

Art of **3D** Technology

Uncompromising and leading solutions



# ZENITH LITE

World-Class Full 3D Automated Optical Inspection

- ✔ Easy-to-Use Full 3D AOI that Overcomes the Vulnerabilities of 2D Approaches
- ✔ Accurate Solder Paste Measurement after Mounting



Perfect Full 3D  
Inspection Performance



Wide Inspection Objects  
Coverage



Quick and Simple  
Inspection Condition  
Setting



# ZENITH LiTE

World-Class Full 3D Automated Optical Inspection



## ↗ 4 Way Projection

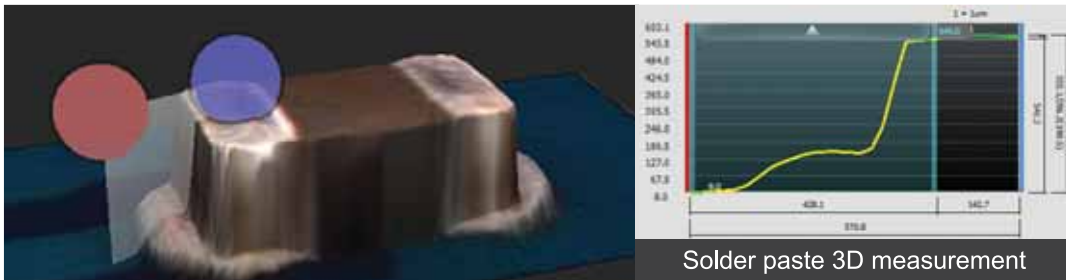
Using 4 Way Projection Technology, Zenith LiTE provides a wide range of measurement while maintaining the high resolution.

Zenith LiTE **FULL 3D** AOI system provides full 3D inspection of components, patterns, and even foreign material on assembled PCBs with true 3D measurement.



## Accurate Solder Paste Measurement

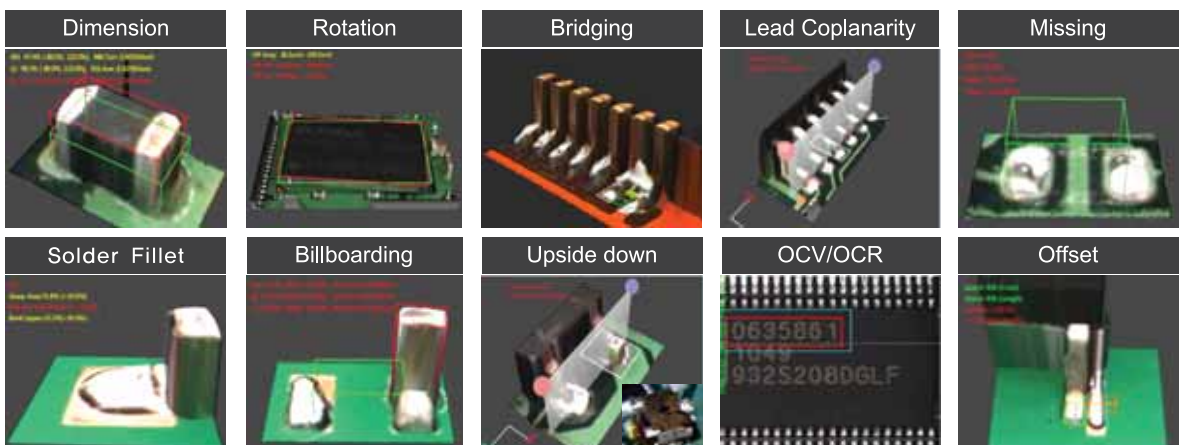
- Zenith LiTE is the only full 3D AOI that accurately measures solder paste after pick-and-place process.



## Wide Inspection Objects Coverage

### o Measurement and Inspection of All Kinds of Defects

- Detection of all kinds of defects including Missing, Offset, Rotation, Polarity, Upside down, OCV/OCR, Solder Fillet, Billboarding, Lifted Lead, Lifted Body, Tombstone, Bridging and more.

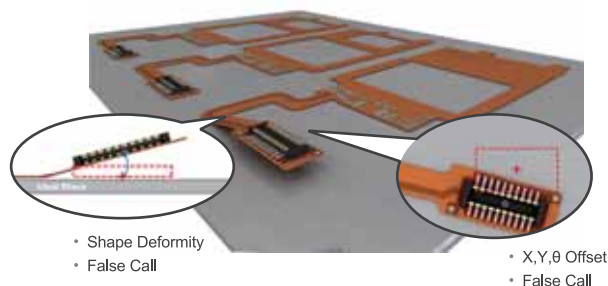




## Perfect PCB Warp Compensation Solution

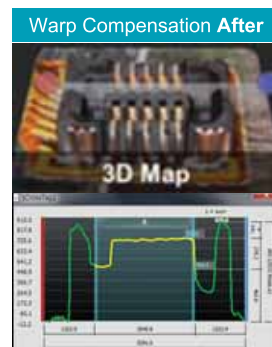
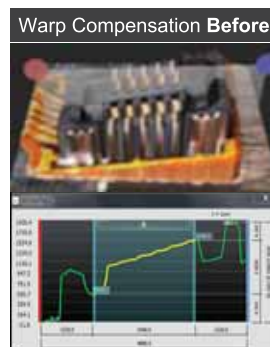
### PCB Environment after Reflow

- FPCB
- Slope
- Height Differences
- Local Board Warp/ Rotation/ Shrinkage/ Expansion



### Minimization of False Call

- Koh Young's Warp Compensation provides a revolutionary solution to PCB warpage.

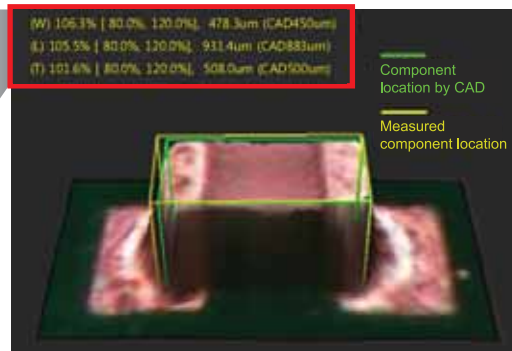


## Quick and Simple Inspection Condition Setting

- Quantified inspection condition setting based on 3D measurement data
- Removal of uncertainties in process control by inspection result quantification
- Easy inspection condition setting and modification based on quantified inspection result

(W) 106.3% [ 80.0%, 120.0%], 478.3um (CAD450um)  
 (L) 105.5% [ 80.0%, 120.0%], 931.4um (CAD883um)  
 (T) 101.6% [ 80.0%, 120.0%], 508.0um (CAD500um)

Quantified inspection condition based on measurement data



Dimension	T30 Body			
	CAD	Measured	Set as	Check
Width	2876	2832	2800	<input type="checkbox"/>
Length	1276	1175	1200	<input type="checkbox"/>
Thickness	1100	1092	1050	<input checked="" type="checkbox"/>

Update to library    Apply(A)    Cancel(C)

Inspection condition recommendation by component



# Must-check Requirements of 3D AOI System



Requirements	Solutions		
Shadow Problem Solution	<ul style="list-style-type: none"> <li>• 3D Shadow Free Moiré Technology &amp; 4 Way Projection</li> <li>• Multi-Frequency Moiré Technology</li> <li>• Warp Compensation (Pad Referencing + Multi-Frequency Moiré Technology)</li> <li>• Full 3D Measurement</li> </ul>		
Specular Problem Solution			
Small (01005 inch) Component Insepction			
Wide Measurement Range + Accuracy (Measurement Range Problem)			
Real time PCB Warp Compensation			
Dark component & White Body Component Location			
Component Body, Lead Coplanarity Inspection			
Solder Joint Profile Inspection			
3D Polarity Inspection			
Component Crack Inspection			
Inspection Items	Inspection Task		
Inspection Performance	Camera Resolution	15µm	20µm
	FOV Size	30×30mm (1.18×1.18 inch)	40×40mm (1.57×1.57 inch)
	Full 3D Inspection Speed	22.9~33.6 cm <sup>2</sup> /sec (Inspection speed varies by PCB, and inspection condition.)	
	Height Accuracy (on KY Calibration Target)	• ±3%	
	Camera	• 4M Pixel High Speed Camera	
	Illumination	• IR-RGB LED Dome Styled Illumination	
	Max. Measurement Height	• 5mm	
PCB Handling	Conveyor Width Adjustment	• Automatic	
	Conveyor Fix Type	• Front / Rear Fixed (factory setting)	
Software	Supported Input Format	• Gerber data (274X, 274D), ODB++, Placement file, Mounter JOB file, Allegro, Zuken, Mentor (optional)	
	Programming S/W	• ePM-AOI	
	Statistical Process Control Tool	• SPC Pro	
	Operator User-friendliness	• Review Station	
	Operating System	• KSMART Remote Monitoring System	
		• KSMART Library Manager 2.0	
Add-on Solutions	• 1D & 2D Handy Barcode Reader	• Offline SPC Pro Station	• Warp Compensation
	• 1D & 2D Inline Barcode Reader	• Standard Calibration Target	• Foreign Material Inspection
	• Offline Programming Station	• KSMART Remote Monitoring System	• Review Station

※ Above specifications are subject to change without notice.

	M	L	DL	XL
Max. PCB Size	330X330mm (13X13 inch)	510X510mm (20X20 inch)	Dual: 510X320mm (20X12.6 inch) Single: 510X580mm (20X22.8 inch)	850X690mm (33.4X27.1 inch)
Min. PCB Size	50X50mm (1.97X1.97 inch)			70X70mm (2.7X2.7 inch)
PCB Thickness	0.4~5mm (0.015~0.20 inch)			0.5~8mm (0.02~0.31 inch)
Max. PCB Weight	Ring Belt : 2Kg(4.4 lbs), Timing Belt : 5Kg(11 lbs)			10Kg(22 lbs)
Machine Weight	550Kg(1212 lbs)	600Kg(1322 lbs)	700Kg(1543 lbs)	850Kg(1874 lbs)
Bottom Side Clearance	50mm(1.97 inch)			
Supplies	200-240VAC, 50/60Hz Single Phase, 5Kg/cm <sup>2</sup>			
W	820mm(32.2 inch)	1000mm(39.3 inch)	1000mm(39.3 inch)	1350mm(53.1 inch)
D	1265mm(49.8 inch)	1265mm(49.8 inch)	1445mm(56.9 inch)	1445mm(56.9 inch)
H	1627mm(64 inch)			
F	985mm(38.7 inch)		1165mm(45.8 inch)	

