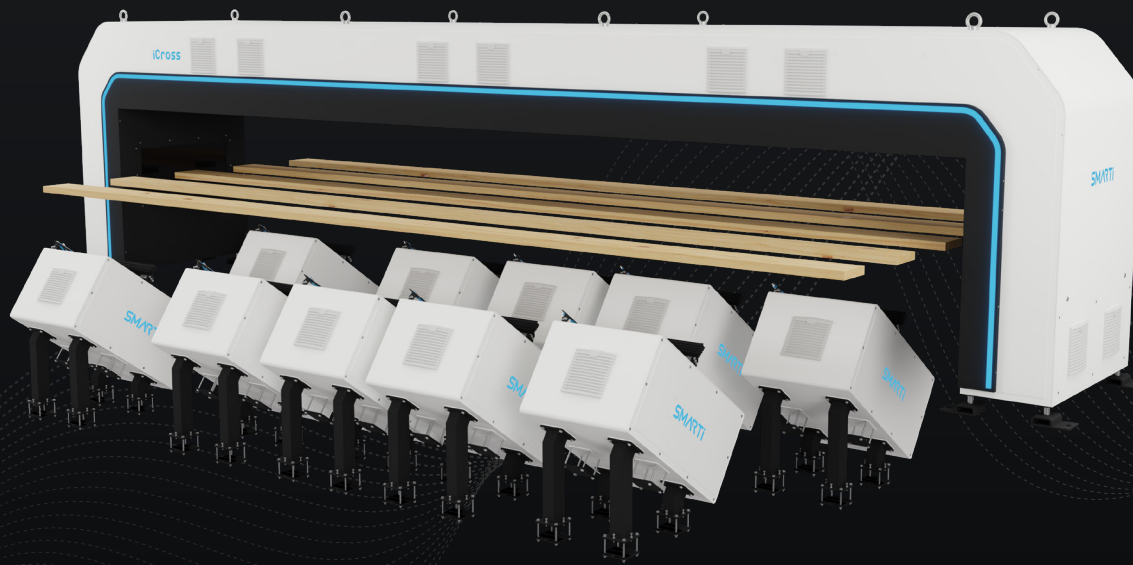


SMARTi

iCross

Transversal Cutting and Sorting Board Scanners

iCross family of scanners delivers highly capable 4 sided transversal scanning machines. Supporting color and 3D lumber inspection, they can be used in primary or secondary manufacturing for sorting or optimized cutting. In-house developed AI technology and many other proprietary machine vision algorithms provide accurate defect detection on lumber surface. High speed board transport coupled with accurate defect detection technology, high production yields are ensured. Rules for cutting and sorting can comply with various standards or be completely customized according to individual requirements.



Incorporated AI Technology

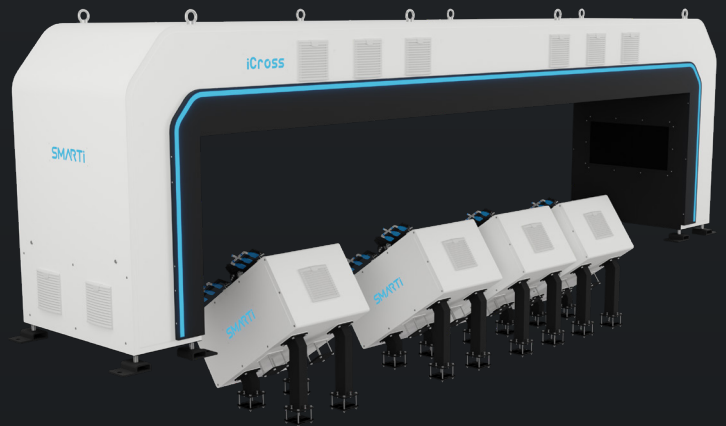
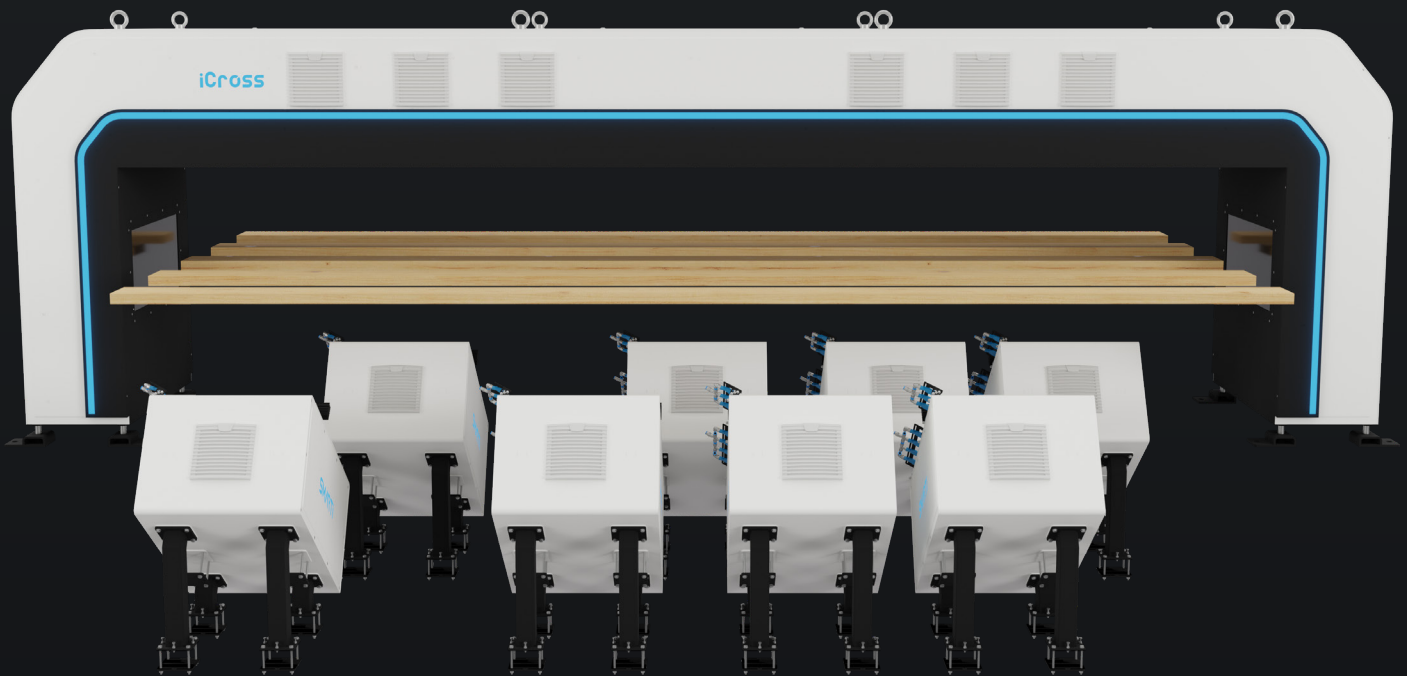
In-house developed AI technology coupled with machine vision algorithms deliver impeccable detection capabilities. 4 sided lumber inspection offers possibilities for cutting or sorting applications. High performance is guaranteed.

- » AI powered defect detection
- » Speed up to 250 boards/min
- » <0.1 mm scanning accuracy
- » Variety of possible board dimensions

Solution for Every Scenario

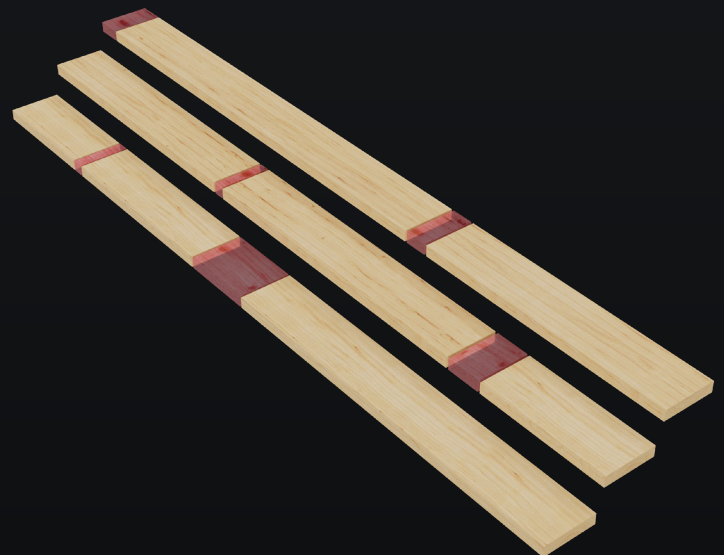
Boards are running on a chain conveyor. If 1 row of scanning boxes is installed entire board is covered, but there are blind spots in the chain areas. If 2 rows are installed there are no blind spots.

- » iCross (2 rows) - up to 4900 mm
- » iCross Mono (1 row) - up to 4900 mm
- » iCross Max (2 rows) - up to 6200 mm
- » iCross Max Mono (1 row) - up to 6200 mm



Board Optimization

Board optimization software for cutting is included as standard. Based on standards or predefined rules, the scanner will automatically optimize cutting patterns for maximum yield outputs. Autonomous cross or rip cutting, based on detected defects and desired classifications, ensures optimal results. Communication and control of cutting machinery allow for high-speed operations.

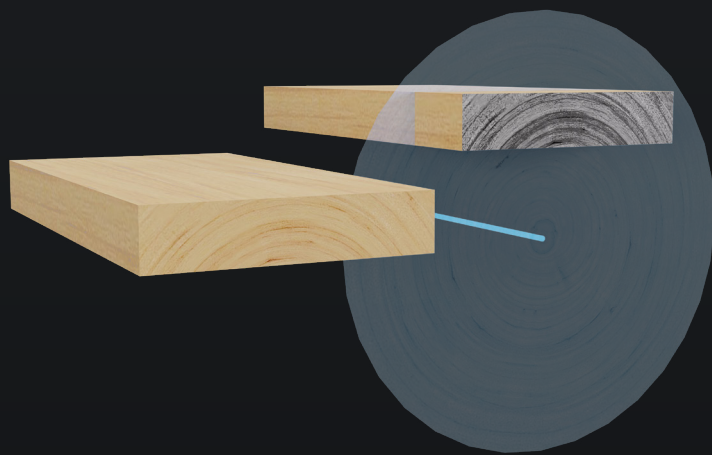


Bow, Crook, Twist and Cup

Software for dimension/shape error detection is included as standard. Every board is measured while bow, crook, twist and cup are detected. Boards with curvatures larger than allowed are rejected from the production process. Rules for curvatures allowed are set by operators or preset to comply with standards. Connection with other SMARTI scanners and control of the production machinery is always included as standard.



Optional Face Scanning



Both board faces are scanned for flipping purposes. Annual rings are accurately detected, while every lamella is virtually positioned to a place in the log. At the same time pith is recognized, providing impeccable position inspection. For finger jointing or other gluing applications, orientation of the board is important for end product quality. Yield and overall production performance are increased.

Multiple Scanning Channels

Utilizing 3D laser triangulation and color scanning technology. Surface defects are accurately detected.

» Color

» 3D laser triangulation



Specifications

Use Cases

- » Board sorting and line control
- » Cutting optimization and cutting machinery control
- » Strength grading with iKnock possible

Detection

» Measurement

Length
Width
Thickness
Volume

» Curvature

Bow
Crook
Twist
Cup

» Defect detection

Knots

- Sound knot round
- Sound knot splay
- Sound knot spike
- Dead knot round
- Dead knot splay
- Dead knot spike
- Knot hole

Pith
Bark pocket
Resin pocket
Resin streak
Rot
Resin
Wane
Bark beetle
Lineatus

» Grain orientation

Radial
Semi-radial
Tangential

Capabilities

- » <0.1 mm scanning accuracy
- » Cutting, sorting, strength grading
- » Speed up to 250 boards/min
- » Variety of possible board dimensions
- » Machinery control and communication

Cracks and splits
Lack of material
Discolorations

- Blue stain
- Brown stain
- Red stain
- Yellow stain

Mold
Machine burning
Planning errors
Saw step
Dirt
Fiber fracture
Compression wood
Fiber deviation
Custom defect options

Technology

» AI technology

» Color

» 3D laser triangulation

Software

» User friendly UI

» Real-time display of boards

» Custom rules for sorting and cutting

» Database of scanned boards

» AI training tool

» Statistics

» Simulations

» User rights for protection

Models



iCross

- » Color + 3D laser triangulation
- » Board length up to 4900 mm
- » 2 scanning rows (no chain area blind spots)
- » Optional strength grading with iKnock
- » Speed up to 250 boards/min
- » <0.1 mm scanning accuracy



iCross Mono

- » Color + 3D laser triangulation
- » Board length up to 4900 mm
- » 1 scanning row (chain area blind spots)
- » Optional strength grading with iKnock
- » Speed up to 250 boards/min
- » <0.1 mm scanning accuracy



iCross Max

- » Color + 3D laser triangulation
- » Board length up to 6200 mm
- » 2 scanning rows (no chain area blind spots)
- » Optional strength grading with iKnock
- » Speed up to 250 boards/min
- » <0.1 mm scanning accuracy



iCross Max Mono

- » Color + 3D laser triangulation
- » Board length up to 6200 mm
- » 1 scanning row (chain area blind spots)
- » Optional strength grading with iKnock
- » Speed up to 250 boards/min
- » <0.1 mm scanning accuracy

Empowering Wood Industry

info@smarti.eu 

Ljubljanska 24a
SI - 4000 Kranj 
Slovenia/EU