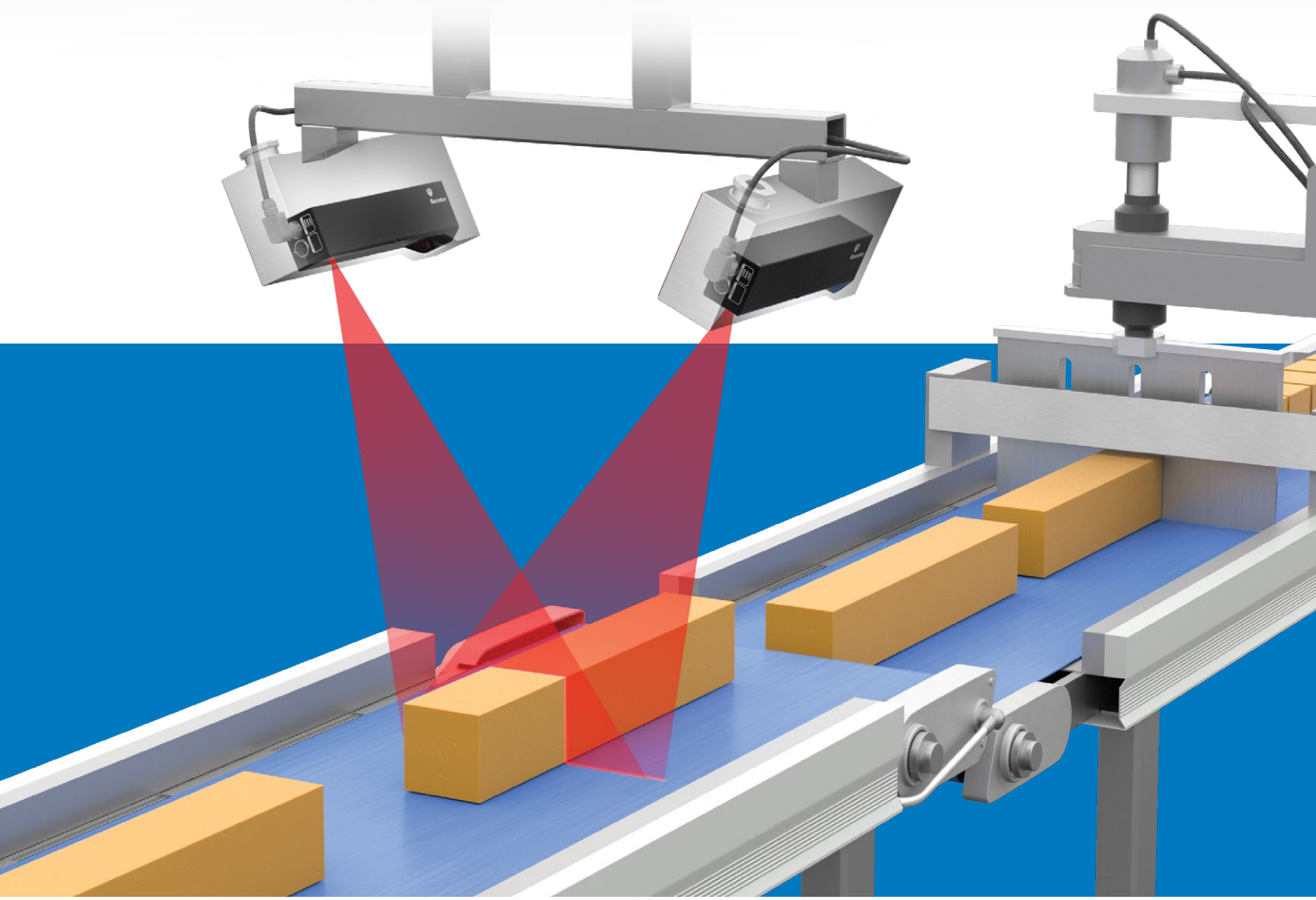
LMI TECHNOLOGIES

Welcome to **FactorySmart**®

3D SMART SENSORS FOR MATERIAL OPTIMIZATION



Meet **Gocator**®

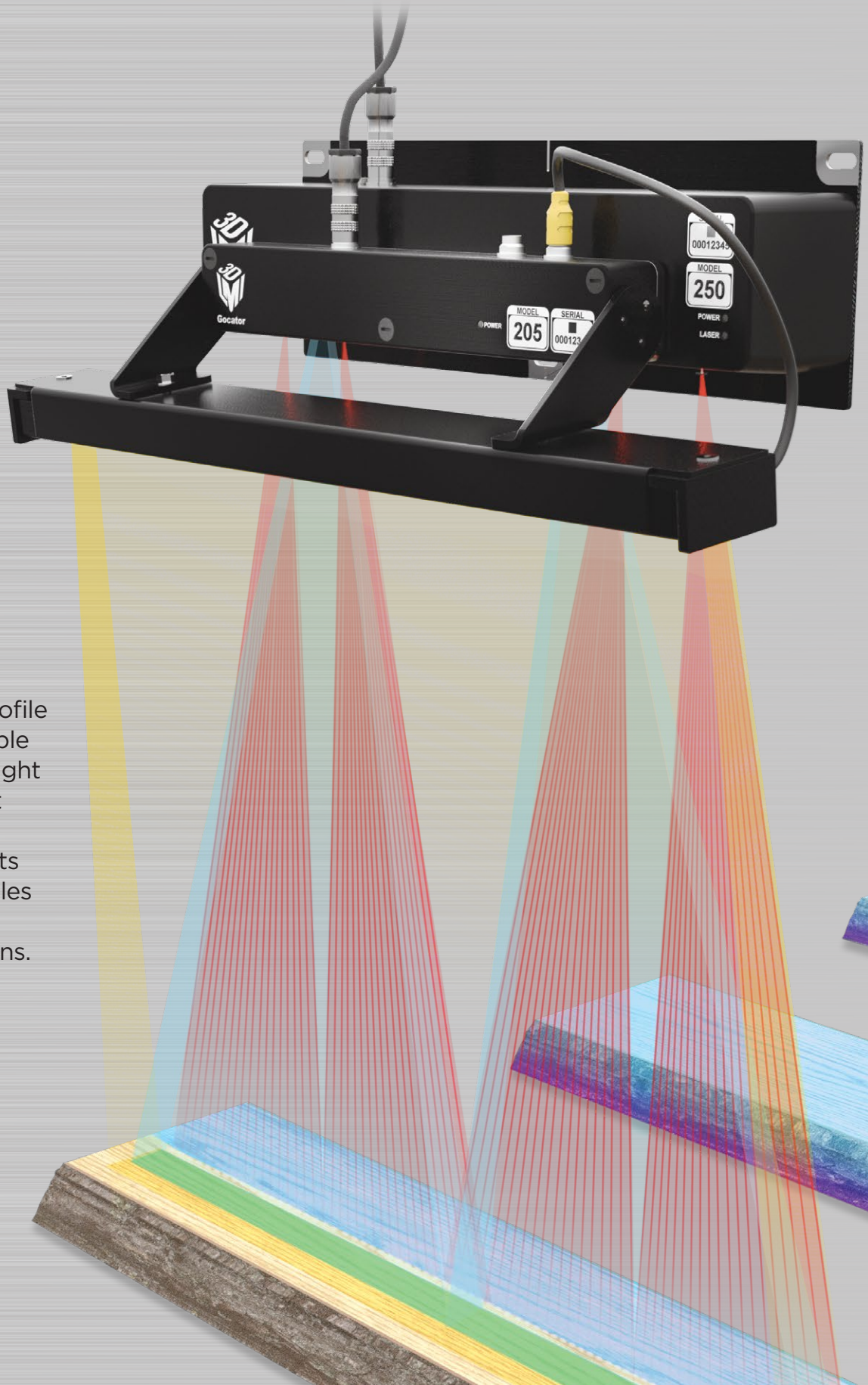
Trusted 3D technologies for robust inline material optimization.

LASER PROFILERS

Gocator Point and Line Profile Sensors scan **moving targets** with height resolutions down to 1 µm, sampling speeds up to 32 kHz, and a suite of built-in 3D measurement tools and smart features that deliver a complete solution to optimize material breakdown and minimize waste.

LASER SCANNERS

Gocator multi-point profile scanners project multiple laser spots and white light onto boards moving at 300 ft/min in saw and planer mills. Multi-points generate discrete profiles and color images for optimal cutting solutions.



Gocator®

Gocator is the driving force behind a wide variety of material optimization applications—helping ensure factories extract the greatest volume and value from their products, with minimal rework and waste.

Easy to Use

Features such as a web-browser driven point-and-click environment for rapid configuration, built-in measurement tools, and rich I/O for communicating results make it easy for factory technicians to get the results they need.

Built-In Measurement Tools

Built-in tools provide a drag and drop environment with full 3D visualization, and allow users to set measurements based on the specific feature that needs to be inspected.

Real-Time Processing for Inline Production

Real-time onboard processing capabilities minimize lag between data acquisition and decision outputs, which means factories can consistently meet their throughput targets.

Customizable

Sensor customization allows users to develop and embed their own custom measurement tools directly into the firmware itself—with the same functionality and ease-of-use as built-in native tools.

Connected

Connect seamlessly with factory infrastructure to report measurement results, monitor trends from a web browser, upgrade sensors over the Internet, or network with other machinery to exchange or combine data to achieve the best optimization results.

GOALS OF AUTOMATED MATERIAL OPTIMIZATION:

- Automate the breakdown of a whole part into multiple smaller parts
- Maximize material yield and recovery
- Minimize waste, scrap, or associated material cost
- Track parts, save production time
- Reduce guesswork and labor costs, eliminate errors

OPTIMIZE MATERIAL BREAKDOWN. MINIMIZE WASTE.

Gocator 3D smart sensors are made for the modern factory. An easy-to-use, flexible design delivers high-performance scanning with seamless data communication so your factory can operate more efficiently and profitably.

FOOD

Gocator scans 360° of food products to determine accurate slicing, portioning, sorting, and sizing decisions.

METALS

Gocator scans blocks of raw metal. The shape data is then used to optimize how metal is removed to "square up" blocks with minimal metal loss (a process called scalping).

TEXTILES

Textile sheets moving on a web conveyor are scanned to determine optimal trimlines. Gocator determines where to remove excess material on the edges of textiles (e.g., carpeting).

WOOD

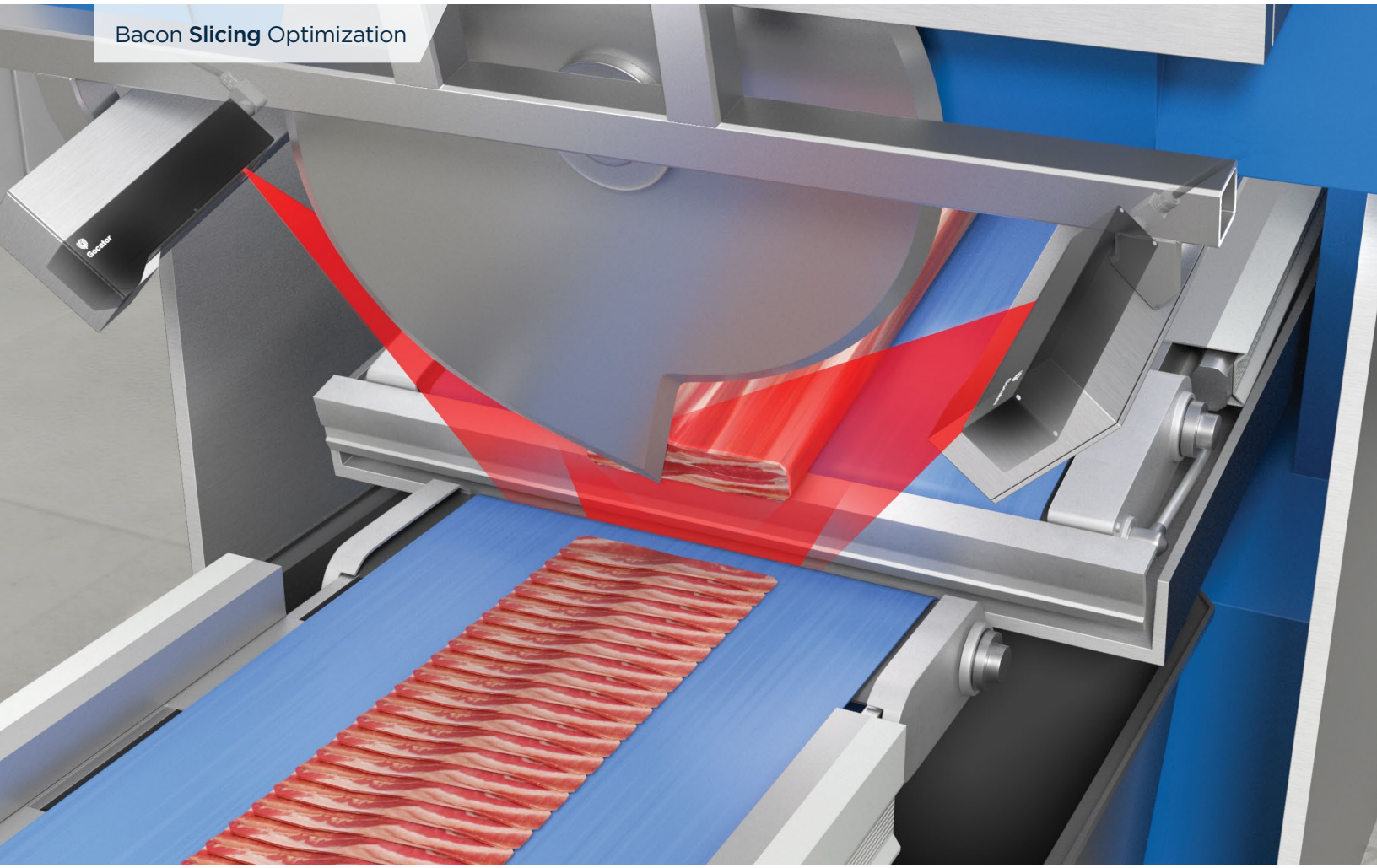
Logs and boards are analyzed to determine wood grade and optimal cutting patterns. Gocator offers a complete solution for saw and planer mills to achieve maximum volume and value recovery in both lineal and transverse applications.

WHY SMART 3D?

2D alone cannot achieve 100% material optimization. That's why you need to invest in a smart 3D solution.

- Volumetric measurement (X, Y, and Z axis) provides shape and position related parameters—necessary for robot handling
- Contrast invariant, ideal for inspecting dark objects
- Immune to lighting variation and ambient light
- Higher repeatability due to integrated optics, lighting, and pre-calibration
- Simpler to build multi-sensor setups for large object scanning

OPTIMIZATION EXAMPLES USING **Gocator**

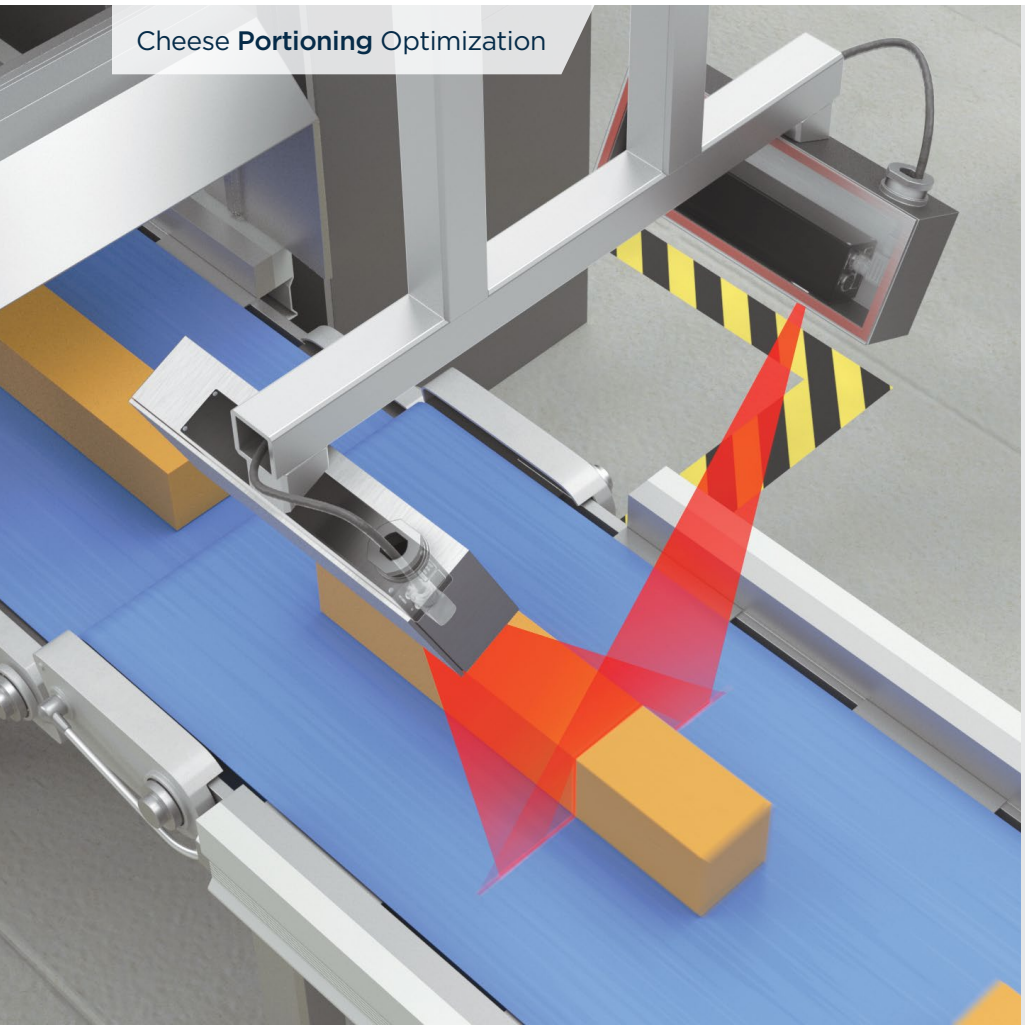


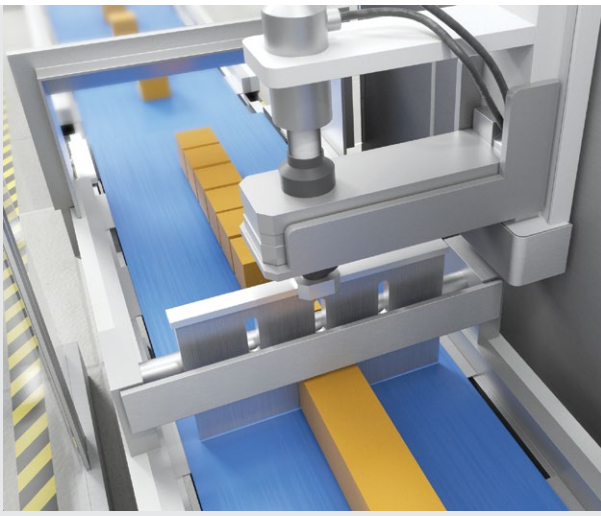
Gocator sensors scan a pork slab to determine its volume and slice it into bacon strips. Data is processed onboard the sensors, then communicated via PLC to the slicer. The 3D data is used to precisely adjust each cutline in order to achieve the exact target weight per strip, while optimizing the number of strips produced from each slab.

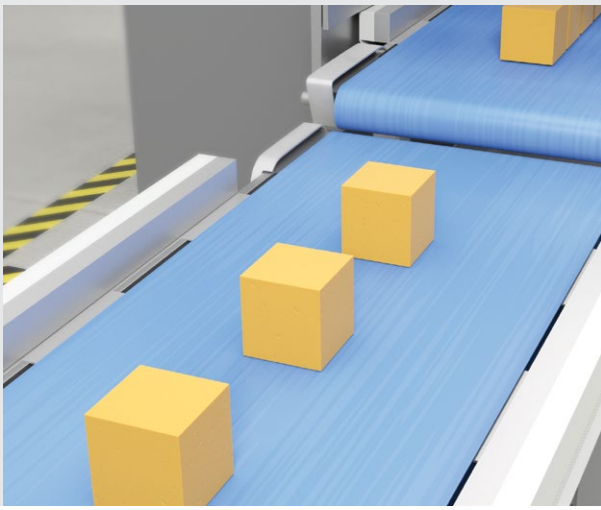
FACTORYSMART® BENEFITS

- Onboard data processing minimizes latency
- Angled multi-sensor setup to reduce occlusions and capture complete object shape
- Built-in measurement tools to calculate area and volume

Cheese **Portioning** Optimization







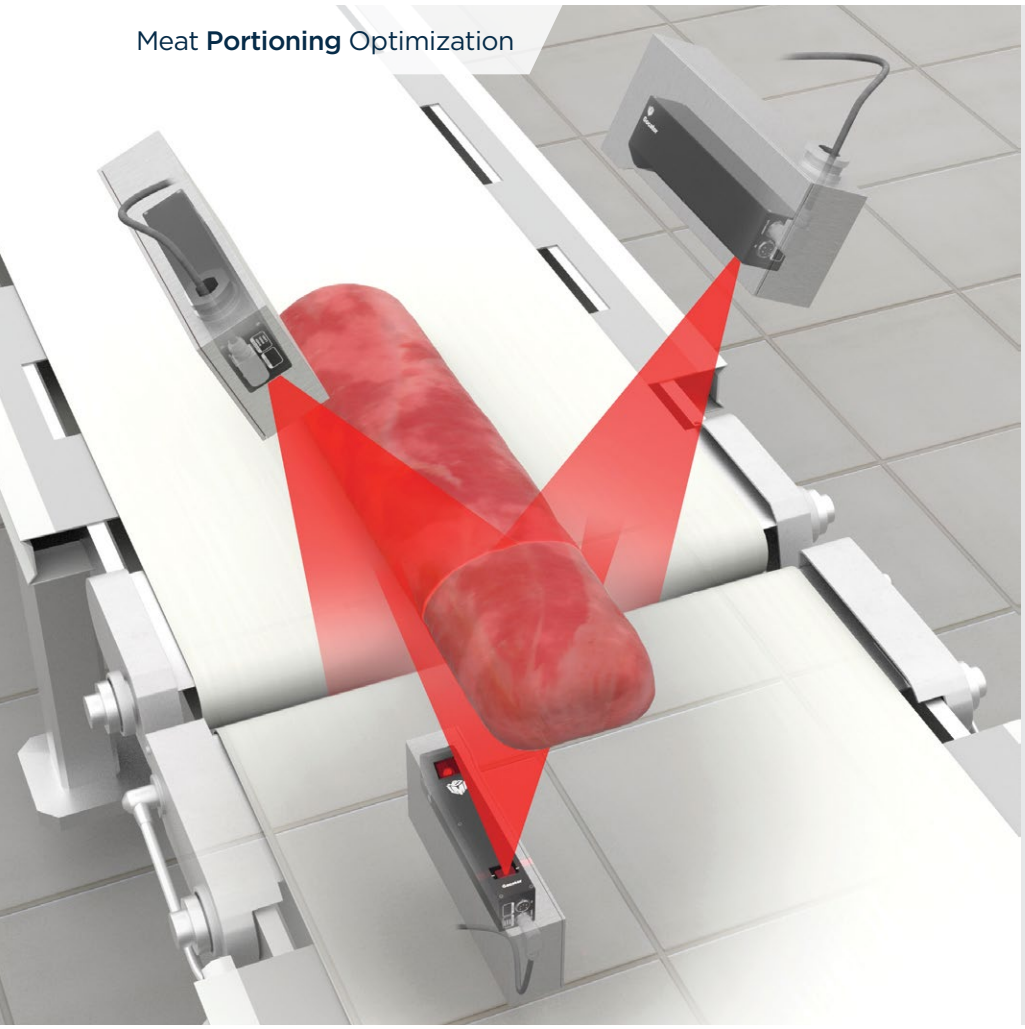
FACTORYSMART® BENEFITS

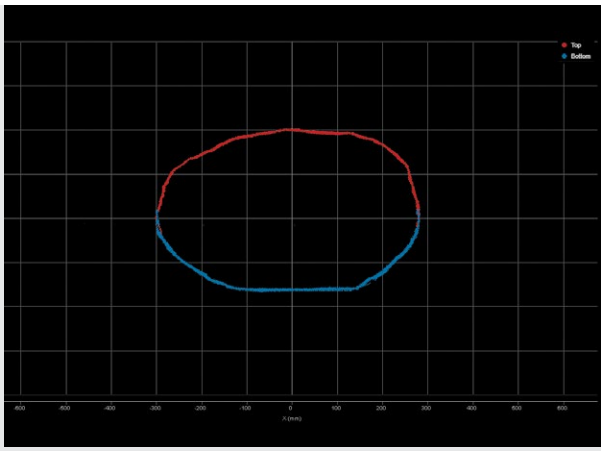
- Various field of view and resolution models for different sizes and shapes of cheese
- Direct communication to PLC (closed loop system between scanning, calculating, and cutting)
- Tagging of finished products for downstream tracking

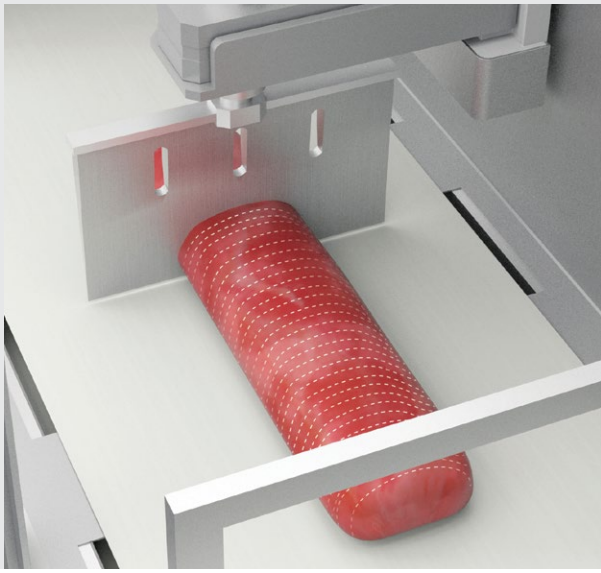
Gocator sensors scan blocks of cheese and communicate cutting decisions to a slicer to produce smaller portions of a designated target weight.

OPTIMIZATION EXAMPLES USING **Gocator**®

Meat **Portioning** Optimization





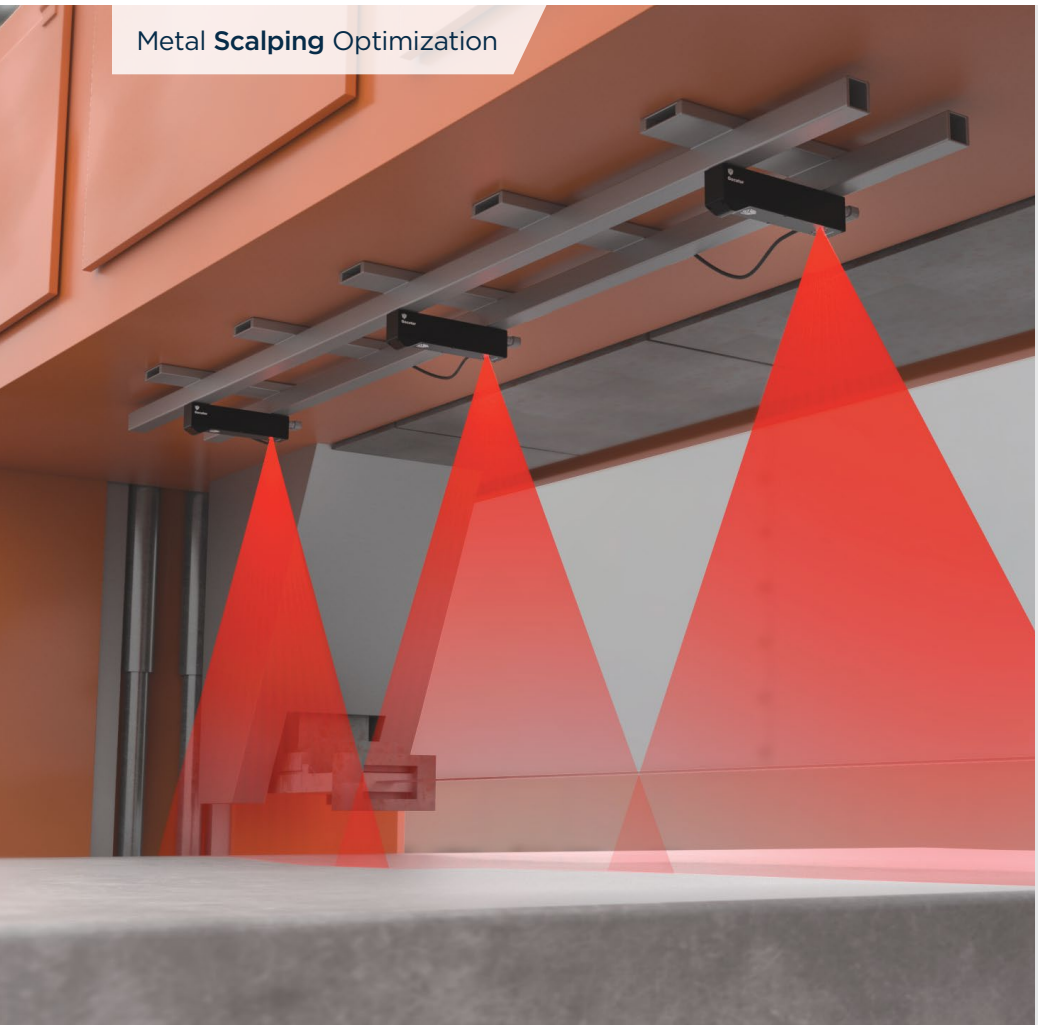


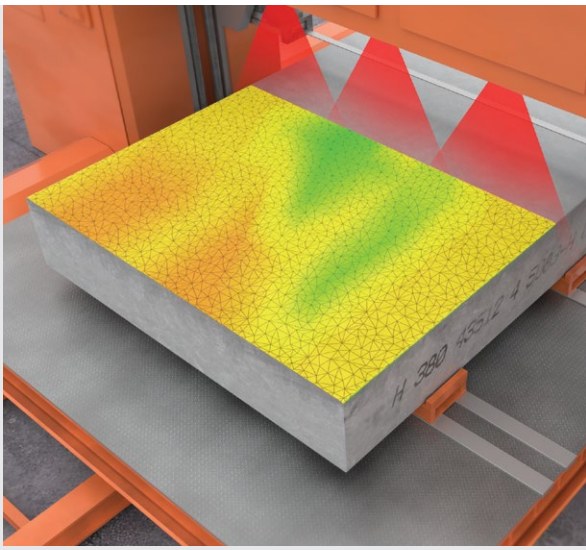
Gocator sensors scan both sides of a piece of meat (through a gap in the conveyor belt) to determine the total volume. With the 3D volume and density information users are able to optimize the size and number of slices extracted.

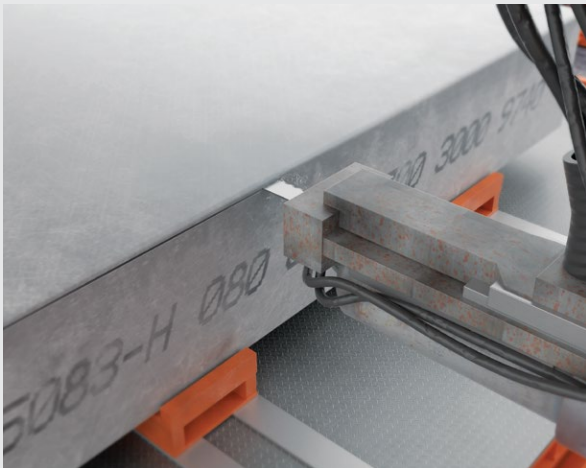
FACTORYSMART® BENEFITS

- Multi-sensor setup with 3 sensors for complete scan coverage
- Volumetric measurement of the complete object
- Easy sensor mounting for simple and cost-effective system setup

Metal **Scalping** Optimization





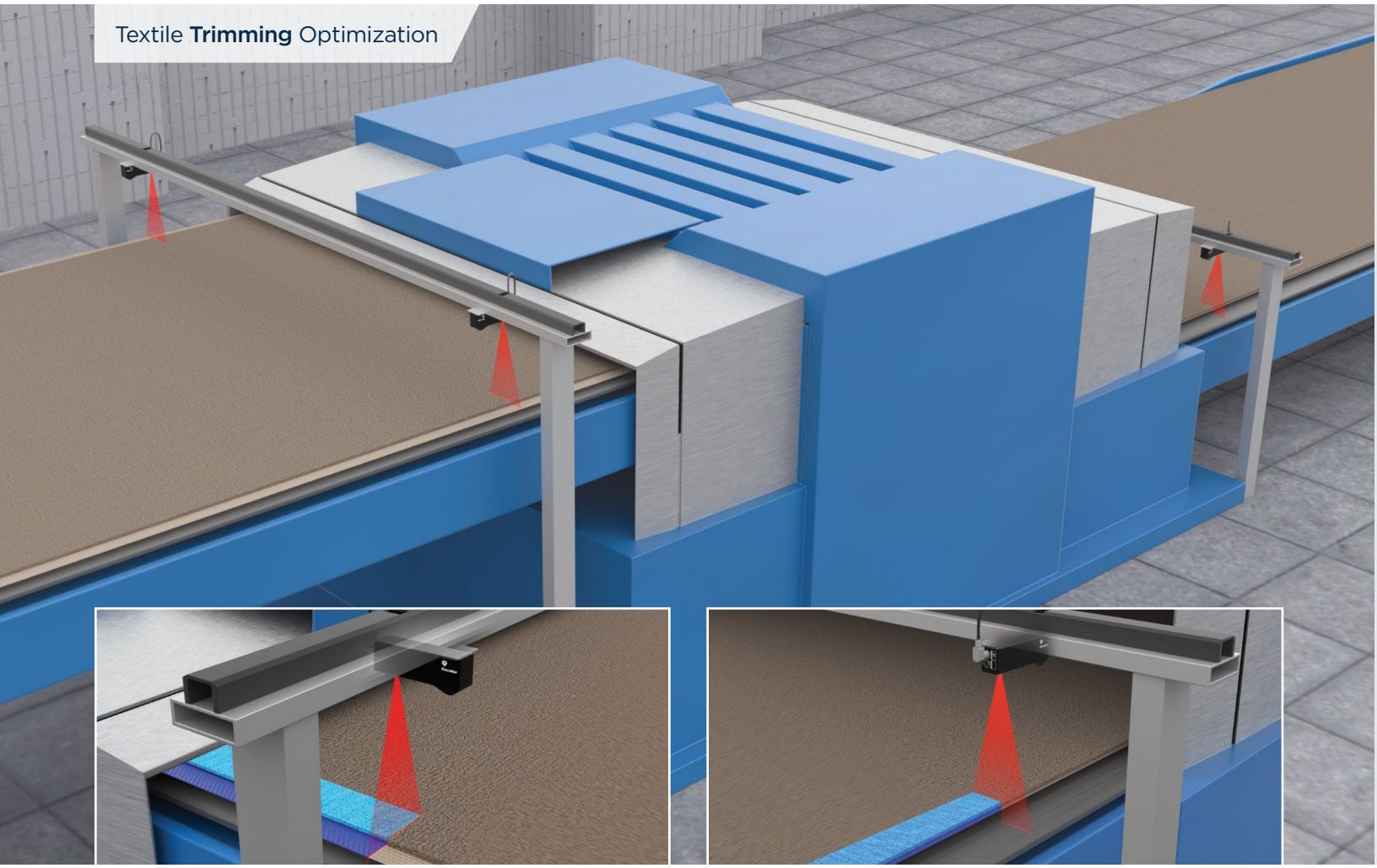


FACTORYSMART® BENEFITS

- Gocator's high Z resolution captures a wide variety of surface features
- Wide FOV covers more of the surface area, requiring fewer sensors in a system
- Seamlessly merge data from all sensors into a single height map

Multiple Gocator sensors scan the entire top surface of a block of raw metal. Based on the 3D data acquired, optimization software determines how to scalp the metal into a flat block—with a minimal amount of material removed.

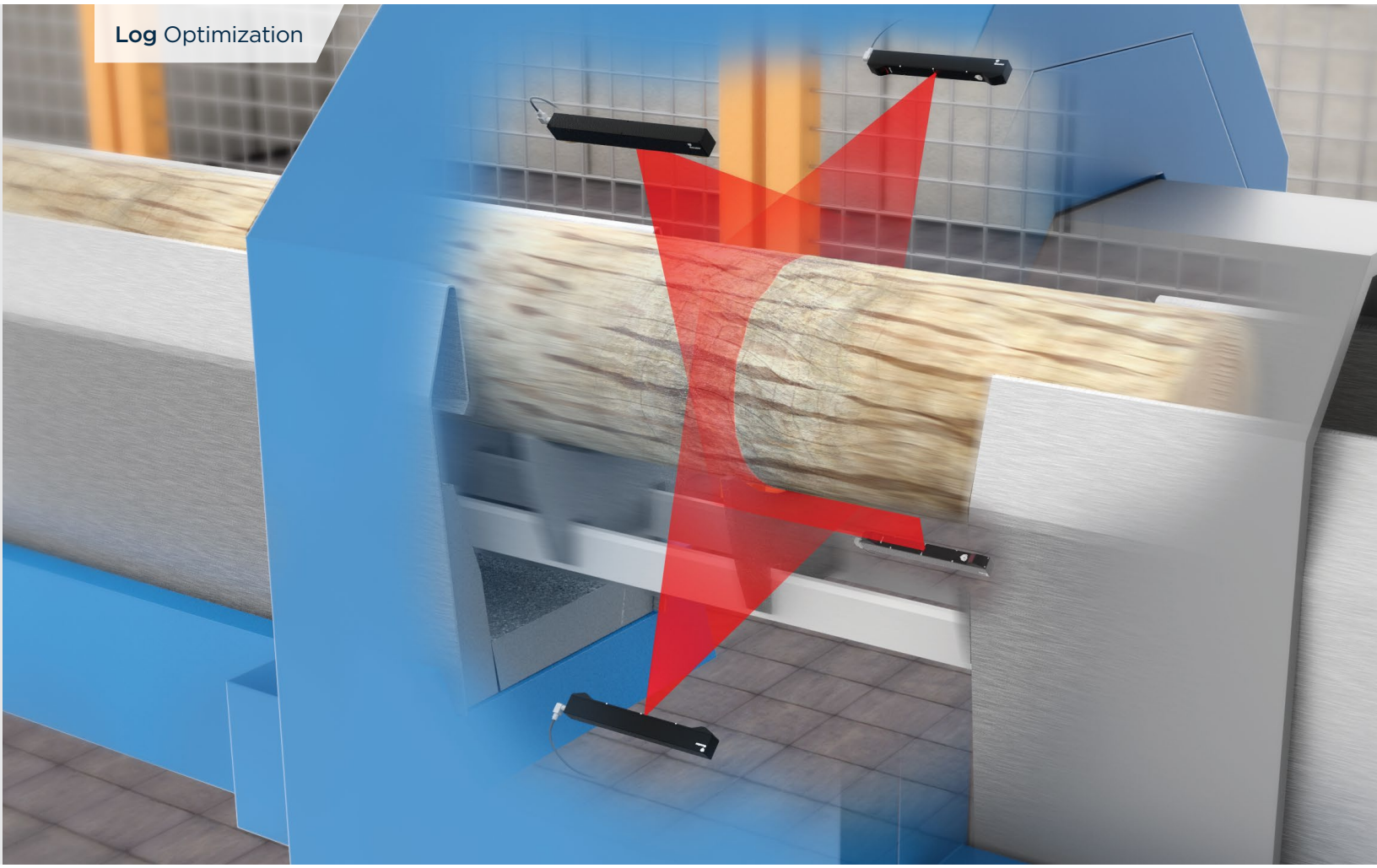
OPTIMIZATION EXAMPLES USING **Gocator**



Two Gocator sensors scan the edges of a carpet to make optimal trimming decisions. Gocator's Surface Edge tool precisely computes where and how much excess material to remove. The result is correct aesthetic and minimal waste on both edges.

FACTORYSMART® BENEFITS

- Built-in, application-specific measurement tools that simplify getting results
- 3D provides height data to distinguish and analyze carpet edges
- No additional lighting required



FACTORYSMART® BENEFITS

- Wide field of view reduces the number of sensors required to achieve complete log scans
- Dual cameras eliminate occlusion/dropouts of scan data
- Open source SDK makes it easy to access scan data for custom optimization software

Four Gocator 2880 sensors scan a log to determine optimal breakdown patterns. The log is then rotated to an optimal angle to begin cutting of boards.

OPTIMIZATION EXAMPLES USING **Gocator**®

Gocator 200 scanners generate profile, color, and tracheid data required to maximize value recovery of boards.

FACTORYSMART® BENEFITS

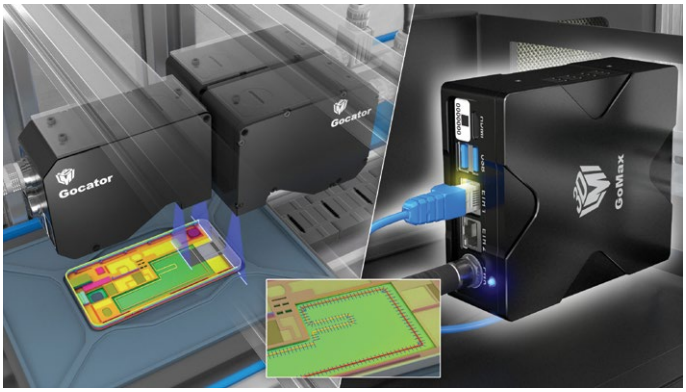
- Modular design allows users to create a system that fits their specific needs
- Mix 3D profiling, color vision, and tracheid detection running at up to 300 ft/min
- Start with board profiling and add color vision later with bolt-on color scanning and lighting

GoMax® SMART VISION ACCELERATOR

GoMax® provides a cost-effective hardware solution to accelerate any Gocator® solution in order to meet inline production speed. GoMax's small form factor, low power usage, dedicated data processing, and automatic recovery allow engineers to easily scale inspection performance without complex coding on multiple industrial PCs.

With GoMax's plug and play functionality, you can quickly and elegantly add significant computing performance to your Gocator® sensor or multi-sensor network and achieve faster cycle times.

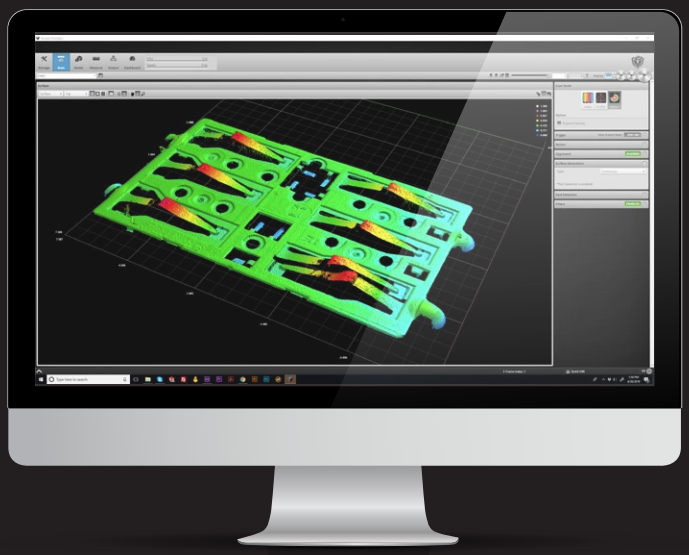
- Dedicated 3D inspection acceleration that scales
- Plug and play functionality with easy integration
- Network multiple Gocator sensors to build a single 3D scan
- Process hundreds of measurements at factory speeds



GoMax	Smart Vision Accelerator
Carrier Board	Jetson TX2
CPU	64-bit Quad ARM A57 @ 2 GHz plus 64-bit Dual Denver 2 @ 2 GHz
GPU	NVIDIA Pascal, 256 CUDA cores
Memory	8 GB 128-bit LPDDR4
IO ports	1x USB3, 1x HDMI, 2x GigE, 1x USB2
Dimensions (mm)	120x105x43.5
Weight (kg)	0.7
Operating Temperature	0 to 50 °C

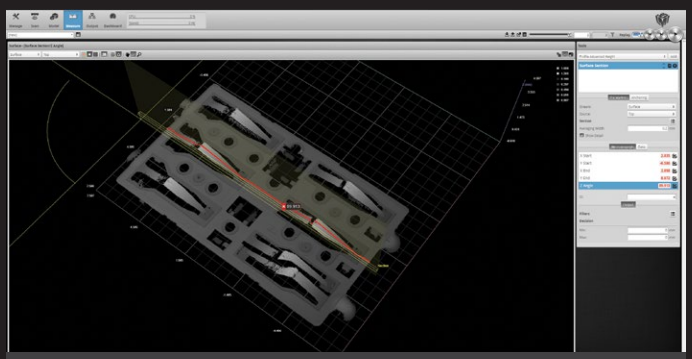
GOCATOR® SOFTWARE

FOR SMART 3D INSPECTION

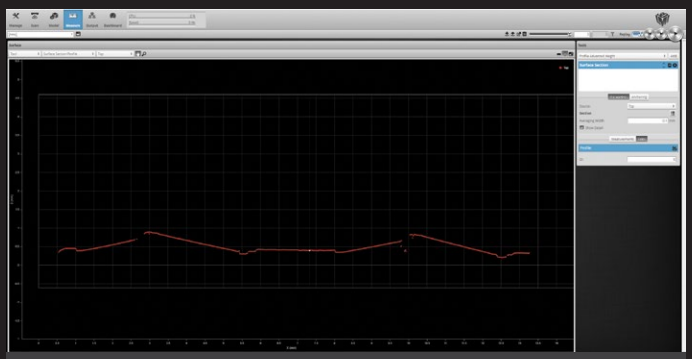


INTUITIVE AND EASY TO USE

- Web browser based interface
- OS independent (PC, Mac, Linux)
- Point-and-click functionality
- Firmware included, no separate software required
- Process 2D intensity and 3D height data for high repeatability



3D surface view with intensity data

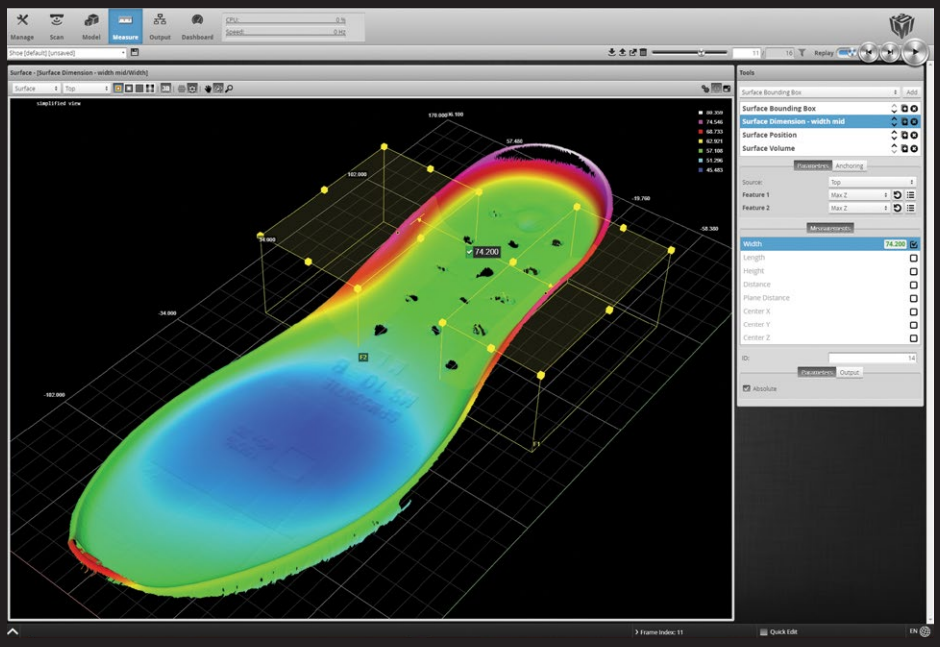


Profile view

BUILT INTO EVERY GOCATOR®

Instant access to scan, measure, and control

Real-time sensor feedback (including speed and CPU usage)

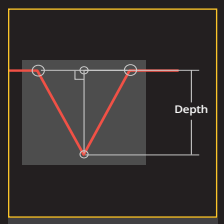


One-click toggling between Video, Profile, and Surface mode

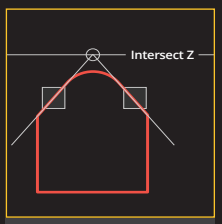
Drag-and-drop measurement tools

Variety of formats for fast and accurate data output

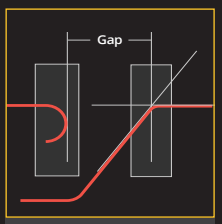
Real-time, high-definition 3D Data Visualizer



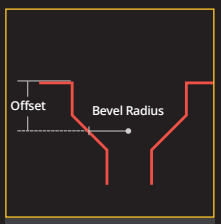
Groove Depth



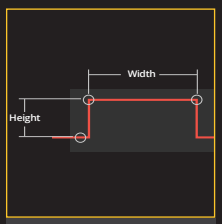
Intersect Z



Gap & Flush



Countersunk Hole



Strip Tool

140+ TOOLS
at your disposal

PRODUCT LINEUP

LASER PROFILE SENSORS

Gocator 1300 Series

High-speed (32 kHz) Point Profilers for Dimensional Measurements

- Unique built-in part detection and profile generation
- Ideal for closed loop control or measuring high speed processes

Gocator 2100 Series

Low Cost, Entry-Level Line Profilers for Basic Inline 3D Inspection

- Handles all of your basic quality inspection needs
- VGA imager, 640 points per profile resolution
- Field of view up to 1260 mm
- Measurement range up to 800 mm

Gocator 2300 Series

Workhorse Line Profilers for Robust Inline 3D Inspection

- Handles a wide range of applications
- Megapixel imager, 1280 points per profile resolution
- Field of view up to 1260 mm
- Measurement range up to 800 mm

Gocator 2400 Series

Ultra High-Resolution Line Profilers for Advanced Inline 3D Inspection

- Handles difficult targets such as micro-features on small parts in high-speed applications
- 2-Megapixel imager, up to 1940 points per profile resolution
- Field of view up to 194 mm
- Measurement range up to 210 mm

Gocator 2500 Series

Ultra High-Speed Line Profilers for Small Parts 3D Inspection

- Ideal for fast-moving inline inspection systems
- 2-Megapixel imager. Up to 1920 points per profile resolution
- Scan, measurement, and control at up to 10 kHz
- Field-of-view up to 33.5 mm
- Measurement range up to 25 mm

Gocator 2880

Dual Triangulation Line Profilers for 3D Inspection of Large Objects

- Two cameras maximize scan coverage and minimize occlusions for applications such as primary log scanning
- Megapixel imager, 1280 points per profile resolution
- Field of view up to 1260 mm
- Measurement range up to 800 mm

GOCATOR 200 SERIES

Gocator 210

Entry-Level Multi-Point Profile Scanner

- Fast scan rate (2 kHz / 200 FPM / 61 MPM)
- Generates profiles at 1.1" / 28 mm spacing
- Large measurement range (14" / 356 mm) for scanning thick material

Gocator 230

High-End Multi-Point Profile Scanner

- High-speed scanning (3 kHz / 300 FPM / 91 MPM)
- Generates profiles at 0.3" / 8.5 mm spacing
- Delivers highest resolution for 3D shape

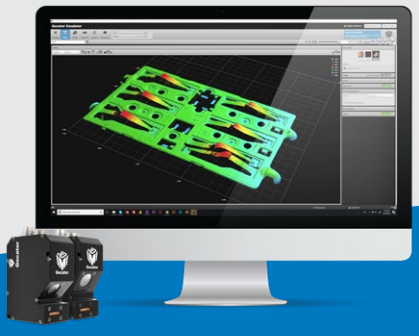
Gocator 250

High-End Multi-Point Profile Scanner with Tracheid

- High-speed scanning (3 kHz / 300 FPM / 91 MPM)
- Tracheid for grain angle and knot detection (1.5 kHz)
- Generates profiles and tracheid at 0.3" / 8.5 mm spacing

TEST DRIVE A GOCATOR® SENSOR

Choose from a variety of application scenarios, then use an exact duplicate of the Gocator interface. Perform measurements on pre-recorded data from a variety of scanned components—all in a web browser-based "virtual sensor" environment. Right from your desktop. Without the need for a physical sensor.



Take Gocator® for a test drive today. **Visit www.lmi3d.com/emulator**

PRODUCT LINEUP

GOCATOR 200 SERIES ACCESSORIES

Gocator 205

Bolt-On Color Vision Module

- High-speed color scanning (3 kHz / 300 FPM / 91 MPM)
- Supports two external light bars for white LED illumination
- Delivers 0.2” x 0.01” / 0.5 x 0.25 mm color pixels
- For use in conjunction with Gocator 210, 230 or 250 multi-point scanners

Light Bar 200

White-LED Illumination Device

- 12° Full-Width Half-Maximum (FWHM)
- Field of view 24” / 609.6 mm
- Clearance distance 17” / 431.8 mm
- Measurement Range 14” / 355.6 mm

Light Bar 210

White-LED Illumination Device

- 30° Full-Width Half-Maximum (FWHM)
- Field of view 24” / 609.6 mm
- Clearance distance 17” / 431.8 mm
- Measurement Range 14” / 355.6 mm

PRODUCT SPECS

LASER PROFILE SENSORS

Gocator 1300 Series — Laser Point Profile

MODELS	1320	1340	1350	1365	1370	1380	1390
Clearance Distance (mm)	40	162.5	200	562	237.5	127	500
Measurement Range (mm)	20	95	200	375	412.5	1651	2000
Linearity Z (+/- % of MR)	0.05	0.05	0.05	0.11	0.07	0.18	0.1
Linearity Z (+/- mm)	0.01	0.05	0.1	0.4	0.3	3.0	2.0
Resolution Z (mm)	0.0004 - 0.0004	0.0005 - 0.0010	0.0015 - 0.0035	0.0025 - 0.0040	0.0025 - 0.0070	0.0100 - 0.0450	0.0250 - 0.0600
Spot Size (mm)	0.11	0.37	0.50	1.80	0.90	2.60	2.60
Recommended Package Dimensions (mm)	Side Mount (3R) 30x120x149	Side Mount 30x120x149	Side Mount 30x120x149	Side Mount 30x120x220	Side Mount (3B) 30x120x149	Side Mount 30x120x149	Side Mount 30x120x277
Other Package Dimensions (mm)	Top Mount (3B) 49x75x162		Top Mount 49x75x162		Top Mount (2M) 49x75x162		
Weight (kg)	0.75 / 0.8	0.75	0.75 / 0.8	1.0	0.75 / 0.8	0.75	1.25

Resolution Z based on averaging 128 samples. Optical models, laser classes, and packages can be customized. Contact LMI for more details. Specifications stated are based on standard laser classes. Resolution Z and Linearity Z may vary for other laser classes. Refer to specifications in the Gocator Point Profile Sensor user manual for more details.

ALL 1300 SERIES MODELS	
Scan Rate (Hz)	32,000
Interface	Gigabit Ethernet
Inputs	Differential Encoder, Laser Safety Enable, Trigger
Outputs	2x Digital Output, RS-485 Serial, Selcom Serial, 1x Analog Output (4-20mA)
Input Voltage (Power)	+24 to +48 VDC (13 Watts); Ripple +/- 10%
Housing	Gasketed aluminum enclosure, IP67
Operating Temperature	0 to 50 °C
Storage Temperature	-30 to 70 °C
Vibration Resistance	10 to 55 Hz, 1.5 mm double amplitude in X, Y, and Z directions, 2 hours per direction
Shock Resistance	15 g, half sine wave, 11 ms, positive and negative for X, Y, and Z directions
Scanning Software	Browser-based GUI and open source SDK for configuration and real-time 3D visualization. Open source SDK, native drivers, and industrial protocols for integration with user applications, third-party image processing applications, and PLCs.

Gocator 2100 Series — Laser Line Profile

MODELS	2120	2130	2140	2150	2170	2175	2180
Data Points / Profile	640	640	640	640	640	640	640
Linearity Z (+/- % of MR)	0.01	0.01	0.01	0.01	0.04	0.03	0.04
Resolution Z (mm)	0.0018 - 0.0030	0.006 - 0.014	0.013 - 0.037	0.019 - 0.060	0.055 - 0.200	0.175 - 0.925	0.092 - 0.488
Resolution X (mm) (Profile Data Interval)	0.028 - 0.042	0.088 - 0.150	0.19 - 0.34	0.3 - 0.6	0.55 - 1.10	0.51 - 1.58	0.75 - 2.20
Repeatability Z (µm)	0.4	0.8	1.2	2	8	12	12
Clearance Distance (CD) (mm)	40	90	190	300	400	650	350
Measurement Range (MR) (mm)	25	80	210	400	500	1350	800
Field of View (FOV) (mm)	18 - 26	47 - 85	96 - 194	158 - 365	308 - 687	324 - 1010	390 - 1260
Dimensions (mm)	Side Mount 35x120x149.5	Top Mount 49x75x142	Top Mount 49x75x197	Top Mount 49x75x272	Top Mount 49x75x272	Top Mount 49x75x272	Top Mount 49x75x272
Weight (kg)	0.8	0.74	0.94	1.3	1.3	1.3	1.3

Optical models, laser classes, and packages can be customized. Contact LMI for more details. Specifications stated are based on standard laser classes. Linearity Z, Resolution Z, and Repeatability Z may vary for other laser classes. Refer to specifications in the Gocator Line Profile Sensor user manual for more details.

ALL 2100 SERIES MODELS	
Scan Rate	Approximately 170 Hz to 5000 Hz
Interface	Gigabit Ethernet
Inputs	Differential Encoder, Laser Safety Enable, Trigger
Outputs	2x Digital output, RS-485 Serial (115 kBaud), 1x Analog Output (4 - 20 mA)
Input Voltage (Power)	+24 to +48 VDC (13 Watts); Ripple +/- 10%
Housing	Gasketed aluminum enclosure, IP67
Operating Temperature	0 to 50°C
Storage Temperature	-30 to 70°C
Vibration Resistance	10 to 55 Hz, 1.5 mm double amplitude in X, Y, and Z directions, 2 hours per direction
Shock Resistance	15 g, half sine wave, 11 ms, positive and negative for X, Y, and Z directions
Scanning Software	Browser-based GUI and open source SDK for configuration and real-time 3D visualization. Open source SDK, native drivers, and industrial protocols for integration with user applications, third-party image processing applications, and PLCs.

PRODUCT SPECS

Gocator 2300 Series — Laser Line Profile

MODELS	2320	2330	2340	2350	2370	2375	2380
Data Points / Profile	1280	1280	1280	1280	1280	1280	1280
Linearity Z (+/- % of MR)	0.01	0.01	0.01	0.01	0.04	0.03	0.04
Resolution Z (mm)	0.0018 - 0.0030	0.006 - 0.014	0.013 - 0.037	0.019 - 0.060	0.055 - 0.200	0.175 - 0.925	0.092 - 0.488
Resolution X (mm) (Profile Data Interval)	0.014 - 0.021	0.044 - 0.075	0.095 - 0.170	0.150 - 0.300	0.275 - 0.550	0.255 - 0.790	0.375 - 1.100
Repeatability Z (µm)	0.4	0.8	1.2	2	8	12	12
Clearance Distance (CD) (mm)	40	90	190	300	400	650	350
Measurement Range (MR) (mm)	25	80	210	400	500	1350	800
Field of View (FOV) (mm)	18 - 26	47 - 85	96 - 194	158 - 365	308 - 687	324 - 1010	390 - 1260
Dimensions (mm)	Side Mount 35x120x149.5	Top Mount 49x75x142	Top Mount 49x75x197	Top Mount 49x75x272	Top Mount 49x75x272	Top Mount 49x75x272	Top Mount 49x75x272
Weight (kg)	0.8	0.74	0.94	1.3	1.3	1.3	1.3

Optical models, laser classes, and packages can be customized. Contact LMI for more details. Specifications stated are based on standard laser classes. Linearity Z, Resolution Z, and Repeatability Z may vary for other laser classes. Refer to specifications in the Gocator Line Profile Sensor user manual for more details.

ALL 2300 SERIES MODELS	
Scan Rate	Approximately 170 Hz to 5000 Hz
Interface	Gigabit Ethernet
Inputs	Differential Encoder, Laser Safety Enable, Trigger
Outputs	2x Digital output, RS-485 Serial (115 kBaud), 1x Analog Output (4 - 20 mA)
Input Voltage (Power)	+24 to +48 VDC (13 Watts); Ripple +/- 10%
Housing	Gasketed aluminum enclosure, IP67
Operating Temperature	0 to 50°C
Storage Temperature	-30 to 70°C
Vibration Resistance	10 to 55 Hz, 1.5 mm double amplitude in X, Y, and Z directions, 2 hours per direction
Shock Resistance	15 g, half sine wave, 11 ms, positive and negative for X, Y, and Z directions
Scanning Software	Browser-based GUI and open source SDK for configuration and real-time 3D visualization. Open source SDK, native drivers, and industrial protocols for integration with user applications, third-party image processing applications, and PLCs.

Gocator 2400 Series — Laser Line Profile

MODELS	2410	2420	2430	2440
Data Points / Profile	1710	1940	1500	1500
Linearity Z (+/- % of MR)	0.015	0.006	0.01	0.01
Resolution Z (µm)	1.1	1.8 - 3.0	6 - 14	13 - 37
Resolution X (µm) (Profile Data Interval)	5.8 - 6.2	14.0 - 16.5	37 - 57	90 - 130
Repeatability Z (µm)	0.2	0.4	0.8	1.2
Clearance Distance (CD) (mm)	19	60	75	183
Measurement Range (MR) (mm)	6	25	80	210
Field of View (FOV) (mm)	10 - 10	27 - 32	47 - 85	96 - 194
Dimensions (mm)	44x90x145	44x90x145	44x90x155	44x90x190
Weight (kg)	0.88	0.88	1.0	1.2

Optical models, laser classes, and packages can be customized. Contact LMI for more details. Specifications stated are based on Recommended laser classes. Linearity Z, Resolution Z, and Repeatability Z may vary for other laser classes.

ALL 2400 SERIES MODELS	
Scan Rate	200 Hz, up to 5 kHz. (Note: 2400 series provides up to 2x scan rate for equivalent window size as 2300 series)
Interface	Gigabit Ethernet
Inputs	Differential Encoder, Laser Safety Enable, Trigger
Outputs	2x Digital output, RS-485 Serial (115 kBaud), 1x Analog Output (4 - 20 mA)
Input Voltage (Power)	+24 to +48 VDC (9 Watts); Ripple +/- 10%
Housing	Gasketed aluminum enclosure, IP67
Operating Temperature	0 to 50°C
Storage Temperature	-30 to 70°C
Vibration Resistance	10 to 55 Hz, 1.5 mm double amplitude in X, Y, and Z directions, 2 hours per direction
Shock Resistance	15 g, half sine wave, 11 ms, positive and negative for X, Y, and Z directions
Scanning Software	Browser-based GUI and open source SDK for configuration and real-time 3D visualization. Open source SDK, native drivers, and industrial protocols for integration with user applications, third-party image processing applications, and PLCs.

Gocator 2500 Series — Laser Line Profile

MODELS	2510	2520
Data Points / Profile	1920	1920
Linearity Z (+/- % of MR)	0.015	0.006
Resolution X (µm) (Profile Data Interval)	8.0	13.0 - 17.0
Repeatability Z (µm)	0.2	0.4
Clearance Distance (CD) (mm)	17.0	47.5
Measurement Range (MR) (mm)	6	25
Field of View (FOV) (mm)	13.0 - 14.5	25.0 - 32.5
Dimensions (mm)	46x80x110	46x80x110
Weight (kg)	0.65	0.65
Optical models, laser classes, and packages can be customized. Contact LMI for more details. Specifications stated are based on Recommended laser classes. Linearity Z and Repeatability Z may vary for other laser classes.		
ALL 2500 SERIES MODELS		
Scan Rate	2.4 kHz (2510 full field of view) / 1.6 kHz (2520 full field of view) to 10 kHz	
Interface	Gigabit Ethernet	
Inputs	Differential Encoder, Laser Safety Enable, Trigger	
Outputs	2x Digital output, RS-485 Serial (115 kBaud)	
Input Voltage (Power)	+24 to +48 VDC (15 Watts); Ripple +/- 10%	
Housing	Gasketed aluminum enclosure, IP67	
Operating Temperature	0 to 40°C	
Storage Temperature	-30 to 70°C	
Vibration Resistance	10 to 55 Hz, 1.5 mm double amplitude in X, Y, and Z directions, 2 hours per direction	
Shock Resistance	15 g, half sine wave, 11 ms, positive and negative for X, Y, and Z directions	
Scanning Software	Browser-based GUI and open source SDK for configuration and real-time 3D visualization. Open source SDK, native drivers, and industrial protocols for integration with user applications, third-party image processing applications, and PLCs.	

Gocator 2800 Series — Line Profile

MODELS	2880
Data Points / Profile	1280
Linearity Z (+/- % of MR)	0.04
Resolution Z (mm)	0.092 - 0.488
Resolution X (mm) (Profile Data Interval)	0.375 - 1.100
Clearance Distance (CD) (mm)	350
Measurement Range (MR) (mm)	800
Field of View (FOV) (mm)	390 - 1260
Dimensions (mm)	49x75x498
Weight (kg)	2.56
Scan Rate	380 Hz - 2500 Hz
Interface	Gigabit Ethernet
Inputs	Differential Encoder, Laser Safety Enable, Trigger
Outputs	2x Digital output, RS-485 Serial (115 kBaud), 1x Analog Output (4 - 20 mA)
Input Voltage (Power)	+24 to +48 VDC (13 Watts); Ripple +/- 10%
Housing	Gasketed aluminum enclosure, IP67
Operating Temperature	0 to 50°C
Storage Temperature	-30 to 70°C
Vibration Resistance	10 to 55 Hz, 1.5 mm double amplitude in X, Y, and Z directions, 2 hours per direction
Shock Resistance	15 g, half sine wave, 11 ms, positive and negative for X, Y, and Z directions
Scanning Software	Browser-based GUI and open source SDK for configuration and real-time 3D visualization. Open source SDK, native drivers, and industrial protocols for integration with user applications, third-party image processing applications, and PLCs.

PRODUCT SPECS

LASER SCANNERS

Gocator 200 Series | Multi-Point Profile

MODELS	LB200	LB210	205	210	230	250
Clearance Distance (CD)	17″ / 431.8 mm	17″ / 431.8 mm	20″ / 508.0 mm	17″ / 431.8 mm	20″ / 508.0 mm	20″ / 508.0 mm
Measurement Range (MR)	14″ / 355.6 mm	14″ / 355.6 mm	11″ / 279.4 mm	14″ / 355.6 mm	8″ / 203.2 mm	8″ / 203.2 mm
Field of View	24″ / 609.6 mm 12° FWHM	24″ / 609.6 mm 30° FWHM	24″ / 609.6 mm	24″ / 609.6 mm	24″ / 609.6 mm	24″ / 609.6 mm
Number of Points	N/A	N/A	N/A	30	76	76
Scan/Profile Speed	N/A	N/A	3 kHz	2 kHz	3 kHz	3 kHz
Tracheid Speed	N/A	N/A	N/A	N/A	N/A	1.5 kHz
X Resolution (At Mid-range)	N/A	N/A	N/A	1.1″ / 27.94 mm	0.333″ / 8.5 mm	0.333″ / 8.5 mm
Z Resolution	N/A	N/A	N/A	0.008″ / 0.203 mm	0.005″ / 0.127 mm	0.005″ / 0.127 mm
XY Resolution (Color Vision)	N/A	N/A	0.02″x0.01″ / 0.5 mmx0.25 mm	N/A	N/A	N/A

ALL 200 SERIES MODELS	
Interface	Gigabit Ethernet
Inputs	Differential Encoder, Trigger, Laser Safety Enable
Outputs	2x Digital Output, RS485 Serial (115 kbaud), 1x Analog Output (4 - 20 mA)
Input Voltage (Power)	+48 VDC (Gocator 210 / 230 / 250: 25 Watts; Gocator 205: up to 78 Watts); Ripple +/- 10%
Housing	Gasketed Aluminium Enclosure, IP67
Operating Temp	0 to 50 °C
Storage Temp	-30 to 70 °C
Vibration Resistance	10 to 55 Hz, 1.5 mm double amplitude in X, Y, and Z directions, 2 hours per direction
Shock Resistance	15 g, half sine wave, 11 ms, positive and negative for X, Y, and Z directions
Scanning Software	Browser-based GUI and open source SDK for configuration, real-time 3D visualization, and reference multi-sensor board state machine design. Industrial protocols for integration with PLCs.

SENSOR NETWORKING FOR SCANNING LARGE OBJECTS

Gocator laser profilers support seamless multi-sensor networking for scanning large or complex objects (i.e., with irregular surface geometry and multiple occlusions). These sensor networks are connected by LMI Master controllers.

MASTER 810 & 2410

Master 810 and 2410 network controllers make it easy to distribute power, achieve microsecond data synchronization, and provide laser safety for up to 24 sensors per Master. Designed to scale, Masters provide uplink/download ports for daisy chaining, and support differential or single-ended encoder and digital I/O.

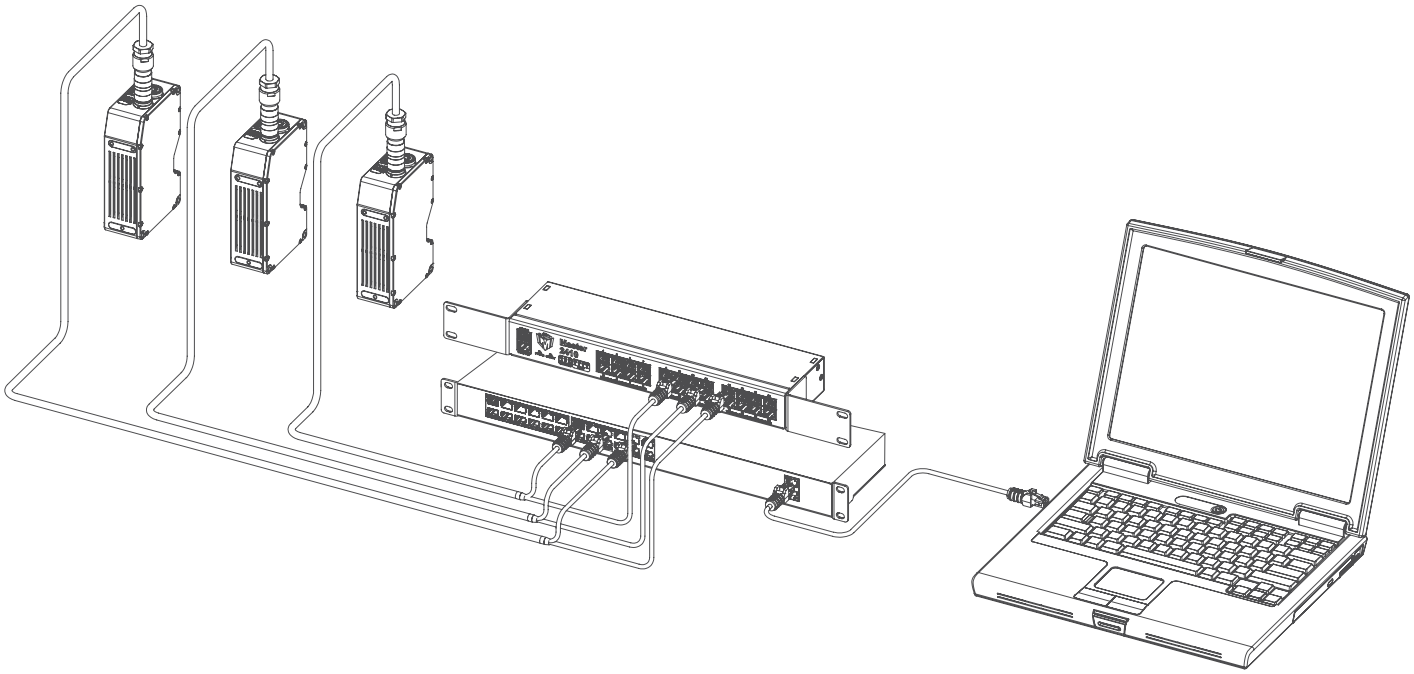
- SYNCHRONIZED WITHIN 1 µs ACCURACY
- ALL-IN-ONE CABLING
- BUILT-IN LASER SAFETY CONTROL

Master 810. Supports up to 8 sensors.

Master 2410. Supports up to 24 sensors.

BENEFITS OF MULTI-SENSOR SUPPORT

- IDEAL FOR SCANNING LARGE OR COMPLEX TARGETS
- SIMPLE POINT-AND-CLICK NETWORK SETUP
- BUILT-IN LAYOUT ALIGNMENT AND STITCHING FOR MAXIMUM EASE OF USE
- MAINTAINS HIGH RESOLUTION ACROSS WIDE FOV



It’s Better to Be Smart.

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