

True  now Powered by Intelligent Platform
for Smart Factory



ZENITH

World First True 3D Automated Optical Inspection



Perfect True 3D
Inspection Performance



Fast and Intuitive
Programming



3D Measurement based
SMT Process Control
System

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World First True 3D Automated Optical Inspection

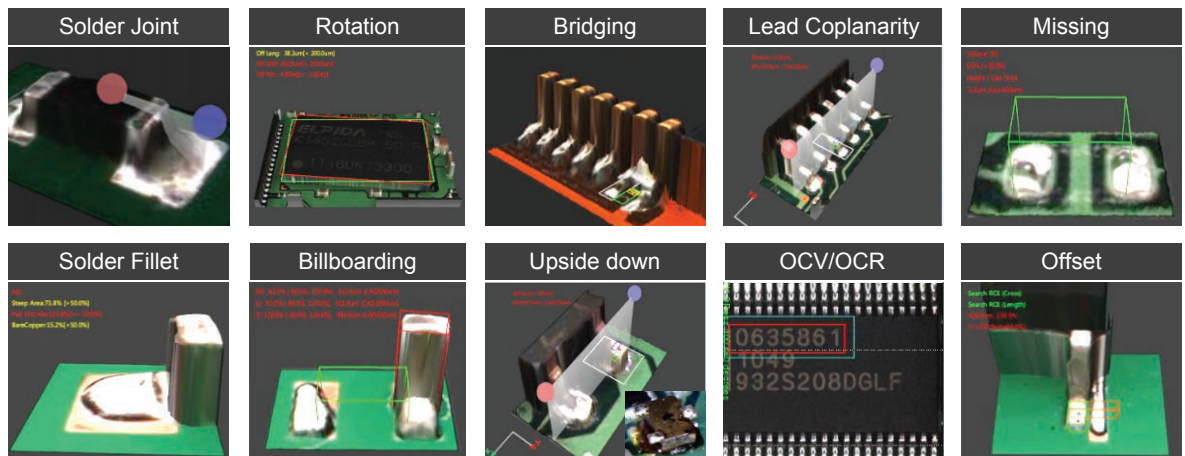
Koh Young's true 3D inspection system provides solutions for conventional inspection problems.



Perfect True 3D Inspection Performance

Measurement and Inspection of All kinds of Defects

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



Fast and Intuitive Programming : Template Management

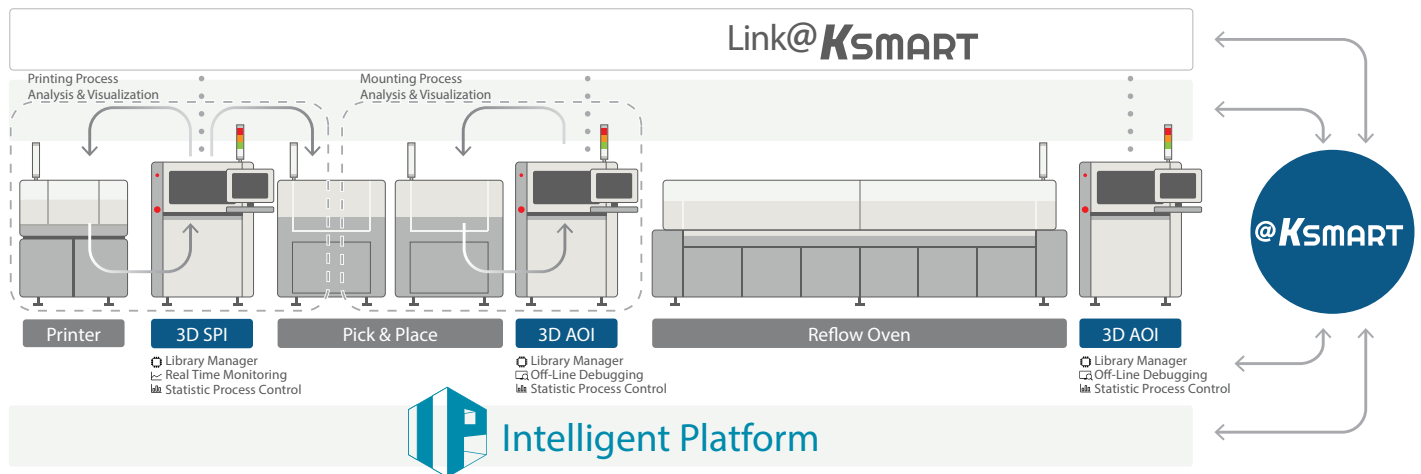
- Easy inspection condition setting and modification based on quantified inspection result
- Reducing programming time in 'Package Registration' + 'Inspection Condition Setting'



- Non-registered package
- Package registration : Choose package type : Choose component type
- Apply selected package
- Select relevant template registered on the server



Intelligent Platform to Realize Fully Automated Process Optimization : Smart Factory

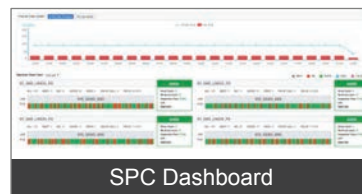


SPC@KSMART

Optional ☒

• Reliable 3D Data based Statistical Process Control

- Carry out essential analyses from an intuitive graphical interface
- Accelerate root cause analysis for increased equipment uptime



SPC Dashboard



Inspection Analysis



OLD (Off-Line Debugging)@KSMART

Optional ☒

• Minimum Downtime for Job Fine-tuning

- On-time fine-tuning without stopping production line
- Automatically deploys modified inspection conditions starting from the next PCB



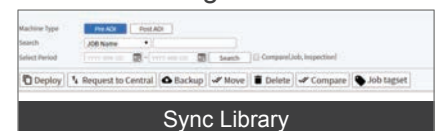
LM (Library Manager)@KSMART

• Job Management

- Store & distribute Job files and inspection conditions from centralized DB to multiple AOIs
- Changes and modifications after process optimization are easier to manage

• User Level Management

- Can set up user level groups with different authorities
- Each user's work history is traceable via user log data



Sync Library

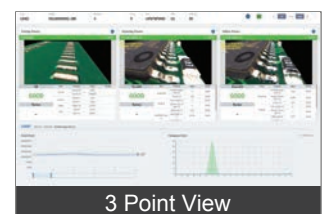


Link@KSMART

Optional ☒

• 3D data based SPI-AOI communication solution

- Review, diagnosis and optimization of printing, pick-and-place and reflow process
- Traces root cause of defects by storing and communicating inspection results from Koh Young's 3D SPI and 3D AOI Systems



3 Point View

Must-check Requirements of 3D AOI System

Requirements		Solutions	
Shadow Problem Solution		• 3D Shadow Free Moiré Technology & 8 Way Projection	
Specular Problem Solution			
Shadowed Area between Tall Components			
Small (01005 inch) Component Insepction		• Multi-Frequency Moiré Technology	
Wide Measurement Range + Accuracy (Measurement Range Problem)		• Warp Compensation (Pad Referencing + Multi-Frequency Moiré Technology)	
Real Time PCB Warp Compensation			
Dark Component & White Body Component Location			
Component Body, Lead Coplanarity Inspection			
Solder Joint Profile Inspection		• True 3D Measurement	
3D Polarity Inspection			
Component Crack Inspection			
Inspection Items	Inspection Task	<ul style="list-style-type: none"> • Missing, Offset, Rotation, 3D Polarity, Upside down, OCV/OCR, Coplanarity, Solder fillet, Lifted lead, Billboarding, tombstone, Bridging, Dimension 	
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	18.3~30.4 cm²/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	<ul style="list-style-type: none"> • GERBER Data (274X, 274D), ODB++, Placement file, Mounter JOB file, Allegro, Zuken, Mentor (optional) 	
	Programming S/W	• ePM-AOI, AOI GUI	
	Operating System	• AOI GUI	
	Statistical Process Control Tool	<ul style="list-style-type: none"> • SPC@KSMART • Review Station • Remote Monitoring System 	
	Operator User-friendliness	<ul style="list-style-type: none"> • Library Manager@KSMART • KYCal: Auto Camera Calibration, Auto Illumination Calibration, Auto Height Calibration 	
	Operating System	• Intel i7-3970X (6Core), 32GB, Windows 7 Ultimate 64bit	
Add-on Solutions	<ul style="list-style-type: none"> • 1D & 2D Handy Barcode Reader • 1D & 2D Inline Barcode Reader • Offline Programming Station • Offline SPC Pro Station • Standard Calibration Target 	<ul style="list-style-type: none"> • SPC@KSMART • OLD@KSMART • Foreign Material Inspection • Review Station • Warp Compensation 	

※ 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/cm²			
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(56.8 inch)	1445mm(56.8 inch)
H	1627mm(64.0 inch)			
F	985mm(38.7 inch)		1165mm(45.8 inch)	

