



LMI TECHNOLOGIES

INTERACTIVE DESIGN, INC. USES GOCATOR IN ITS AUTOMATED PALLET INSPECTION SYSTEM

As a leading systems integrator, IDI manufactures advanced automation solutions designed to solve a particular problem for each individual client. The company provides these high-performance, cost-effective systems to a wide range of industries including consumer products, food and beverage, plastics, automotive, ammunition, medical devices, and pharmaceuticals.

CASE STUDY



ABOUT THE CLIENT

Based in Lenexa, KS, USA, IDI (Interactive Design, Inc.) has a proven track record of solving challenging industrial automation requirements dating back to 1987.

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The Challenge

IDI recognized the need for automated inspection of used pallets (with sorting) to ensure they are suitable for reuse.

With palletizing lines becoming increasingly automated, and no inspection systems in place to ensure pallet integrity, loads on faulty pallets can easily fall over and result in spoilage, downtime, and serious safety hazards.

IDI identified 3D sensing as the most effective solution to meet this inspection challenge. The problem, however, is that most 3D sensors currently on the market have a small FOV (field-of-view), which requires a multitude of sensors to cover the width of the pallet and ultimately adds cost and complexity to the system.



Gocators have the widest field of view available

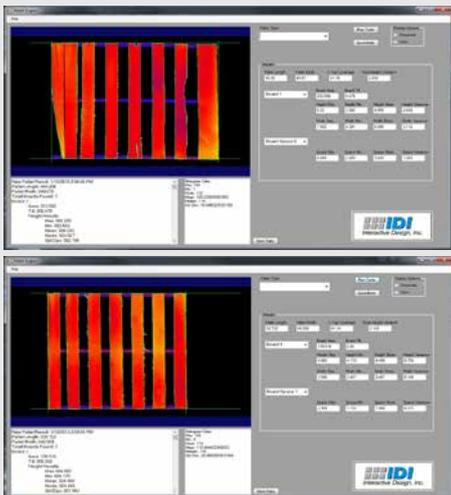
The Solution

IDI determined that LMI's Gocator 2370 had the most suitable specifications for the application at hand. With the widest FOV available on the market today, a single Gocator 2370 is able to do the work of multiple 3D sensors that have smaller FOV. Gocator also offers all key scanning and inspection functionality (scan, measurement and control) within a single device.

LMI promptly provided IDI with a demo Gocator 2370 sensor for integration into their demonstration system. IDI imported 3D data from the Gocator into their PC controller using Gocator's Gigabit Ethernet output, then developed their own custom data analysis and user interface based on specific output requirements.

IDI's system is capable of inspecting and sorting CHEP, GMA/White wood, and plastic pallets based on type and quality, and then classifying them into user-defined grades. Missing deck boards, partial deck boards along perimeter, broken deck boards, raised deck boards, minimum board spacing, and other user defined inspections can also be carried out by IDI's system in order to ensure pallet quality for reuse.

Interactive Design's demonstration system is fully tested and now being shown to potential customers.



Automated Pallet Inspection Screen

Advantages of the Gocator sensor:

- With scan rates up to 5khz and 1280 points per profile, Gocator meets industry inspection requirements for this application.
- Gocator scanners are factory pre-calibrated, ready to produce results out-of-the-box, which eliminates the need for the system integrator to implement complex and time-consuming calibration procedures.
- Rugged, industrial IP67 housing is sealed and against dust, water and vibration of harsh factory environments.



Pallet output scans

The Results

By partnering with LMI, IDI was able to develop the first known automated inspection and sorting system for used pallets. Gocator 2370, with the largest FOV on the market, provided the lowest sensor count needed for the application and kept cost and system complexity at a minimum.

Advantages of the IDI Pallet Inspection System:

- Modular design easily adapts to mounting over existing conveyors, or IDI will supply complete systems with denester/stacker or robotic handling systems.
- For larger pallets, multiple Gocators can be mounted and easily synchronized to provide even larger FOV (Note: Gocators are easily scalable up to 24 networked sensors using a single LMI Master Hub with simple cabling).
- User interface developed by IDI provides ability to set up parameters as well as a simple user data display.

“Gocator absolutely met our expectations. With the widest FOV available on the market today, Gocator economically provides all the 3D measurement needs for used pallet inspection. LMI support was very generous, including provision of demonstration sensors for prototype testing.”

NATE MAHOLLAND
SALES MANAGER FOR IDI

To learn more about Gocator All-In-One 3D Smart Sensors,
please email contact@lmi3d.com

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