LMI TECHNOLOGIES

FactorySmart® Automation

# CASE STUDY CYTH SYSTEMS
# AUTOMATED PALLET INSPECTION SYSTEM WITH GOCATOR 3D LASER LINE PROFILERS

www.cyth.com

Cyth Systems is a Systems Integration Company specializing in automated test equipment (ATE), embedded controls, and machine vision.

## The Application

The Automated Pallet Inspection System designed and built by Cyth Systems and powered by LMI Technologies' 3D laser line profilers. Cyth offers this pallet inspection system with a wide variety of customizable features and hardware to allow for the specific needs of the client.

## The Challenge

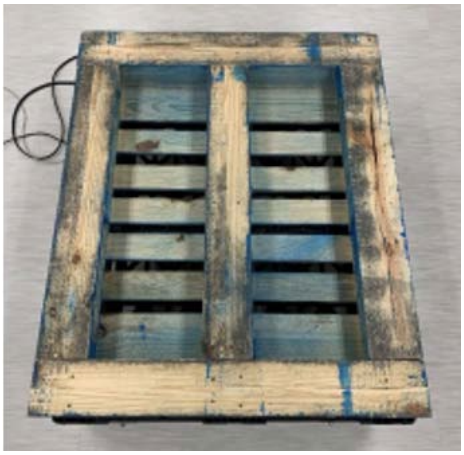
Automated Palletizing Systems run efficiently without the need for much human interference. However, without inspection for pallet integrity and quality, broken or compromised pallets can cause many issues on conveyor lines. Such issues lead to downtime, damaged product, and safety hazards.

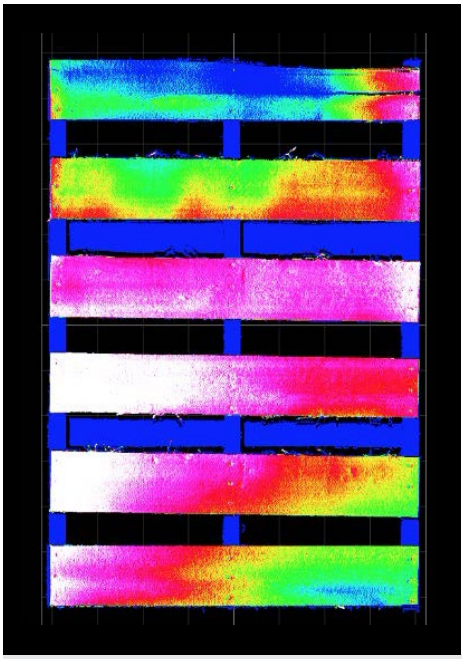

## The Solution

Cyth Systems has developed an Automated Pallet Inspection System offering a wide variety of customizable features to meet the specific needs of the client.

This system leverages LMI Technologies' Gocator 2490 laser line profiler, which has a maximum field of view of 2 meters and X resolutions of 250.0 to 1100.0 microns—depending on the mounting height of the scanner.

The Gocator 2490 can interface directly with an encoder, providing accurate results in the travel direction of the conveyor. The Y resolution can be adjusted to optimize for desired scan resolution. Multiple Gocators can be paired as well to expand the FOV or scan a pallet from multiple locations.





*3D Scan Data from Gocator 2490*

**Quick Feedback**
Systems like this rely on rapid, reliable communication to respond to compromised pallets accordingly. This System features read and write functions to an OPC Server, thereby allowing for quick communication to/from the Inspection System so results can be sent and handled downstream. Cyth can also display these live results on an HMI for line operators to actively see PASS/FAIL criteria.

**Custom Mounting**
The minimum required clearing distance of the Gocator 2490 is 350 mm. Cyth creates system mounting custom-made to meet the needs of the client. Mounting is designed to allow for ease-of-install and adjustments so there is little downtime to no downtime on production machines.

**Encoder-Free Option**
For the conveyor systems where an incremental encoder is not an option, Cyth Systems provides the flexibility of removing the encoder and relying entirely on a known conveyor speed or OPC tags.

**Vision Analysis**
Utilizing the capabilities of Machine Vision, the Pallet Inspection system can tailor the Pass/Fail criteria of a pallet to the client's specific needs. The system can identify broken or missing beams, display and save length and width measurements, and can even distinguish between different types of pallets.

## The Gocator® Advantage

- Generates high-precision 3D shape data of the pallet
- Built-in measurement tools means no extra software development is required
- Multi-sensor networking capability for greater scan coverage when needed
- Pre-calibrated, out-of-the-box scanning and measurement capability
- Easy integration with existing factory systems

> *"Gocator was chosen for its ability to scan object shape, take feature measurements, and make critical control decisions. This all-in-one device can stream data at production speed so there is no disruption to the production process flow."*
>
> **– Kevin Ruckley, Director of Engineering, Cyth Systems**

**Gocator® 2490**

## The Result

With increasing industry standards demanding faster product throughput, Gocator® coupled with Cyth Systems integration allows for an optimized automated inspection.

To learn more about Pallet Inspection Systems or get a quote for your system, please email sales@cyth.com.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