

Mech-MSR 3D Measurement and Inspection Software

For high-precision measurement and inspection



Easy-to-Use GUI Design

Create measurement solutions with an intuitive interface and configuration tools in a fast and easy way, even for those without expert 3D vision knowledge and experience.



Robust Measurement Algorithms

Utilize our built-in algorithms for efficient 3D measurement applications, including dimensional measurement, defect detection, object counting, and more.



Versatile Functions for Efficient Deployment

Implement seamless end-to-end deployment in as little as two hours using Mech-MSR, encompassing scanning, alignment, measurement, result evaluation, and easy communication with factory networks and devices.

Versatile Functions for Fast and Easy Deployment



SCAN



ALIGN



PROCESS



MEASURE



EVALUATE



COMMUNICATE



DEPLOY

Scan

Easily connect to and run on the Mech-Eye LNX 3D sensors for easy setup and real-time data collection.

Align

Align objects for quick positioning and ensure all are at the reference position for accurate and efficient measurement.

Process

Preprocess and optimize depth images, 3D data, and other image data to create the best point clouds.

Measure

Accurately measure the length, width and height of the target, driven by robust measurement algorithms and tools.

Inspect

Comprehensively inspect the shape and defect of the target object, meeting various requirements of quality inspection.

Evaluate

Use single-index or comprehensive evaluation methods to meet various product quality standards.

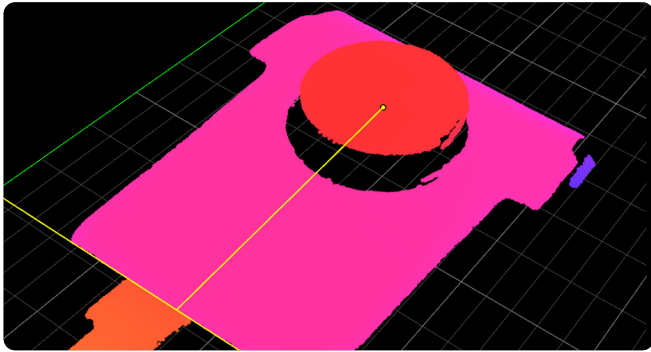
Communicate

Connect PLCs and factory devices for real-time data transmission. Support TCP ASCII and EtherNet/IP.

Deploy

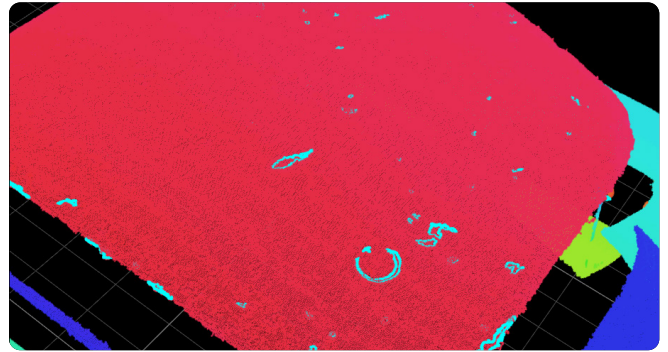
Check the running status and collect data in real time due to a visualized production interface.

How Mech-MSR Makes Production Smart



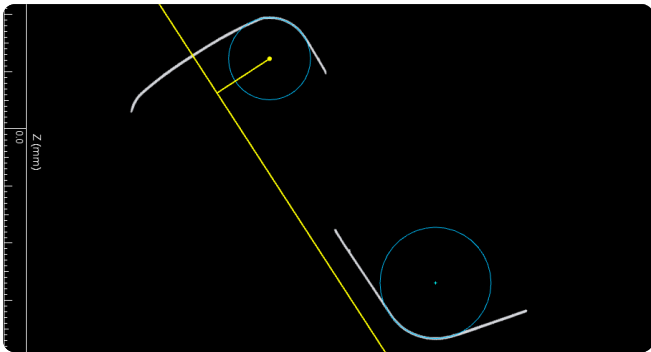
Dimensional Measurement

Measure geometric dimensioning and tolerancing (GD&T) of targets, including length, width, flatness and roundness.



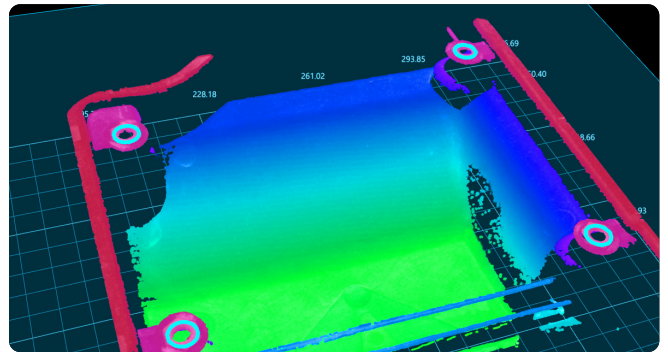
Defect Detection

Detect common surface defects based on the depth image, such as cracks, scratches, dents and protrusions.



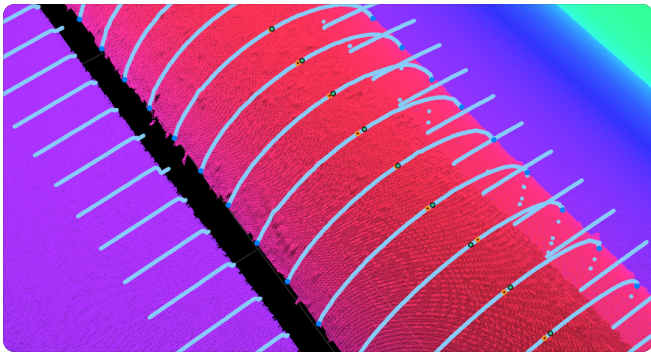
Profile Measurement

Measure roughness, smoothness and evenness of target surfaces in 3D.



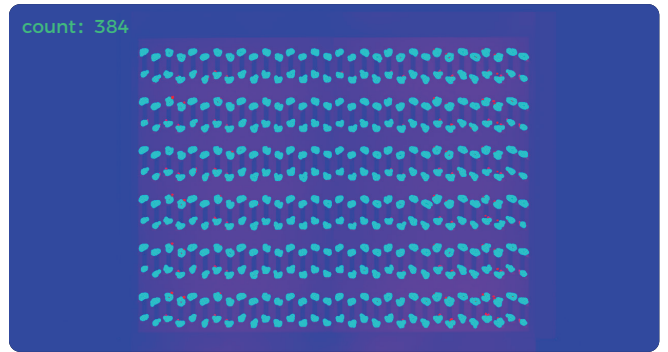
Assembly Inspection

Inspect positional accuracy, coplanarity, spacing, height differences and other key features in assembly.



Glue Bead Inspection

Check the presence of beads, measure their relative volume or cross-sectional area, and inspect defects such as voids, bubbles and gaps.



Object Counting

Count objects and their features in the production line in real time. Adapt to objects with various sizes and shapes.

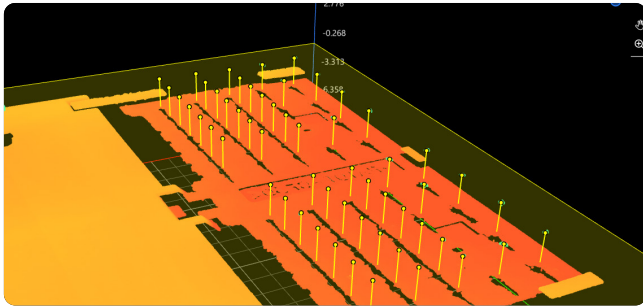
Automated Quality Control Made Easy

Mech-MSR, combined with Mech-Eye 3D sensors, is perfect for inline 3D measurement and inspection applications in consumer electronics, EV battery, home appliances, automotive, food & beverage and other industries.

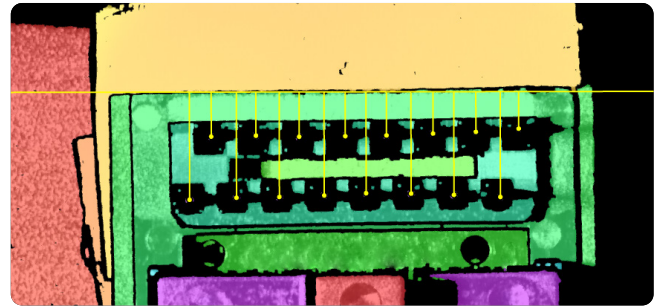


Connector Pin Inspection

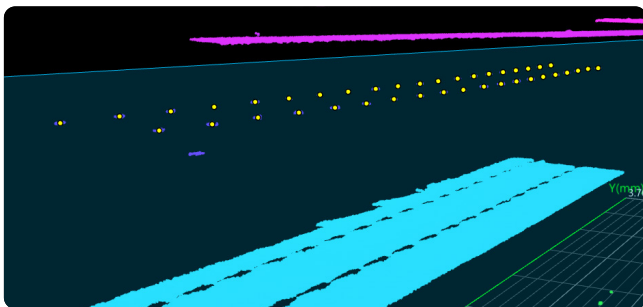
- Measure and inspect height differences, positional accuracy, coplanarity, deflection and spacing
- Repeatability: < 0.01 mm; cycle time: < 0.8 s



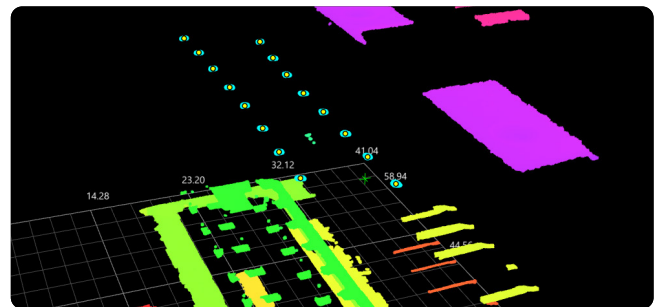
Height difference measurement



Position measurement



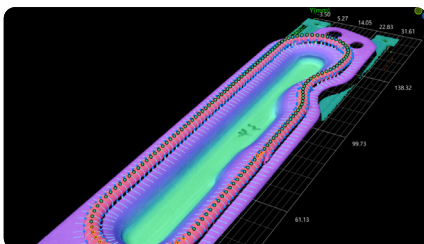
Coplanarity inspection



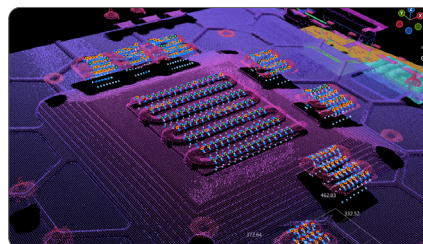
Pin counting

Glue Bead Inspection

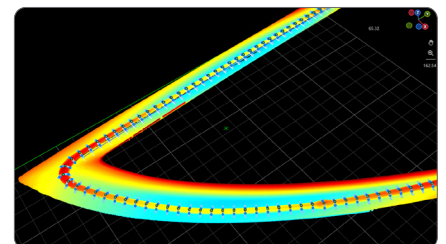
- Measure bead width, volume and cross-sectional area
- Find defects in beads such as voids, bubbles and gaps
- For electronics, modules and parts in consumer electronics, automotive and more industries



Cap glue bead inspection



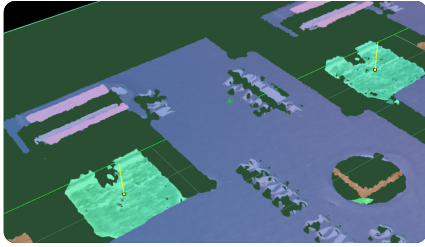
Engine control unit (ECU) glue bead inspection



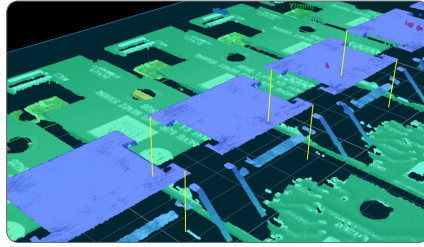
Car window glue bead inspection

PCB inspection

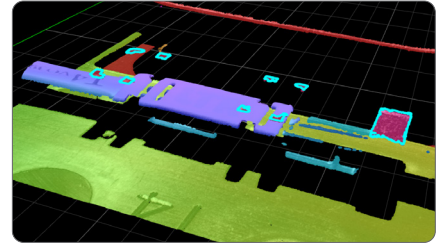
- Detect various defects (e.g., deflection and scratch)
- Inspect key features (e.g., height differences, dislocation and solder joint height)
- High accuracy and short cycle time boost assembly quality and efficiency



Height difference measurement

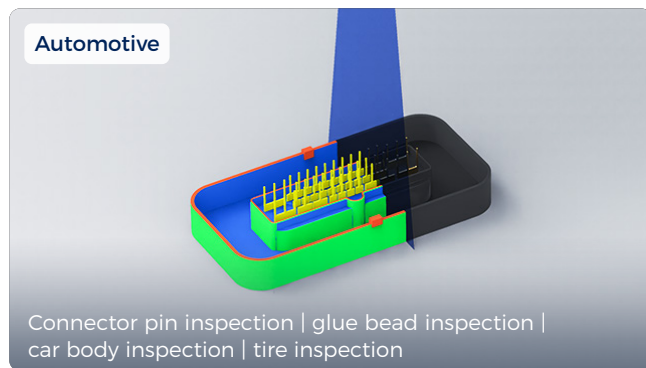


Deflection inspection

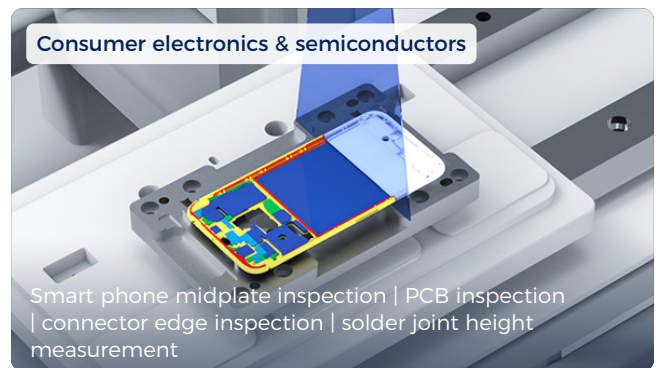


Component presence/absence detection

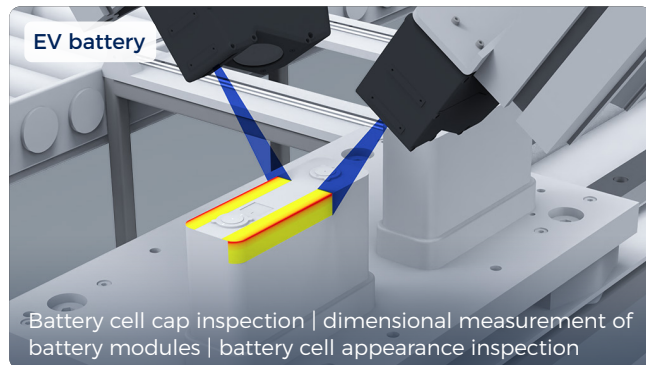
More applications



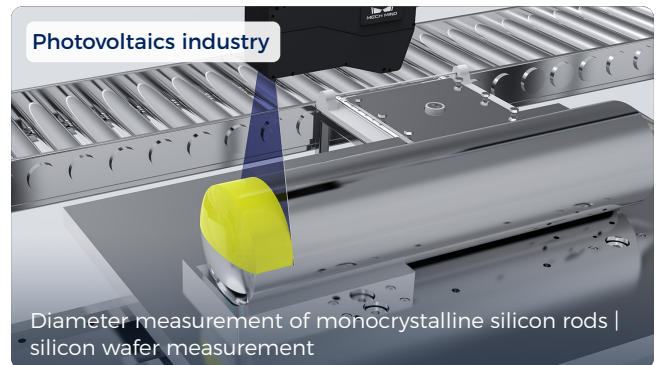
Connector pin inspection | glue bead inspection | car body inspection | tire inspection



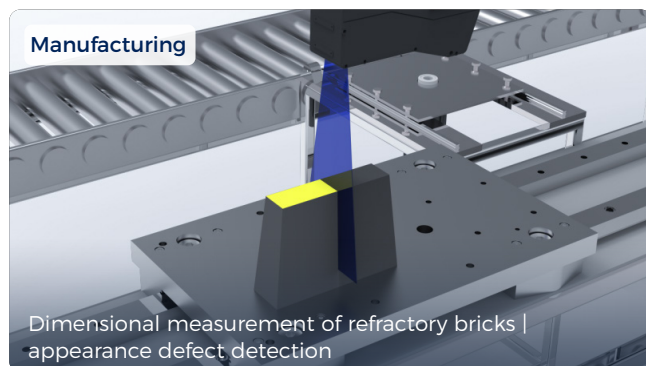
Smart phone midplate inspection | PCB inspection | connector edge inspection | solder joint height measurement



Battery cell cap inspection | dimensional measurement of battery modules | battery cell appearance inspection



Diameter measurement of monocrystalline silicon rods | silicon wafer measurement



Dimensional measurement of refractory bricks | appearance defect detection



Object counting | packaging inspection | defect detection | product measurement

3D VISION & AI FOR ROBOTS AND MORE



Get the most from Mech-Mind's 3D vision -
get in touch with us!

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E-mail (PR & marketing): marketing@mech-mind.net

Learning guidance to deploy your vision
application **STEP BY STEP**, please visit

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Online community: community.mech-mind.com
