

## CASE STUDY INSPECT SPRING AUTOMATION TECHNOLOGY **HIGH-SPEED CONNECTOR PIN QUALITY INSPECTION**



[www.i-spring.com.cn](http://www.i-spring.com.cn)

Founded in 2011, Inspect Spring Automation Technology is a China-based company that provides professional measurement solutions for a wide range of factory automation industries. Their solutions include Code Reading, Machine Vision, Robots, Laser Sensors, and Lighting industry products to help customers improve production efficiency and achieve business growth.

### The Application

In this application, a Gocator® 2520 laser line profiler scans, filters, takes measurements, and provides real-time pass/fail decision-making on connector pins traveling on a high-speed conveyor. Without reliable, broad-coverage quality control information, defective connector pins can easily be missed and distributed to customers.

### The Challenge

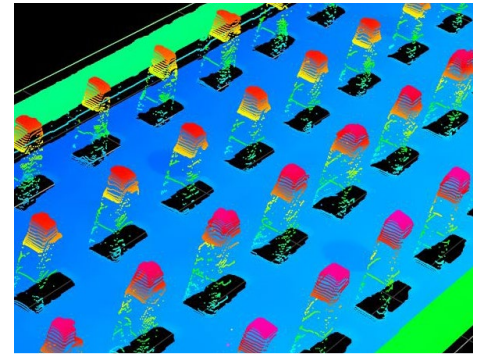
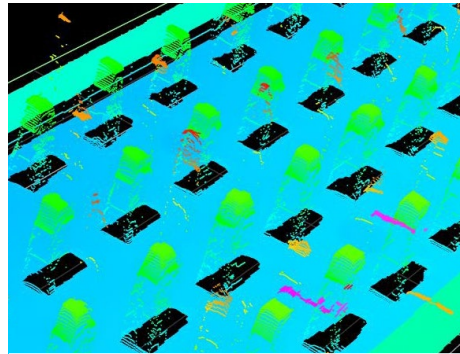
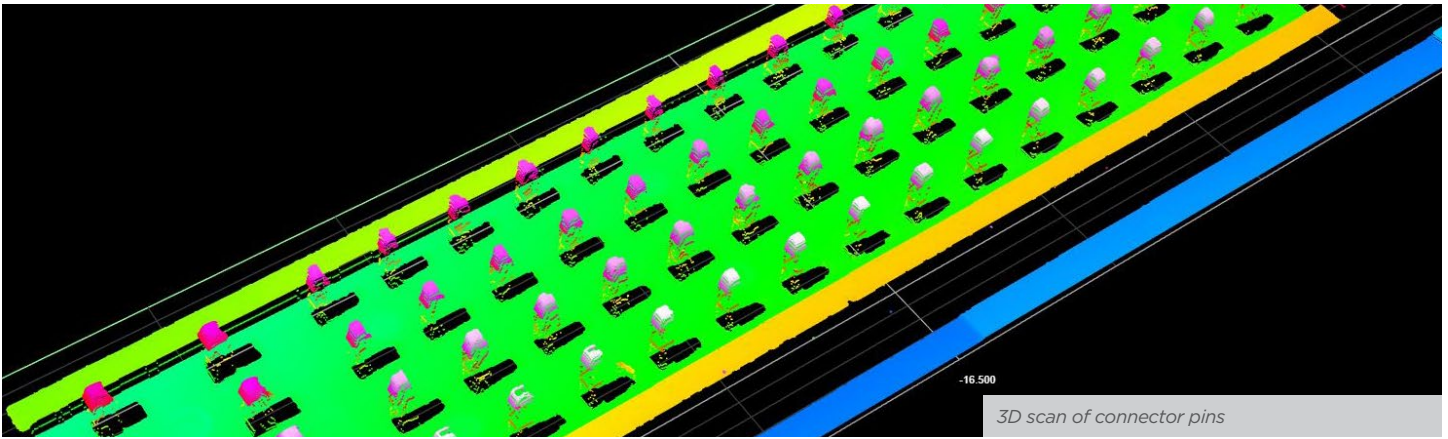
Connector pins are tiny, highly reflective objects that are difficult to scan and measure with the required precision to meet geometric tolerances. Specifically, noise in the scan data regularly appears between pins. In addition, some pins are soldered deeper on the board than others, which requires the sensor to have a large measurement range in order to reliably capture pin geometry.

### The Solution

A Gocator® 2520 sensor is able to generate a high-density 3D scan (1920 data points per profile) of each highly reflective pin, which allows the user to work with the highest resolution image possible. Alternatively, the engineer can also elect to use a Gocator® 3D snapshot sensor or buddy sensor system (line profilers) to completely eliminate occluded areas.

After scanning, Gocator® provides built-in filters for handling different types of data noise. With Gocator® built-in tools, the engineer is also able to scan and measure length, height, width, and coplanarity.





### The Gocator® Advantage

- Accommodates for varying heights of different parts as they travel along the conveyor.
- Calculates the connector pin's height, which is relative to another surface of the part.
- Measures the pin's height precisely and accurately, down to a few hundredths of a millimeter.
- Measures the pin's height at full production speed.

*Gocator delivers high scan speed and high resolution results on reflective targets. With the built-in 3D measurement tools, we can effectively inspect small parts.*

— Gary Wang, General Manager, Inspect Spring Automation Technology



### The Result

- Ensures 100% inspection of connector pins, no missed defective pins
- Provides complete onboard inspection (scan, measure, control) at speeds up to 10 kHz (industry standard is 5 kHz)
- Yields considerable cost savings, because users can quickly catch and correct production issues before incurring unwanted costs due to defective parts

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