



# Sweetec Ltd.

Systems for success

28 Feb. 2018

# Out line

- Company profile
- Our key account
- Business partners and products

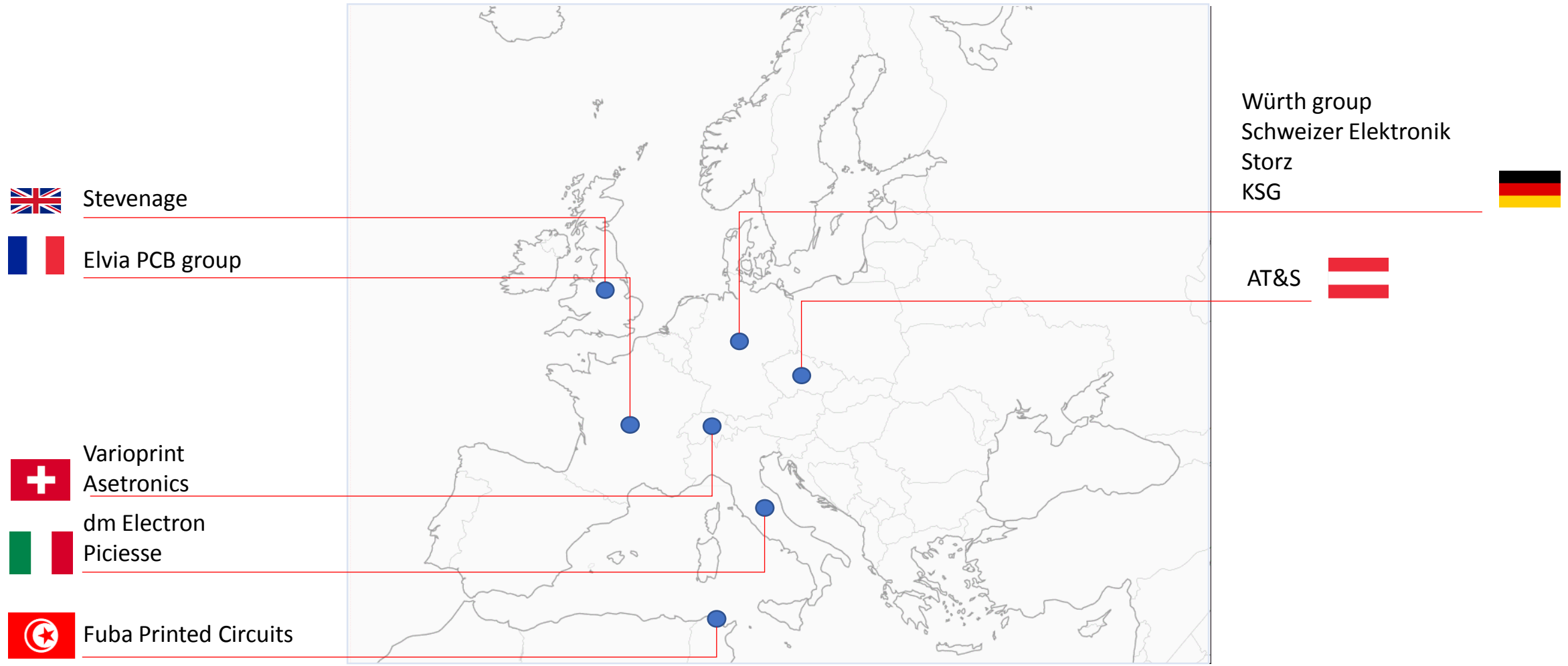
# SweeTec Limited



- Endingen Germany
- Founded in 2009
- Sales, service and application support for PCB manufacturing equipment and machinery



## Key accounts



# Our solutions

## Drilling

- Hole Inspector
- 3D Dimple Checker

## Patterning

- Inline AOI
- Auto Line Gauge

## Surface treatment

- Plasma Process System

## Printing/curing

- Solder Mask Inkjet Printer
- DEON High Speed Curing System

## Final inspection

- VISPER Final Inspection Machine
- E-tester

## Material

- Risho High performance materials

# Drilling Hole Inspector

- Yayatech Co. Ltd., Taiwan
- Hole and scoring inspection
- Defect type  
Extra holes, lack holes, small holes, large holes, (Round/ Slot hole)etc.
- Inspector hole Diameter 0,15 ~10 mm
- 600 machines are shipped all over the world



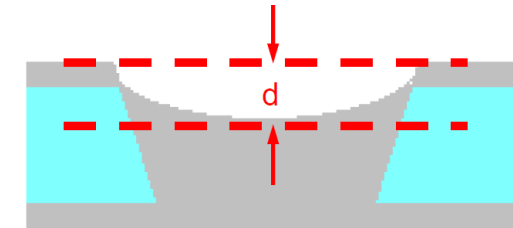
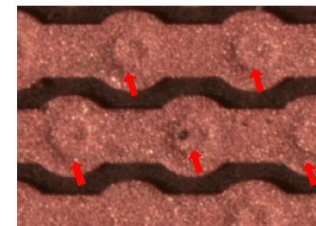
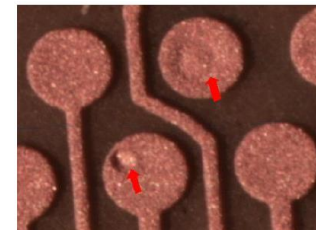
Test report



## Drilling

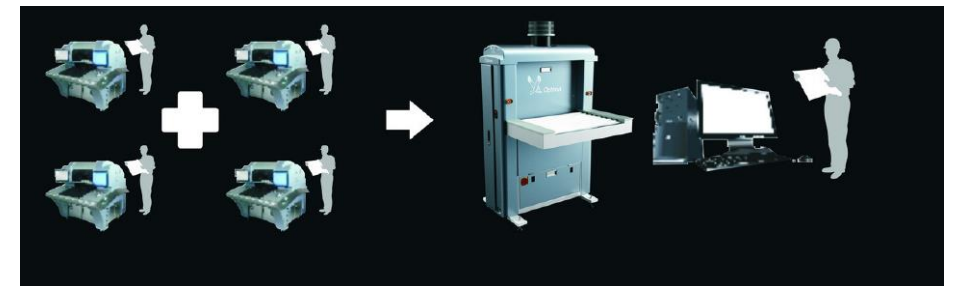
# 3D Dimple Inspector

- Yayatech Co. Ltd., Taiwan
- The YAYA 3D-Dimple inspector can check the holes depth profile after plating.
- Operator takes 2~3hr for one panel, but FV-68 takes 120secs for one side.
- Measure the depth (d) after via filling. If the depth (d) is more than spec(setup by customer) is Fail.



## Patterning Inline AOI

- Optima limited
- Innovative inline AOI, DS2 series
- Technology company jointly found by China and Israel entrepreneurs
- Max. 450PNL/hour throughput



Catalog 1



# Patterning Auto Line Gauge

- Synpower Co., Ltd. Taiwan
- Auto Line Gauge Model ALWM-650E
- Full automatic measuring system for line width, line space, circle and data output.
- Data storage and production analysis.



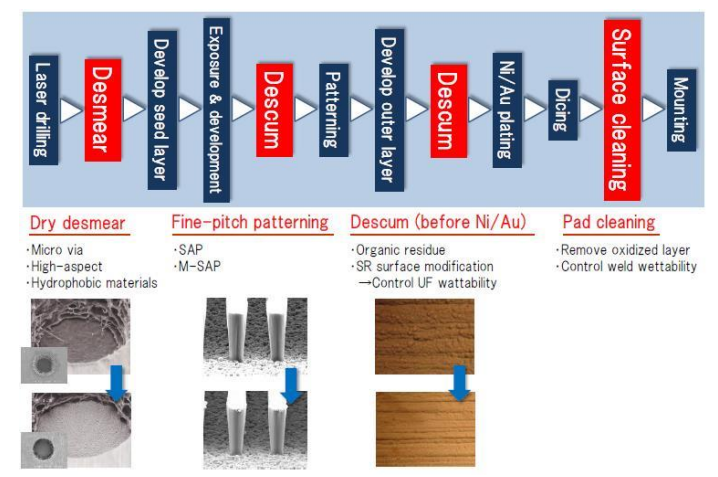
  
自動蝕刻監測儀 Auto Line Gauge cata

  
ALG Presentation

Surface treatment

## Plasma Etching System

- Nissin Inc. Japan
- Nissin Low-pressure Microwave Plasma System
- World top quality and performance Plasma process system.
- High power plasma compared with RF plasma
- Excellent processing uniformity
- Low temp. process compared with RF plasma

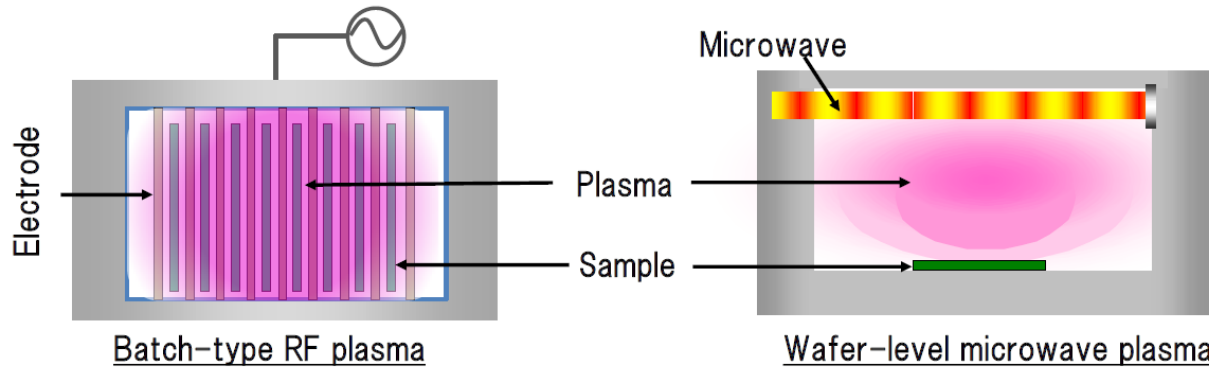


Presentation

Nissin plasma catalog

# Plasma Etching System

Comparison of RF and Microwave Plasma



RF 13.56MHz	Source frequency	Microwave 2450MHz
About $10^9/\text{cm}^3$	Electron density	About $10^{12}/\text{cm}^3$
About 180°C	Processing temperature	Less than 90°C
High	Static damage	Low
Batch-type→Hard to automation In-plasma processing→High damage Plasma with electrodes→Low uniformity	Feature	Scanning process→High uniformity Remote plasma processing→Low damage Wafer-level processing→Easy to automation

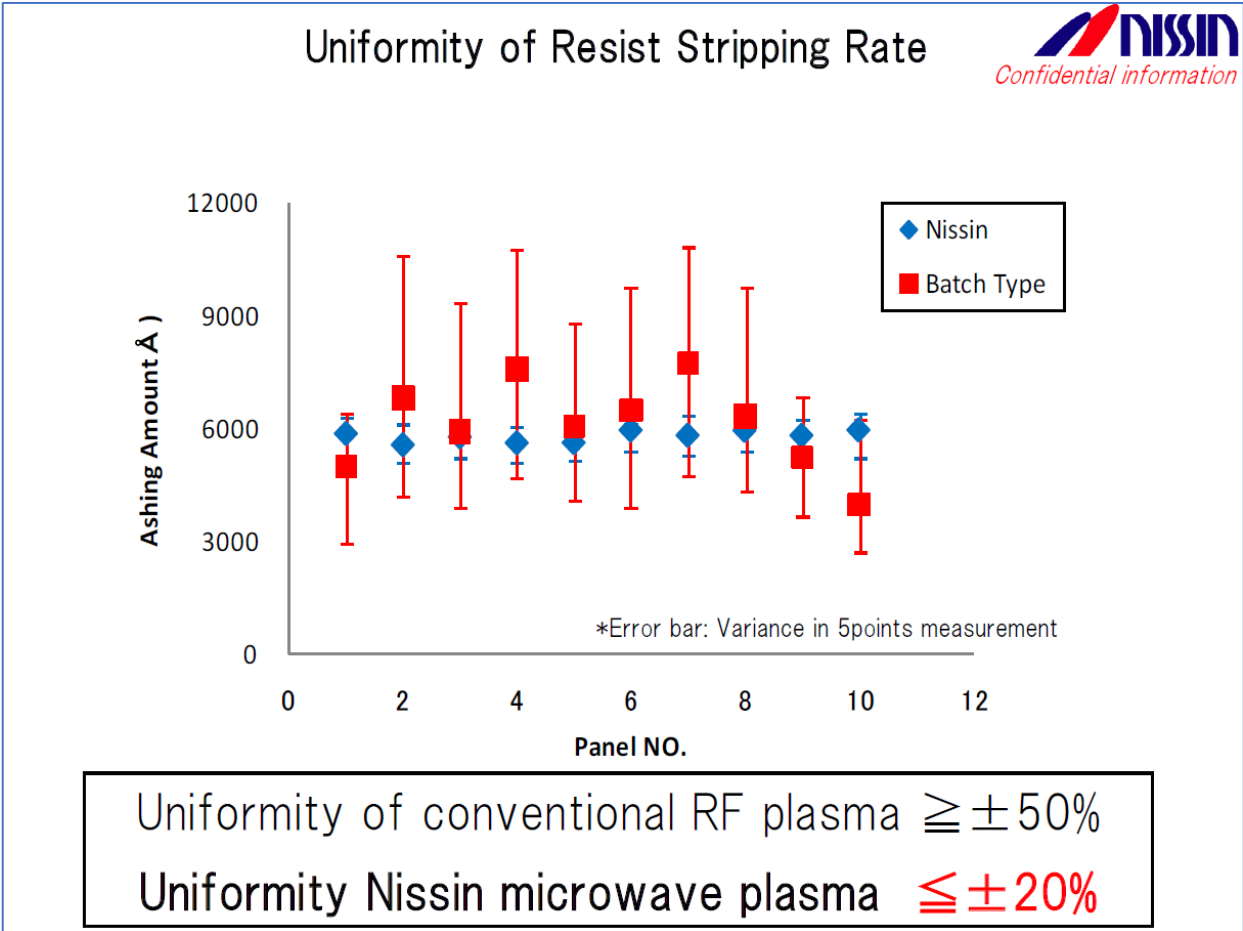
M120-W + Handling; Full-automation system image





Surface treatment

## Plasma Etching System



Surface treatment

# Plasma Etching System

Nissin Plasma Technologies; Desmear



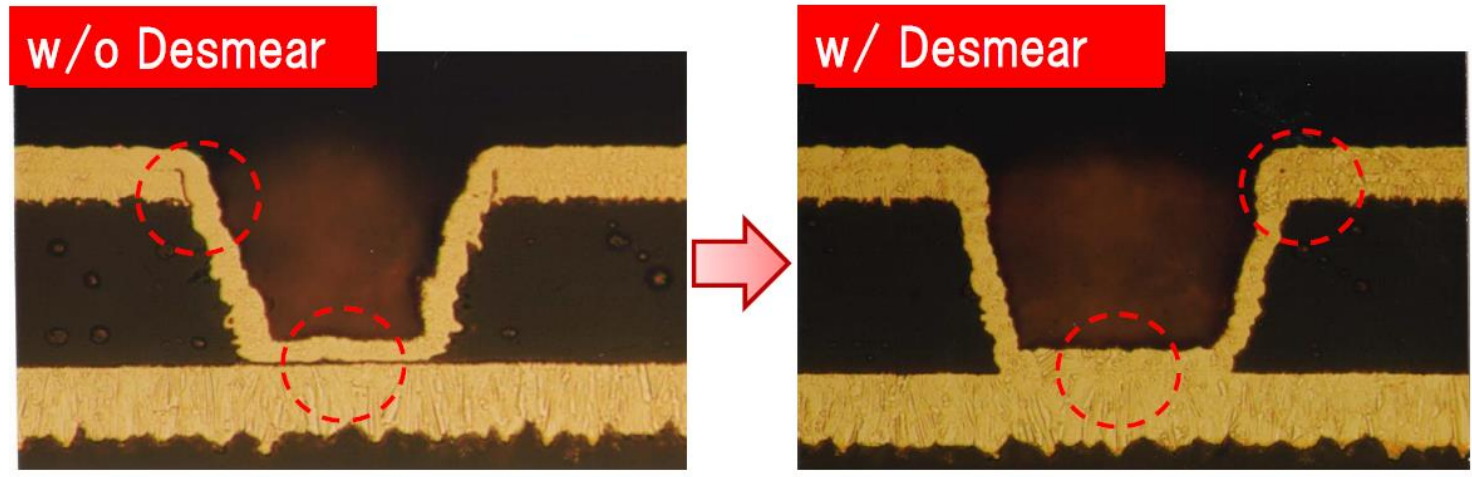
Application

Dry desmear(remove smear after laser drilling process)

Application example

Process: Desmear for BVH( $\phi=100\mu$ )  
 Measurement: Cross-section after Cu plating

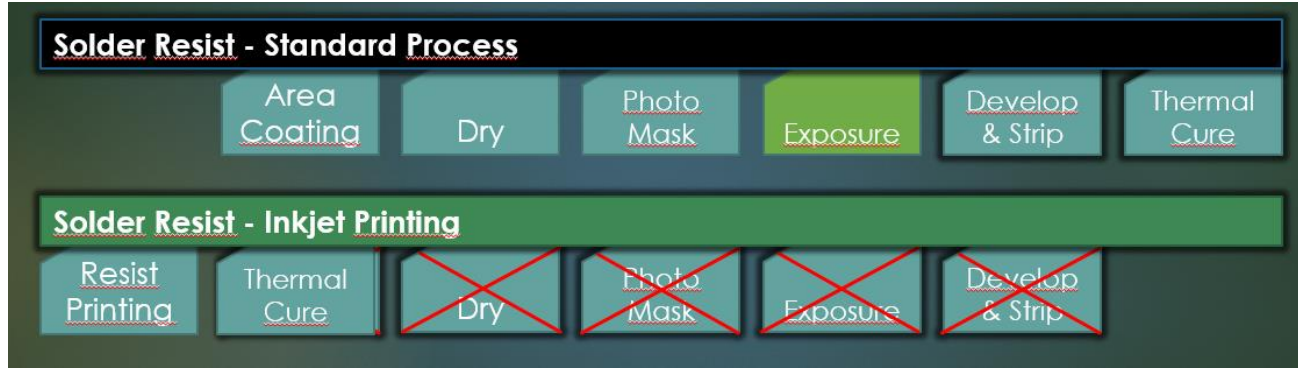
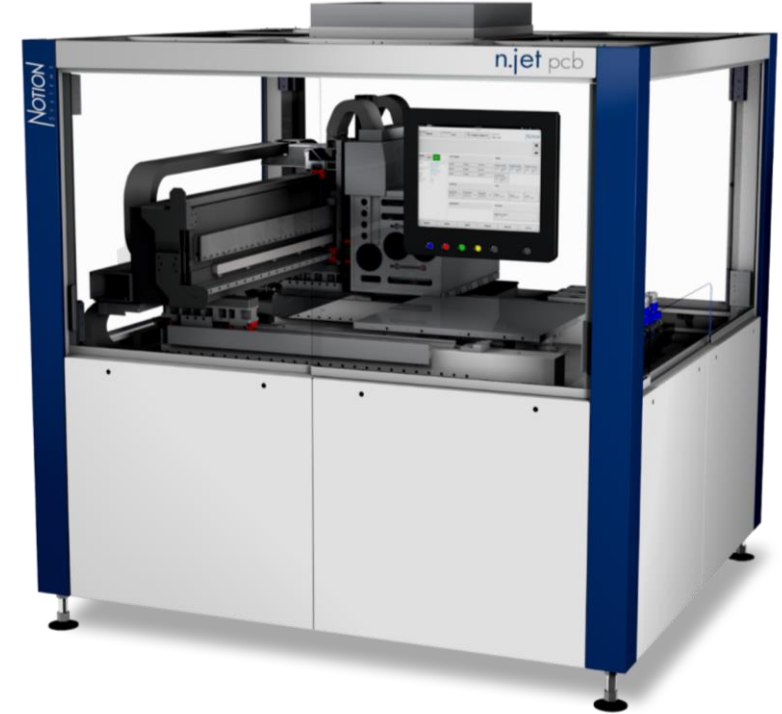
Result



Printing

# Solder Mask Inkjet System

- Notion Systems GmbH, Germany
- Solder mask inkjet system for PCB, which can replace existing printing process such as screenprinting, solder mask curtain coating, splay printing.
- The machine reduce printing processes and save the cost.

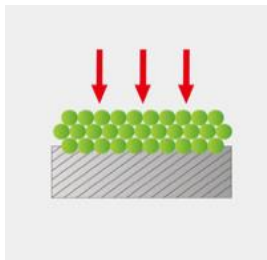




# Curing

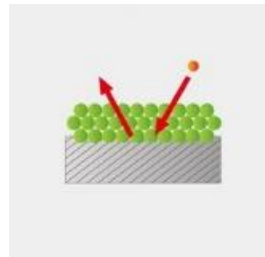
## DEON High Speed Curing System

- 1/10 curing time of solder mask by super heated water vapor
- ✓ Save big amount of resource and cost  
(Nearly half compare to the conventional wicket line)
- ✓ Improve quality with lower oxidization
- ✓ Legend marking available, min. 3 minutes
- ✓ No regulation from Standard related Boiler  
(Possible with normal air pressure)



Conventional heating method

60 minutes by 150°C



DEON technology

5 minutes by 180°C



Final inspection

# VISPER Final Inspection Machine

- Shirai Electronics Industrial Co., Ltd. Japan
- Final inspection machine for PCB
- Inspect defect on the PCB surface, pad, solder mask, legend, scoring and hole.
- 800 machines are shipped all over the world
- VISPER710SLG series automatic simultaneous vertical scan
- VISPER810FC series automatic simultaneous horizontal scan



## Final inspection

# TREMY Semi-Automatic Magnifying Viewer System

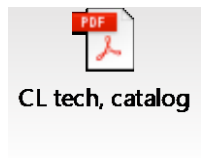
- Shirai Electronics Industrial Co., Ltd. Japan
- PCB visual inspection support system
- Monitor with high resolution camera makes easy inspection, position programming is available for semi-automatic inspection.
- Measuring, image capturing function is added.





## Final inspection E-tester

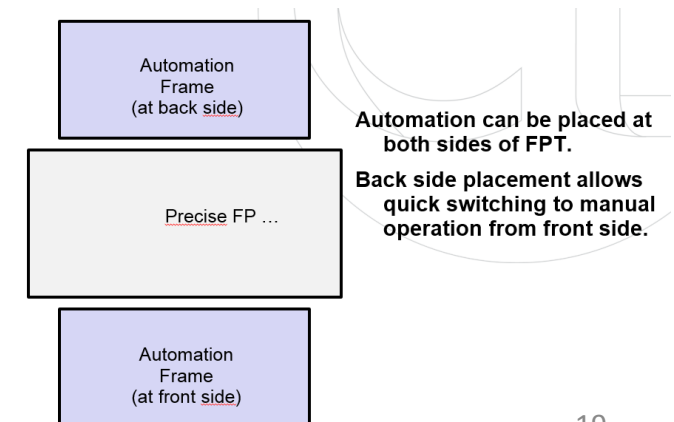
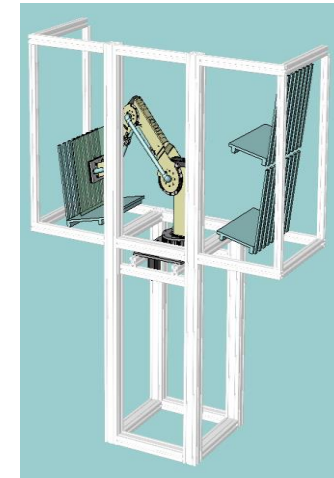
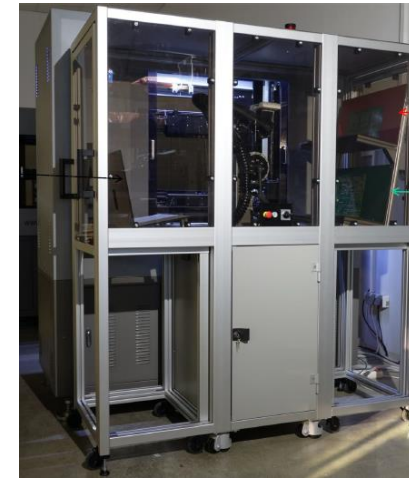
- CL Tech s.r.l. Italy
- Wide range e-tester equipment manufacturer, Grid tester and Flying probe
- Automation for Grid tester, also Flying probe
- Quick verification and retest of board reported FAIL from Grid Tester.



## Final inspection

# E-tester

- Automation for CL tech Flying probe
- Small foot print
- Adjust free vacuum
- Trolley stocker
- 1 robot with 2 Flying probe
- Available with different type board
- Board size: 115x115mm - 325x460mm
- Auto data loading camera



## Material

Risho high performance materials

- Risho Kogyo is a leading PCB material technology company in Japan
- Tg 300°C with low CTE (XY = 6ppm)
- Tg 260°C with the high thermal conductivity of 8W/mK
- lower modulus feature material to avoid the solder crack with 3W/mK
- The material shield almost 0% light from one side to the other



AD-7200TY High thermal conductivity



AD7303 Low modulus



CS3667B High shield



