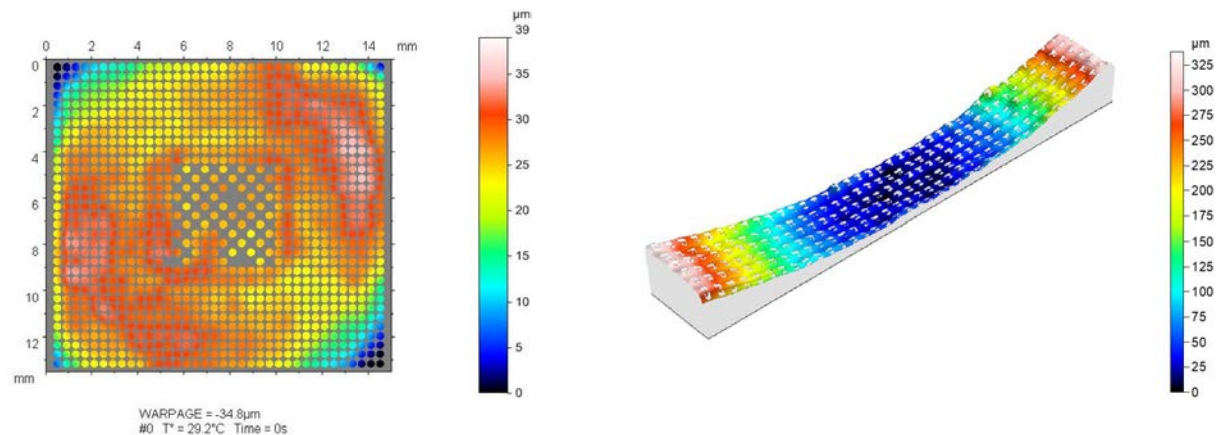


# In-situ warpage & deformation measurements during thermal stresses

- 3D topography measurements over temperature profiles
- Submicron resolution
- Temperature range from -65°C to 400°C using high homogeneity IR and convection sources
- Samples from 0.5x0.5 to 400x500 mm with multiscale FOV
- Able to measure discontinuous surfaces (e.g. multiple components on PCBA)



## Our new service can help at various steps of a product life cycle:

R&D  
 Process control  
 Design of manufacturing  
 Quality control  
 Failure analysis

## Applications

CTE mismatch  
 Characterization of complex assemblies  
 Reliability of lead-free solder assemblies  
 Extreme environment stress  
 Coplanarity and flatness  
 Thermal mechanical analysis

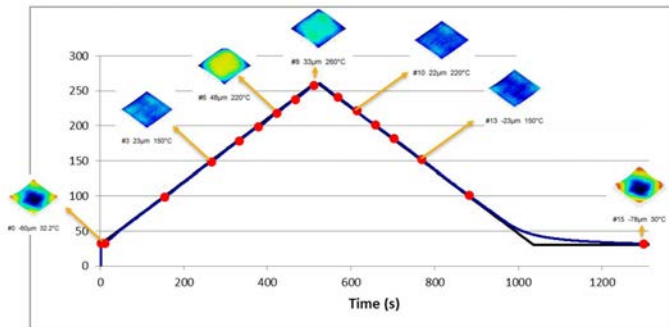
## Samples

IC packages (BGA, WLCSP, MCM, PoP, etc.)  
 Wafers  
 PCBA  
 High power devices  
 Large, complex assemblies  
 Panels, plates, laminates  
 Thin film, stacked construction

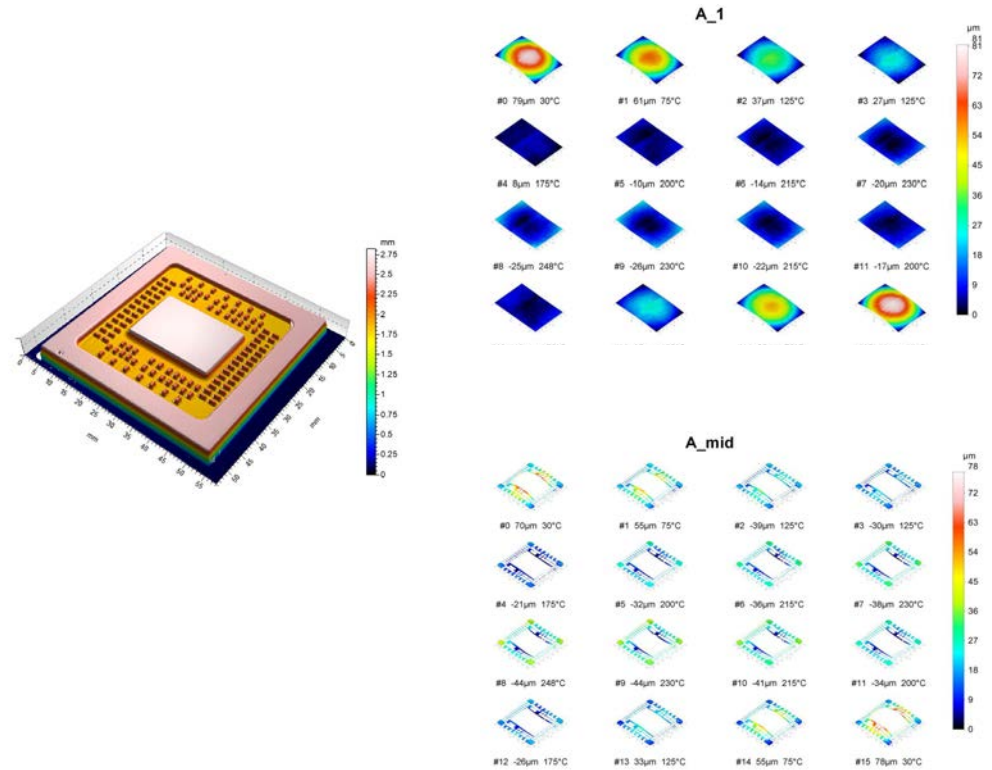
## Industries

Semiconductor  
 Automotive  
 Aerospace/Military/Defense  
 Industrial  
 Medical device  
 Consumer Electronics  
 Manufacturing

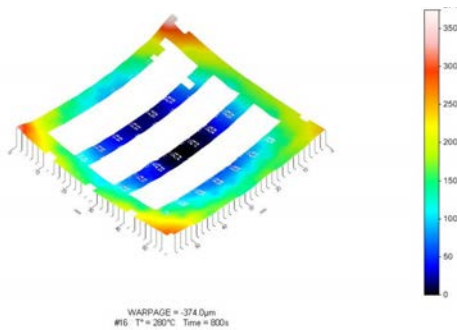
## 3D Measurements over Temperature Profiles



## Multi-Area Analysis



## Printed Circuit Board



WWW.EAG.COM  
 TOLL-FREE: +1 877 709 3393

COPYRIGHT © 2019 EAG, INC. | M-039119 | REV. 10.24.19

EAG Laboratories is a global scientific services company serving clients across a vast array of technology-related industries. Through multidisciplinary expertise in materials and engineering sciences, EAG helps companies innovate and improve products, ensure quality and safety, strengthen supply chains, protect intellectual property and comply with evolving global regulations.