to knots can be edged to #3 wane with confidence,

which maximizes recovery. Likewise, a low grade 2x8 may be worth more as two 2x4's, one of them being high grade.

Trimmer grade extraction lets you cut-in-two allowing a short, high grade piece without trimloss. 'Candidate' trim stock meeting specified characteristics for wane and knots can be targeted and sorted/routed differently for further unique action downstream. For example, by sorting for grade at the trimmer, you can take advantage of more efficient drying cycles for high grade products.

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Investment Flexibility and Payback

Independent geometric and BioVision modules allow controlled migration from time-tested geometric scanning to the world of BioVision grade scanning. You can choose to benefit from the latest technologies through upgrade, instead of complete system replacement.

Our BioVision-ready MillExpert transverse scan frame will accommodate both geometric and vision scanning capabilities, and offers the highest value return based on visual defect detection, rules based classification and highly accurate geometric measurements. As an option, you can choose to start with geometric-only scanning, and follow with visual scanning at a later date. A third, and very attractive option for mills that already have the MillExpert scanner, is a bolt-on upgrade that offers the full benefit of both geometric and vision scanning technologies.

What's under the hood?

The system utilizes USNR's new vision sensor, BioLuma 2900. The BioLuma sensors contain high resolution digital color cameras and LED lighting to provide accurate images along with increased reliability.

The software incorporates algorithms from the proven Linear High Grader (LHG) automated grading system developed by Newnes-McGehee, and used for recognition and classification of visual grade defects. The BioVision system combines this visual information with the geometric scan data generated by the MillExpert transverse scanning system to determine a final solution.

BioVision's user interface features both a camera image of the board, as well as a computer-generated image that displays the defects and the optimizer's solution. This feature aids in tuning and troubleshooting, as well as off-line rerun simulation.

BioVision is also available as an easy bolt-on solution to existing MillExpert transverse scanning systems.



Product Description

Major elements of a new BioVision system

- ▶ BioVision frame ranging from 8' to 28' in length
- ▶ Geometric TriCam laser profile sensors
- ▶ BioLuma 2900 sensors with high resolution, digital color cameras
- ▶ High intensity LED lighting for defect scanning
- ▶ Computer bay
- ▶ Optimization software

Key features of the Windows-based user interface

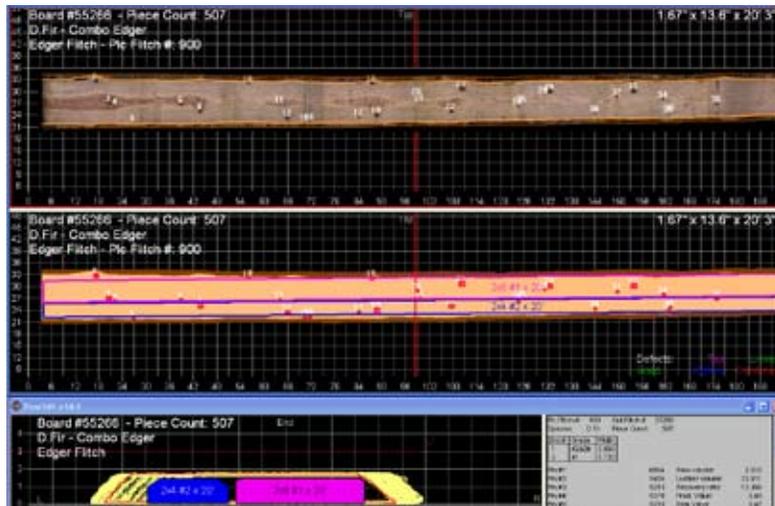
- ▶ Color image of every board scanned as well as color plot showing defect solution
- ▶ Instant zooming and analysis of plotted defects
- ▶ Comprehensive online diagnostics package

System features

- ▶ Configurable defect allowances in the MillExpert product setup
- ▶ Grading software options
- ▶ Visual defect scanning is available for detection of knots, with additional defect extraction in future

Defects/characteristics measured and classified

- ▶ Thickness, width and length
- ▶ Warp (crook, bow)
- ▶ Skip
- ▶ Knots (black/loose, regular)
- ▶ Stain, splits, and other visual characteristics (future)
- ▶ Wane and end-contour



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