

○ SQ3000™ for Packaging

Benefit Summary

Despite the intricacies and increased shine of components on PCB boards, the SQ3000™ provides fast, reliable inspection to help our customers get to mass market quickly, without compromising on quality.

Challenge

Our customer experienced increased demand for their PCB boards with 0201 components and needed a way to ramp up and significantly improve their inspection process. Due to the intricacies and variations between elements from a variety of suppliers, manual inspection was not an option. Manual inspection also prohibited effective tracking of defects and anomalies of the intricate 0201 components.

Speed and accuracy in high-volume inspection were very important to our customer. Defects, when caught, were discovered at the very end of inspection forcing significant manufacturing delays. The customer also struggled with a high escape rate. To get to mass market quickly, this customer needed an automated solution that allowed them to catch defects sooner, while reducing operator costs and overhead.

Shine was another factor that posed concerns. As parts grew shinier, it became more and more difficult to find a solution that provided reliable, consistent inspection at their goal rate of 20,000 parts in under 20 seconds.

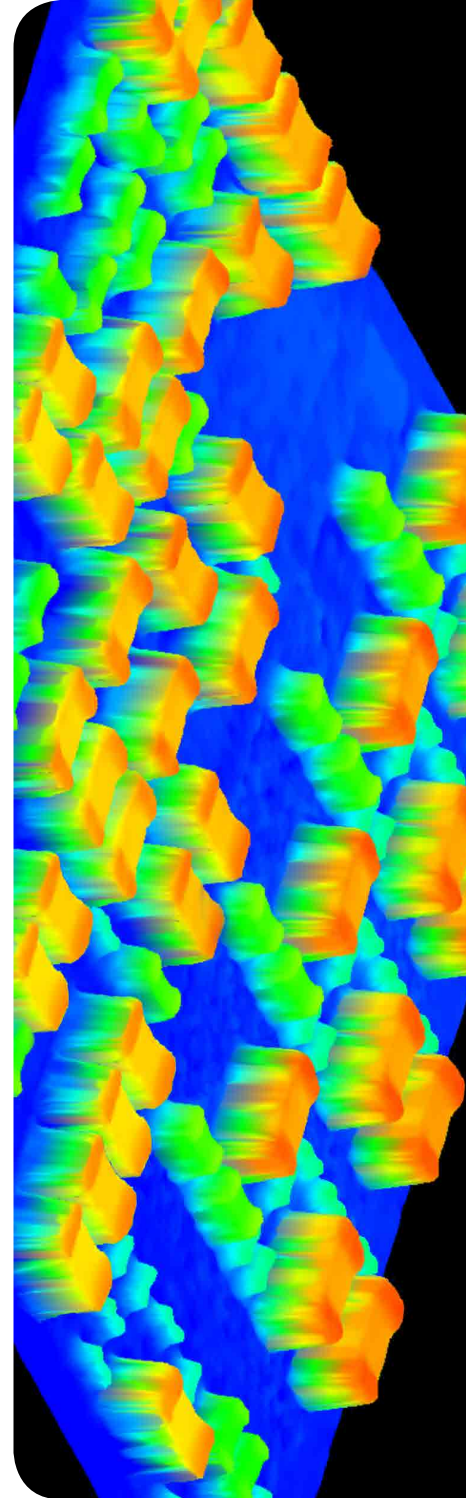
Solution

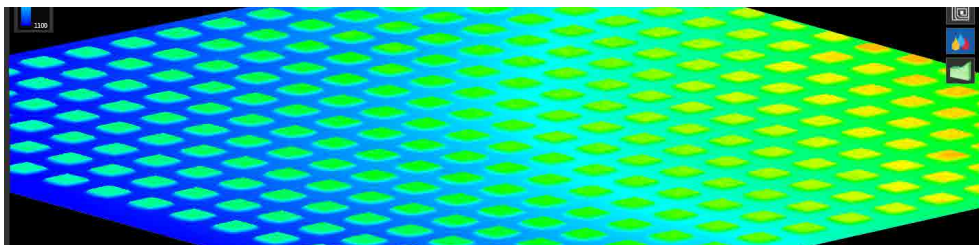
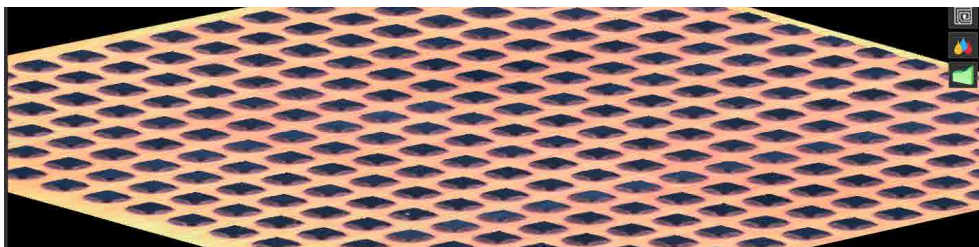
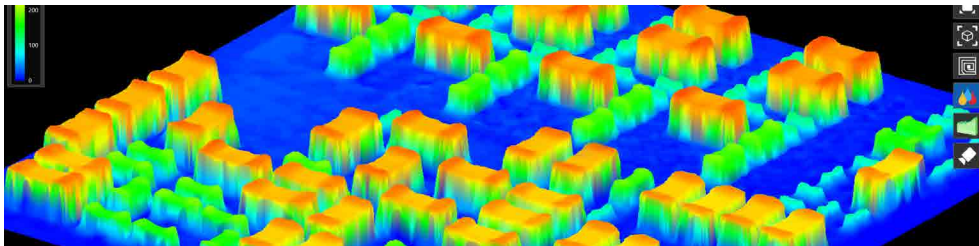
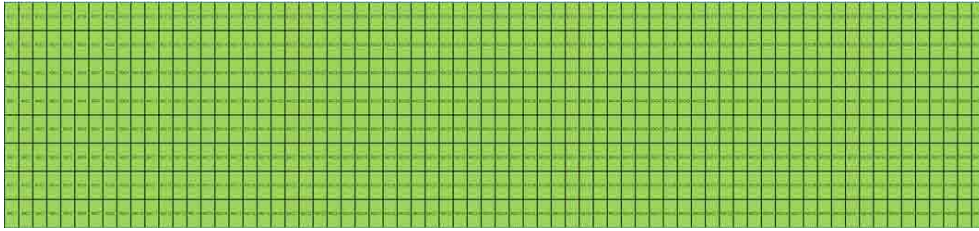
Implementing the SQ3000™ allowed for a versatile solution that is easy to use and provides consistent, accurate results at high speeds. The sensor, software and system all work together to completely automate the full-line inspection process, with higher mean time between failures of inspected components — more than 35,000 hours.

This solution meets the customer's production requirement for line cycle time with repeatability of six micrometers in three sigma for X, Y, Z measurement. The 2D scanning provides inspection coverage for text, rotation, position, cracked or damaged components, debris and gap measurements, while the advanced 3D scanning technology provides detailed coplanarity inspection up to eight times faster than competing solutions.

The core differentiator for our customer has been The Multi-Reflection Suppression (MRS) Sensor Technology, which mitigates any measurement inaccuracies due to shiny components. As technology continues to advance and gets smaller and shinier, the more difficult it can be to accurately inspect parts for defects. This is where our product excels. In combination with the software, defects can be pinpointed early and throughout the inspection cycle.

This proprietary system is a best-in-class solution with a remarkably low escape rate that reduces costs, improves yields and continues to create operational efficiencies for our customer.





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