OEM VISION

TECHNICAL DATASHEET
TS-TUNA-2026 · Rev. B · EN

LOG SCANNER · LOGYARD

TUNA LogScan

Multi-sensor log scanning for geometry and internal quality



180 m/min	1200 mm	±1 mm	< 50 ms
Scanning speed	Max. log diameter	Repeatability	Processing latency

TUNA LogScan is a linear, multi-sensor scanner built for industrial sawmills. Combining 3D laser triangulation, high-resolution colour imaging and optional X-ray sensing, it measures diameter, length, volume, taper and sweep — overbark and underbark — with **±1 mm repeatability**. The X-ray module reveals the inside of the log before sawing: AI models trained on production reference data detect internal defects and grade every log by internal quality, so sorting and cutting decisions are driven by **value**, not volume alone.

SPECIFICATIONS

Key Specifications

Scanner type	Linear multi-sensor log scanner (single pass)
Scanning speed	Up to 180 m/min
Log diameter	Up to 1200 mm (dimensional module)
X-ray module	Up to 650 mm log diameter (optional)
Measurement accuracy	±1 mm repeatability
Processing latency	< 50 ms; FPGA-accelerated, deterministic output
Enclosure rating	IP65; rated for dust, moisture, vibration and temperature extremes
Operation	Continuous 24/7 industrial duty, automatic self-calibration

SENSOR TECHNOLOGY

Four sensing layers, one pass

3D laser triangulation
2048+ point profile arrays capture full surface geometry at production speed.

Colour imaging
High-resolution cameras for surface defect detection, bark assessment and species identification.

X-ray densitometry
Optional module that reveals internal density variations and hidden defects before sawing.

WoodScan AI
AI models trained on production reference data for defect detection and real-time grading.

MEASUREMENT

Measured Parameters

Geometry	Length · Diameter (min., max., avg.) · Underbark diameter · Volume · Sweep and taper
Surface quality	Surface defects, discoloration and grading-relevant features via colour imaging
Internal quality	Internal defects and quality grade via X-ray densitometry and WoodScan AI (optional)

MODELS

Model Comparison

Module	Tuna-SM1200	Tuna-SM1200X
3D laser triangulation	● Included	● Included
Colour imaging	● Included	● Included
X-ray densitometry	—	● Included
Max. log diameter	1200 mm	1200 mm · X-ray 650 mm

APPLICATIONS

From the logyard to the sawline

1. **Log intake and scaling** — Automatic measurement and recording of every incoming log, replacing manual scaling.
2. **Value-based sorting** — Logs are routed to the bin that matches their optimal end product, based on geometry and internal quality.
3. **Cutting optimization** — Log models are passed to Optisoft in real time; the sawline uses pre-computed cutting solutions and rotation angles.
4. **Log-to-board traceability** — WoodScan Trace links every board to its source log and its position within the log for yield analysis and chain-of-custody reporting.

5	**Inventory allocation**	Real-time log inventory feeds production planning for optimal log-to-product allocation.

POSITION IN THE MILL

TUNA in the sawmill flow

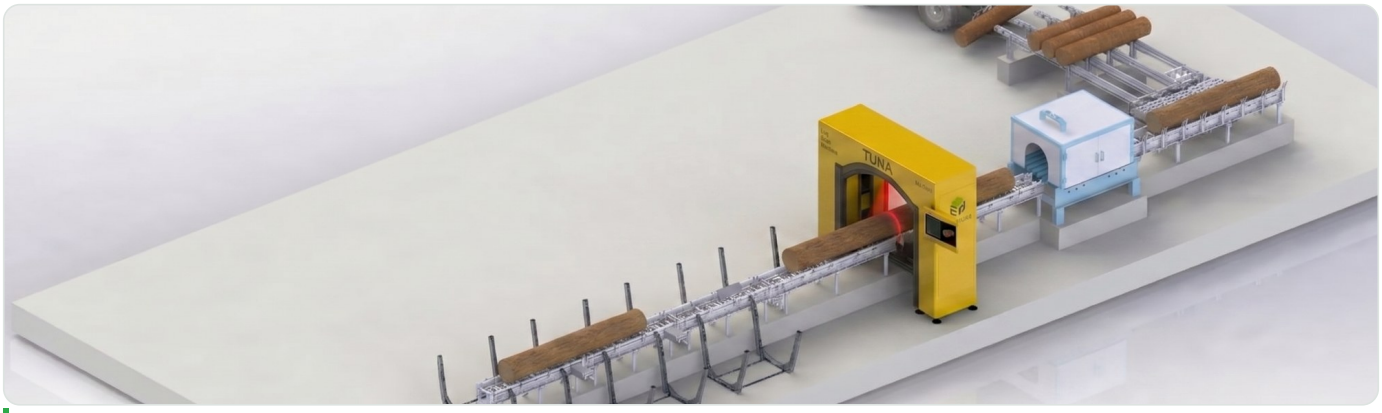
01 Logyard
- **TUNA LogScan**
- WoodScan
- Optisoft

→

02 Primary Breakdown
- **TUNA LogScan**
- ALTAY LogScan
- Optisoft

→

03 Secondary Breakdown
- ARAS-L BoardScan
- ARAS-T BoardScan
- WoodScan
- Optisoft



Example layout of TUNA LogScan on a logyard infeed line.

INTEGRATION

Integration and Connectivity

Protocols	Ethernet · OPC-UA · REST API
Software	Optisoft optimization platform · WoodScan · WoodERP
Systems	Sorting PLCs, sawmill automation and third-party ERP systems

The right TUNA configuration for your logyard

Contact our team for a site survey, layout proposal or a live demo.

Request a Demo

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Specifications are subject to change without notice. Actual performance depends on line configuration, material dimensions and operating conditions. Images are for illustration.