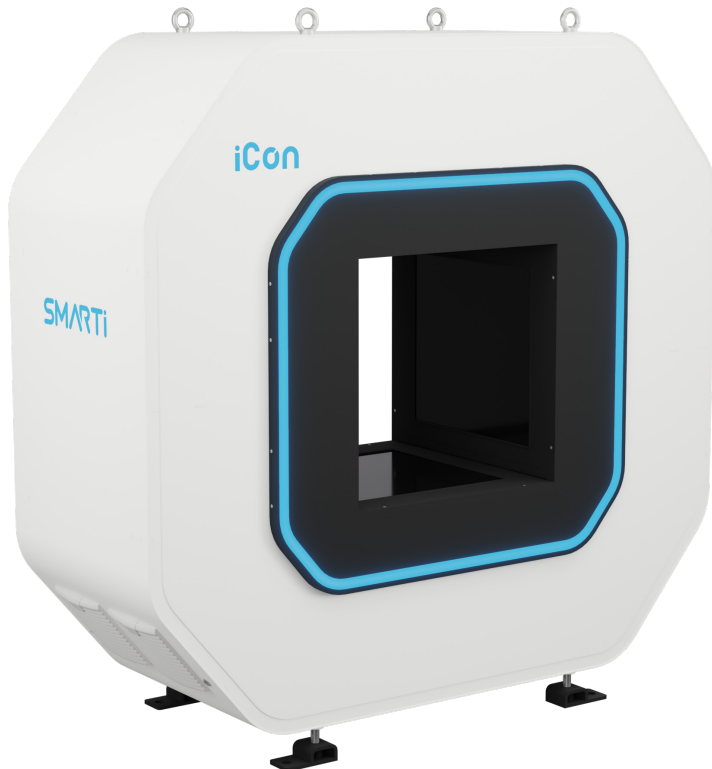
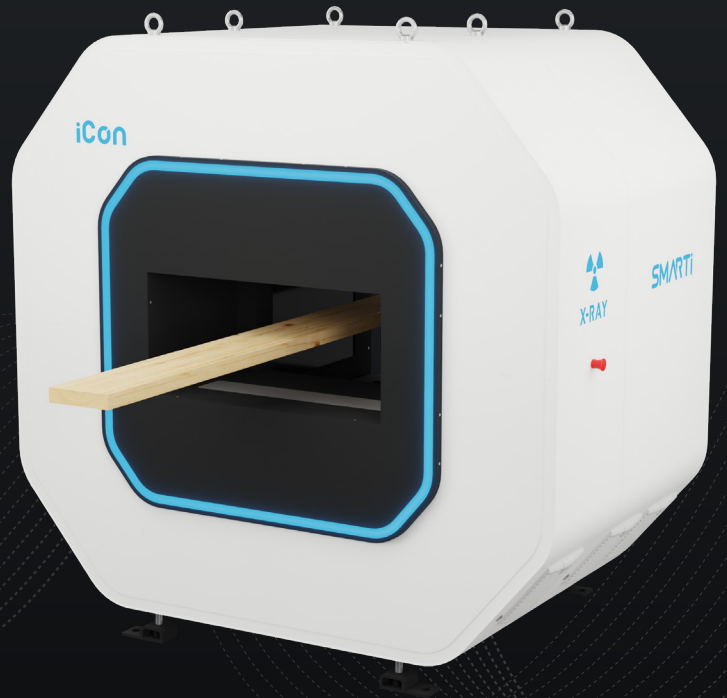


iCon

Scanners for Board Sorting and Cutting

iCon scanners are high-performance machines designed for 4 sided 3D and color board scanning. Optional x-ray technology enables internal inspection and strength grading. Applications for cutting and sorting of boards are supported as standard. Advanced AI technology combined with many proprietary machine vision algorithms detect defects on all board surfaces and internally. The high speed of lumber transport through the machine, coupled with accurate detection, ensures high yields. Cutting, sorting, and strength grading are optimized according to standards or customized rules. Scanners are suitable for a wide variety of lumber processing purposes and final products.



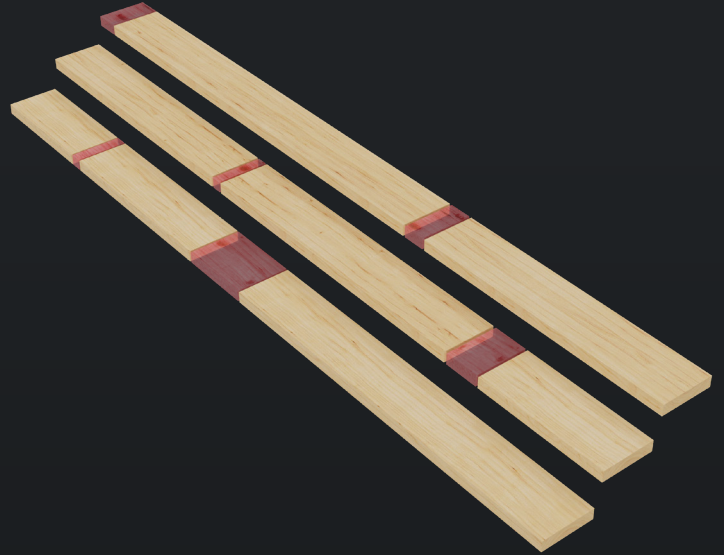
Advanced AI in the Mix

AI technology in combination with machine vision algorithms ensures accurate defect detection. Surface and internal defects are detected for optimization of cutting and sorting. 3D measurements, furthermore add to the performance.

- » AI powered defect detection
- » Speed more than 500 m/min
- » <0.1 mm scanning accuracy
- » Variety of possible board dimensions

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.



iMatch Solution

SMARTI iMatch solution is used with iCon X-Ray and another SMARTI iLog X-Ray machine. When logs are scanned and cutting optimization is generated, boards can be matched to specific logs. For yield optimization and material tracking purposes origin of specific boards can be matched to individual logs. When boards are sorted, exact production yields are known.



Multiple Scanning Channels

Utilizing 3D laser triangulation and color scanning technology. Surface defects are accurately detected. With optional x-ray technology internal inspection and strength grading are supported.



» Color

» 3D laser triangulation

» X-ray

Specifications

Use Cases

- » Board sorting and line control
- » Cutting optimization and cutting machinery control
- » Strength grading
- » iMatch solution with iLog X-Ray

Detection

» Measurement

Length
Width
Thickness
Volume

» Defect detection (visual)

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

Capabilities

- » <0.1 mm scanning accuracy
- » Cutting, sorting, strength grading
- » Speed more than 500 m/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

» Defect detection (x-ray)

Lumber density
Internal pockets
Internal knots
Internal holes
Metal
Stones
Custom defect options

» Grain orientation

Radial
Semi-radial
Tangential

Technology

» AI technology

» Color

» 3D laser triangulation

» X-ray

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



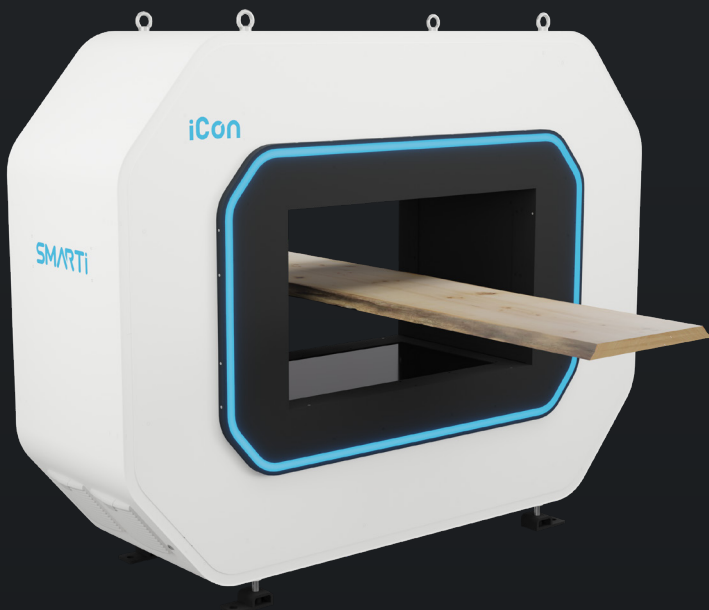
iCon

- » Color + 3D laser triangulation
- ✗ X-ray
- ✗ Strength grading
- » Speed more than 500 m/min
- » <0.1 mm scanning accuracy



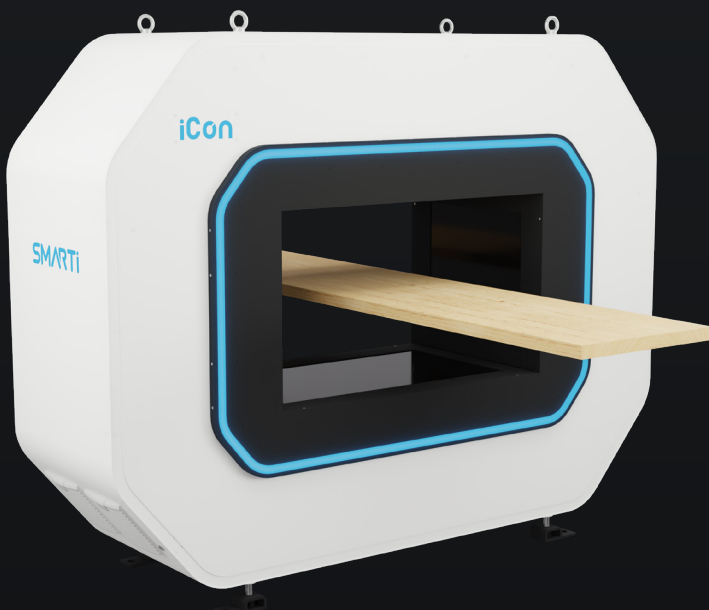
iCon X-Ray

- » Color + 3D laser triangulation
- » X-ray
- » Strength grading
- » Speed more than 500 m/min
- » <0.1 mm scanning accuracy



iCon Rip S

- » Color + 3D laser triangulation
- » Top and bottom scanning
- ✗ X-ray
- ✗ Strength grading
- » Random board dimension speed to 20 pcs/min
- » Constant board dimension speed to 500 m/min
- » <0.1 mm scanning accuracy



iCon Rip

- » Color + 3D laser triangulation
- » 4 side scanning
- ✗ X-ray
- ✗ Strength grading
- » Random board dimension speed to 20 pcs/min
- » Constant board dimension speed to 500 m/min
- » <0.1 mm scanning accuracy



iCon GLT

- » Color + 3D laser triangulation
- » Beam width up to 1300 mm
- » Supporting large variation in beam dimensions
- » Speed more than 500 m/min

Empowering Wood Industry

info@smarti.eu 

Ljubljanska 24a
SI - 4000 Kranj 
Slovenia/EU