



RS-BoardScannerQ

RS-BoardScannerQ is a system for automatic board grading, quality detection and cross-cut optimisation in a green sorter, dry sorter or planer mill using transversal transport of boards. The system detects defects and geometrical errors in a combination with cross-cut and quality optimisation.

The optimised result is transferred to the control system that performs the cross cut and sorting into bins. The system also includes traditional sorting functions such as bin status control, package specification printouts, production reports and transferring data to administrative systems. Can also export board information to external systems

The system is designed for continuous production at high speeds with evaluation and quality detection with trim decision in optimal positions. A wide range of dimensions and species are supported. The goal is to achieve the greatest possible value based on the rules defined in the system.

The three main functions in the system are:

- Defect detection
- Optimising the board (Cross-cut and quality detection)
- Transfer of the optimised result to the control system

The system has become much appreciated by our customers. It is actively maintained and further developed together with our customers. Improvements include faster commissioning, an extensive collection of standard rules and enhanced opportunities for simulation. For sorting of construction lumber we can offer non-contact strength grading – RS Strength-Grader (see next page or separate product leaflet).

COMPACT AND SCALABLE

Measurements are performed by camera sensors mounted both above and below the conveyor in a very compact unit. They are mounted at an angle that makes it possible to see all surfaces without a need for flipping or repositioning. The clever design of the conveyor makes it possible for the camera sensors to see all four sides of the board without any chains or other mechanics in the line of sight. Due to its compact design, the system can be installed in an existing grader without major redesign. Since the system is modular, it is possible to start with measuring just one dimension and

later add cross-cut and quality optimisation without replacing the hardware. The unit and the number of camera sensors can also be adapted to the maximum length of boards sorted.

CAMERA TECHNIQUES

The key to evaluate defects correctly is to use the right measuring techniques. The RS-BoardScannerQ uses high density vision, tracheid and profile measurements as the input base. The tracheid technique detects changes in the wooden fibres to find any difference compared to unaffected wood. In combination with the high-quality vision data and profile measurement, the system finds and identifies things like knots, rot, blue stain and distinguishes them from oil stains from chains or footprints that are not be considered to be defects. LED illumination is built into the cameras with functionality that turns the lights off between scans when they are not needed, which helps extend their life. Laser triangulation is used to reveal both dimensional and shape errors such as wane, crook, bow or cup. The camera units are mounted close to the boards and the conveyor to increase precision and resolution, at the same time as reducing the effect of any vibration.

USER FRIENDLY

The interface is designed with simplicity and clarity as guiding principles. To this end graphics and animation was widely used, together with modern development tools. The computers that make up the system can be located freely at the facility. Multiple screens enhances functionality.

INTEGRATION

Transferring board and package data to administrative systems is built-in. With this data inventory and invoicing systems can be updated in real time.

SERVICE FRIENDLY

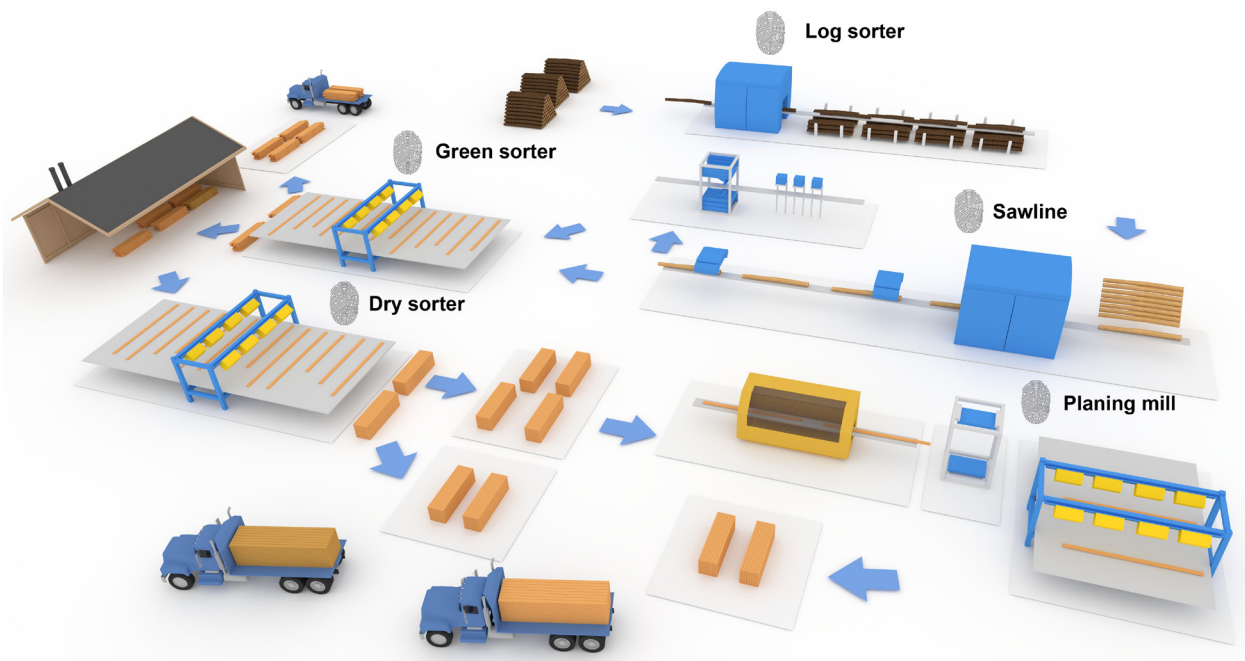
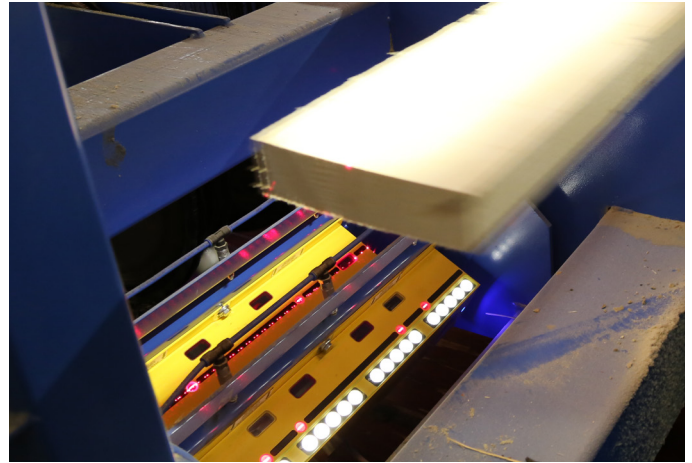
The camera units are easily accessible and can be replaced with minimal downtime according to the plug-and-play principle.

SIMULATION

Simulation can be performed on completed production runs to compare the yield to other rule sets. It is also possible to use evaluation products that provide a theoretical result for each board directly at the time of first optimisation. The result can be examined on a production run basis.

STRENGTH GRADING – RS-STRENGTHGRADER

A complete function for contact-free strength grading can be installed as a fully integrated in RS-BoardscannerQ. The system is certified according to current standards by independent certification companies like RiSe (Sweden) and NTI (Norway). The certificate is valid for both green, dried, rough or planed lumber



The digital sawmill. Evolved.

RemaSawco's goal is to have all products and systems interact seamlessly within the concept of The Digital Sawmill. This means that each component will not only perform its specific tasks, but also share its data with all other units. With this architecture, traceability and production supervision will be achieved, improving product value and efficiency for the end customer.