

Conformal Coating Inspection SERIES



- UV-Active Coating Inspection
- Intuitive Coverage Programming
- Accurate Coating Area Measurement

CONFORMAL COATING AUTOMATED
OPTICAL INSPECTION

CONFORMAL COATING INS

TRI Conformal Coating Inspection (CI) solutions combine a specialized optical design with multi-phase lighting to inspect UV-active Conformal Coatings and identify most typical coating defects.

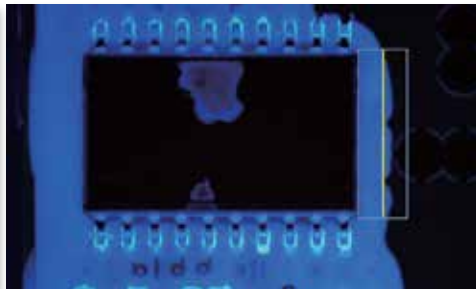
Reveal Typical Defects

TRI's CI software easily detects most common coating issues, including cracks, bubble/voids, insufficient/excess coating and loss of adhesion.

CCI - Defect Detection in UV-active Material



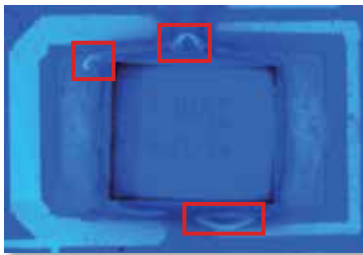
Missing Coating



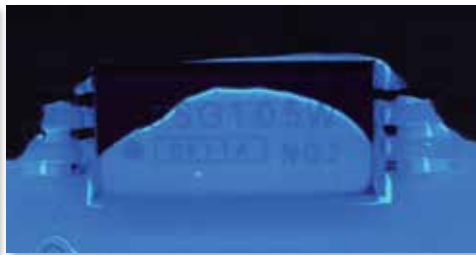
Spill Measurement



Crack



Bubble/Void



Splash/Smear/Contamination

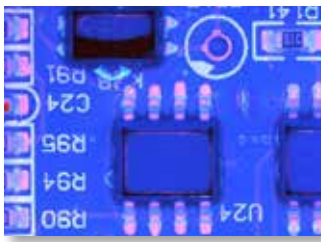


Insufficient Coating

Multi-phase Lighting Design

Advanced lighting and optical design combines multiple lighting types for maximum inspection accuracy.

Multi-phase FOV Images: W/R + UV



UV+Red Light



Red Light



White Light

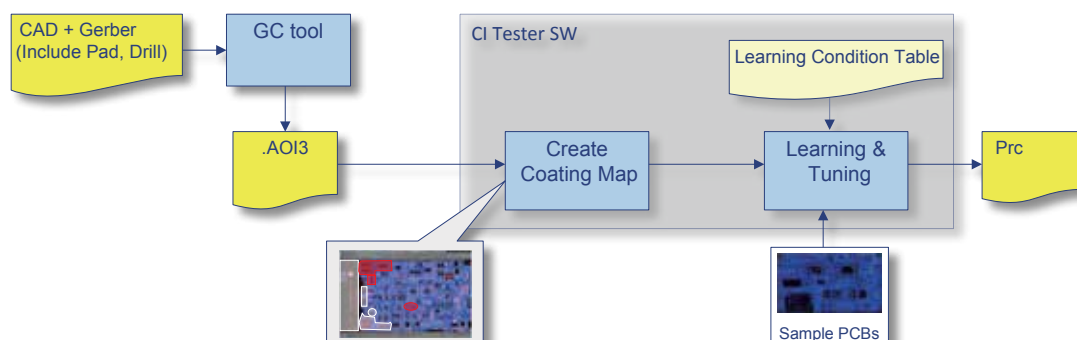


UV Light

Smart Software UI

Smart software easily converts CAD data and creates coating maps for rapid deployment. Learning from sample PCBs, the system rapidly improves accuracy and reduces false calls.

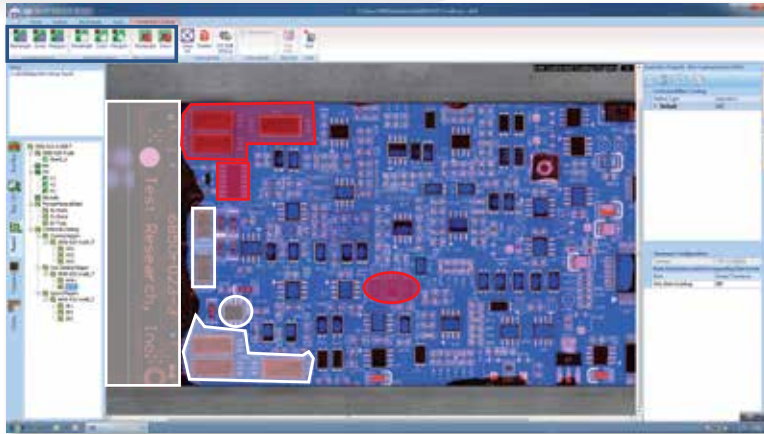
Program Development Flow



SPECTION FEATURES

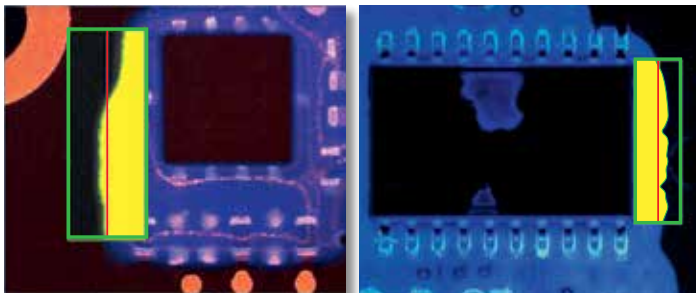
User Interface

Intuitive editing tools enable "what you see is what you get" style programming of conformal coating inspection in a few simple steps.



Excess Coating Measurement

Reliably measure coating distance from key areas on the PCB, and prevent undesirable coating spills near PCB connectors, sensitive components and designated mounting holes.



Spill Measurement

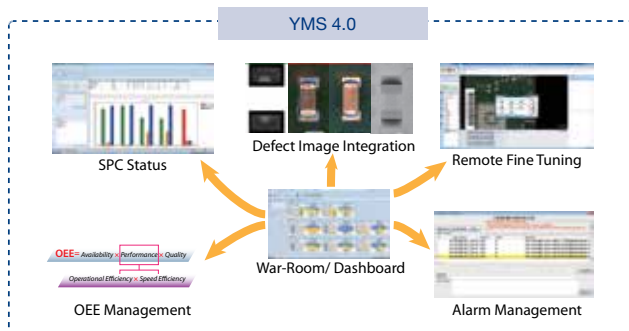
SMT Line Integration

• Offline Editor

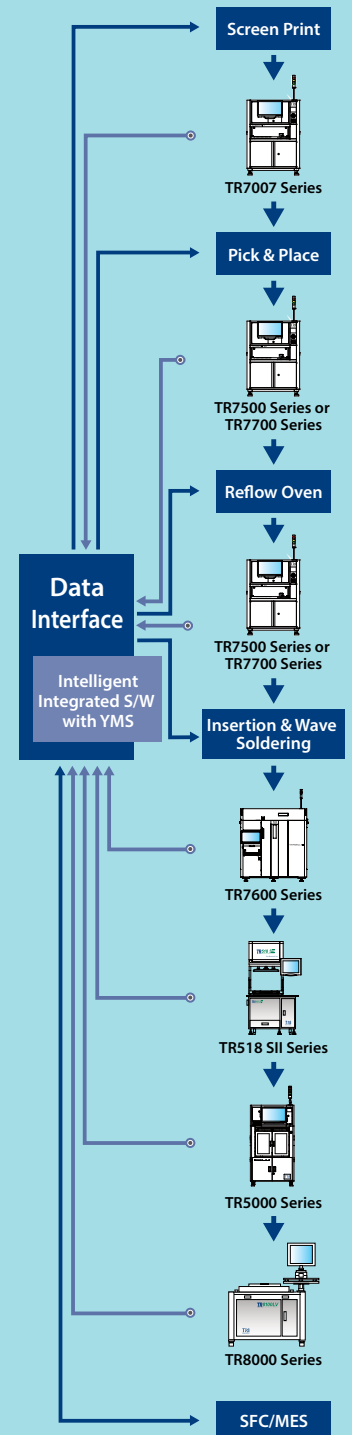
This application allows for centralized independent adjustment and fine tuning of inspection algorithms on previously scanned images while providing immediate feedback. The completed program can then be uploaded to the in-line inspection machines to improve inspection stability and accuracy.

• Industry 4.0 Production Line Integration

YMS 4.0 lets TRI inspection solutions interface and share inspection data with the shop floor system and other inspection machines. With the central console an operator can control, track, analyze and optimize the inspection process across the entire production line and obtain real actionable data to optimize production quality in the Industry 4.0 environment.



Yield Management System



Data Flow Feedback Flow

- Inspection results and data integration
- Real time SPC and production yield management
- Quality reports and closed loop tracking
- Support defect component analysis and improvements
- Knowledge Management (KM)
- Productivity and Quality Management

Optical & Imaging System

	TR7500 SIII CI	TR7700 SII Plus CI
Top View Camera	4 Mpix high speed color camera	
4 Angled View Cameras	1.3 Mpix	N/A
Lighting	Multi-phase W/R + UV	
Optical Resolution	15 μ m	
Imaging Method	Dynamic Imaging	

Imaging/Inspection Performance

Inspection Speed 120 (cm²/sec)

Conformal Coating Inspection Functions

Missing Coating, Insufficient Coating, Crack, Bubble/Void, Splash/Smear/Contamination, Spill Measurement

Data for Programming

CAD + Gerber (include pad and drill)

X-Y Table & Control

Ballscrew + AC servo with motion controller

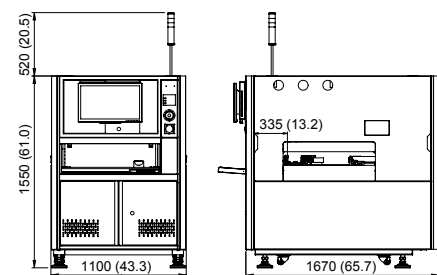
X-Y Axis Resolution 1 μ m

PCB & Conveyor System

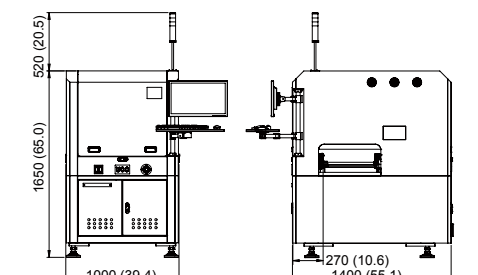
	TR7500 SIII CI	TR7700 SII Plus CI
Min. PCB Size	50 x 50 mm (1.97 x 1.97 in.)	
Max. PCB Size	510 x 460 mm (20.1 x 18.1 in.)	
PCB Thickness	0.6 - 5 mm (0.02 - 0.23 in.)	
PCB Transport Height	880 - 920 mm (34.6 - 36.2 in.)	
Max. PCB Weight	3 kg (6.61 lbs)	
PCB Carrier/Fixing	Step motor driven & pneumatic clamping	
Clearance		
Top	50 mm (1.97 in.)	50 mm (1.97 in.)
Bottom	40 mm (1.58 in.)	40 mm (1.58 in.) [100 mm (3.94 in.) optional]
Edge	3 mm (0.12 in.) [5 mm (0.2 in.) optional]	3 mm (0.12 in.) [5 mm (0.2 in.) optional]

Dimensions

TR7500 SIII CI



TR7700 SII Plus CI



Unit: mm (in.)

	TR7500 SIII CI	TR7700 SII Plus CI
Weight	1030 kg (2270 lbs)	600 kg (1323 lbs)
Power Requirement	200 - 240 VAC, 15 A, single phase, 50/60 Hz, 3 kVA	
Air Requirement	72 psi - 87 psi (5 - 6 bar)	

Options

Barcode Scanner, Repair Station, Offline Editor, OCR, Yield Management System 4.0 (YMS 4.0), YMS Lite, Support Pin

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TRI 德律 TRI INNOVATION

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