PAUL
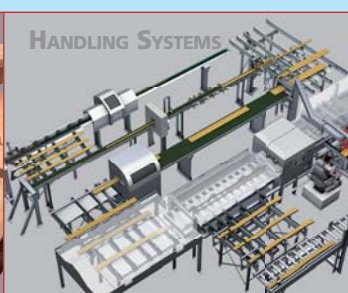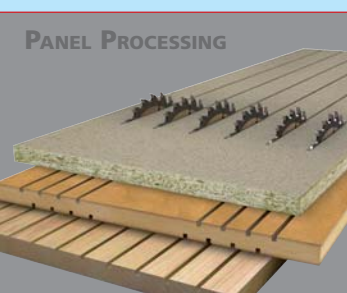
Maschinenfabrik GmbH & Co. KG

Wood Scanning System

for cross-cutting and sorting

BEST PRICE-PERFORMANCE SCANNER ON THE MARKET

The PAUL Wood Scanning System offers all the capabilities of a top-end scanner at a very competitive price level. This cost-effective solution is achieved through a unique single-camera solution delivering full performance multi-sensor data where other scanners need many cameras.

Fig. 1: PAUL Wood Scanning System with integrated operating terminal

**The PAUL scanner is the natural choice for the fastest return on your investment.**

However, PAUL's cross-cut and handling systems are also fully compatible with all other scanner systems on the market for customers who prefer other solutions.

SCANNER OVERVIEW

- In-house camera design developed specifically for industrial wood scanning
- Compact single-camera solution delivering data at HD resolution (Colour, Grayscale, Laser Line Scatter, Dot Laser Fibre Analysis, 3D Profile) at high production speeds
- Fast and reliable detection of all typical wood defects
- Visualisation of image processing and defect classification for easy adjustments
- Full optimization suitable for cross-cutting and sorting applications, for maximum timber recovery
- Flexible user-configurable statistics to control suppliers and production enabling increased profit margins
- Off-line simulator for evaluating production runs

Fig. 2: Single-camera multi-sensor solution
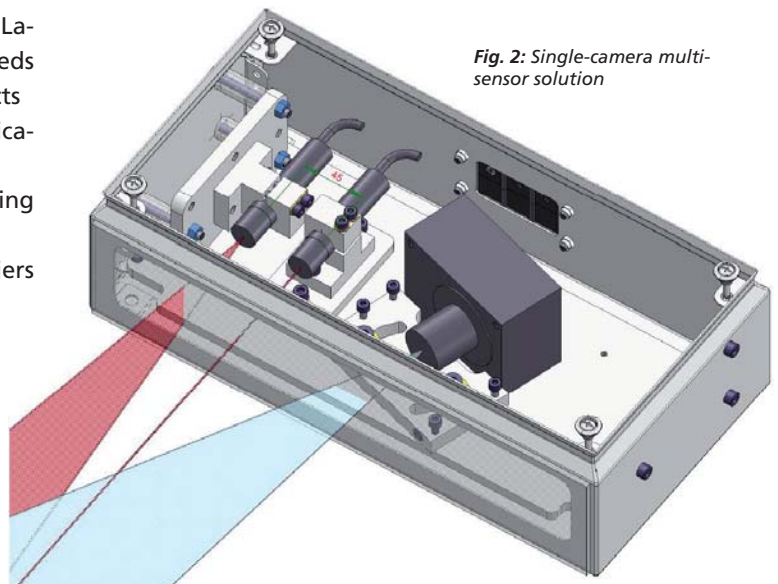
The scanner detects visual surface defects, dimensional defects and wood characteristics in a cost-effective manner. It can also take into account information from external sensors, such as a moisture meter or front-end scanner. With a fast, accurate and consistent workpiece inspection, different quality zones are determined precisely and fully automatically. Its simple construction and user-friendly software functions ensure low operating costs and maximum equipment uptime.

- Knots
- Checks/Cracks/Splits
- Pith
- Pitch Pockets & Resin
- Rot & Stain
- Compression Wood
- Wane & Cup
- Dimension Faults / Planer Skip
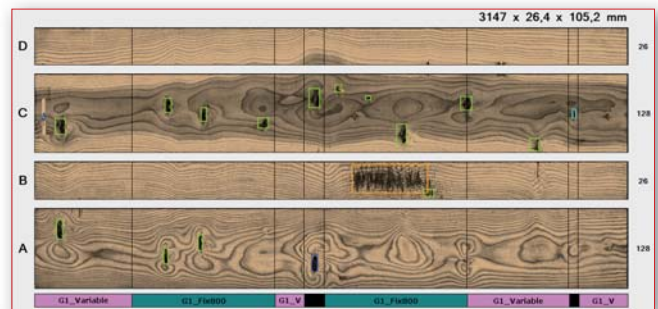- Tangential / Radial Cuts
- Deviating Grain
- … more.

Fig. 3: Scanned board

Fig. 4: Flexible user-configurable statistics

▶ YIELD IMPROVEMENT BY COLOR CAMERAS

Where different color characteristics are to be recognized, the scanner system is equipped with a color camera. This provides further optimization possibilities for an increased timber recovery.

The simultaneous recognition of different grades and products results in a very flexible production ensuring maximum yield optimization.
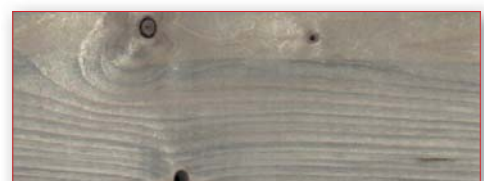

Fig. 5: Recognition of blue stain by the integrated color camera

▶ STRUCTURE RECOGNITION BY DOT LASERS

To ensure an optimum recognition of the grain, i.e. wood structure, dot lasers are used on all four faces allowing even difficult defects and knots to be detected in a reliable way. Contamination or other surface characteristics are of no relevance on this system.

Fig. 6: Structure analysis using dot lasers

3D PROFILE RECOGNITION BY LINE LASERS

Line lasers are employed to detect wane or other defects. In combination with the cameras, not only dimension faults, but also other wood characteristics are taken into account in the optimization.

In conjunction with the user-friendly operator interface the PAUL Wood Scanner System offers consistently high productivity and quality at reduced work effort.
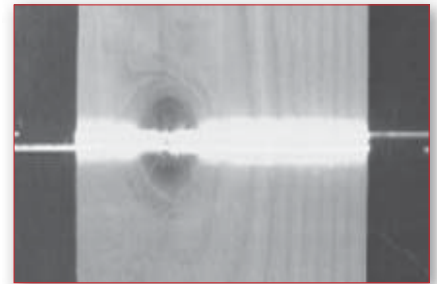
Fig. 7: Change of laser beam due to different workpiece density

CUSTOMIZED PACKAGE SOLUTIONS

Customized complete solutions are implemented through interlinking of rip saws, cross-cut systems and automated handling equipment. Higher feed rates, interlinked processing steps, accurate workpiece guidance and automatic work flows lead to a significant improvement in productivity. Operator workload is reduced and the standard of security increased appreciably.
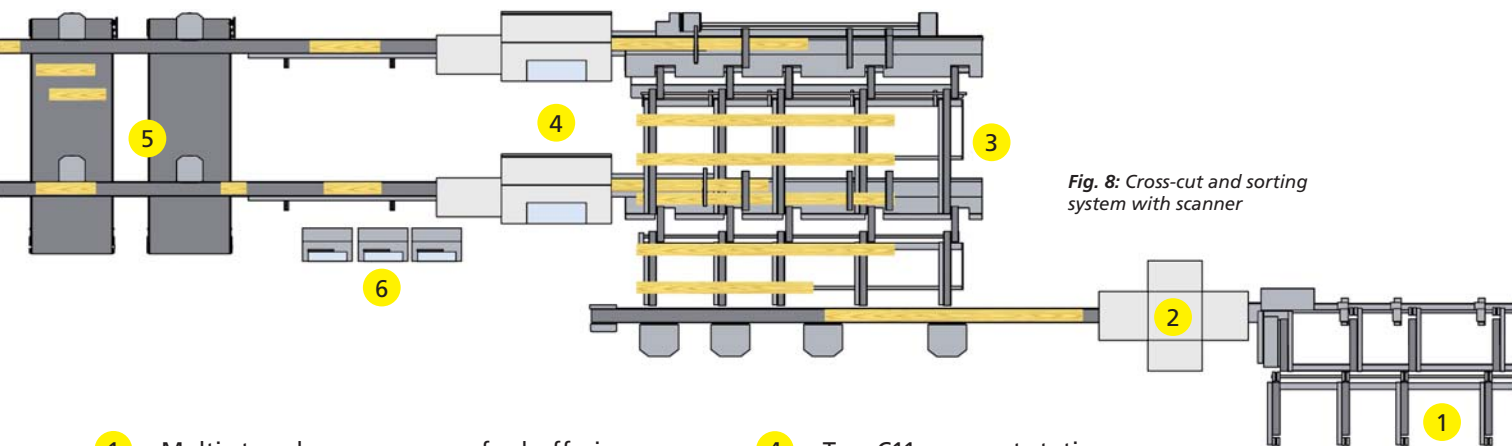
Fig. 8: Cross-cut and sorting system with scanner

1   Multi-strand cross conveyor for buffering
2   PAUL Wood Scanning System
3   Distribution system to two cross-cut stations
4   Two C11 cross-cut stations
5   Sorting system with ejectors and belt conveyors
6   Operating terminals for cross-cut stations and automated handling

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