

# Smart AOI Inspection: Demonstrating Capabilities & Identifying Gaps/Opportunities

## Board Assembly

### Motivation:

- Need to reduce AOI false call and escape rates
- Resulting manual AOI pass/reject is labor intensive
- AOI ramp from design to NPI to volume is iterative and time consuming
- Predictive analytics incorporating AI-based solutions offer significant opportunities with defect identification and judgement; however, accuracy and efficiency needs to be better understood

### Objective:

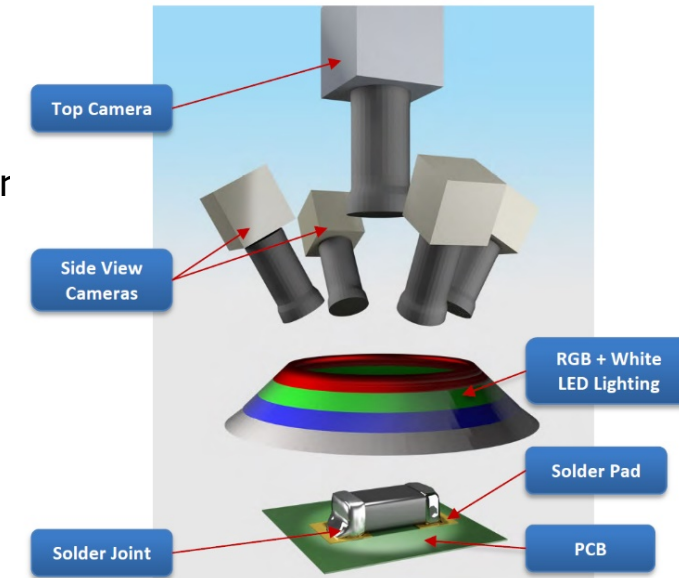
- Evaluate existing AOI+AI solutions, identify gaps, recommend best practices, and suggest areas for future development

### Strategy/Approach:

- Survey the current of AOI+AI solution landscape
- Initial phase to focus on specific PCBA inspection with test vehicles
- Investigation will assess key performance attributes (e.g., accuracy, false call, escape, cycle time, etc.)
- Subsequent phases could expand scope to additional AOI+AI application areas (such as PCB, packages)
- Key participants include: EMS providers, AOI vendors, AI solution providers

### Status:

- Led by IBM, the concept is being developed in conjunction with iNEMI's Smart Manufacturing TIG
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Courtesy of TRI paper

