April Meeting focuses on the Processing and Reworking BGA’s & Selective Soldering

The BGA is descended from the pin grid array (PGA), which is a package with one face covered (or partly covered) with pins in a grid pattern which, in operation, conduct electrical signals between the integrated circuit and the printed circuit board (PCB) on which it is placed. In a BGA the pins are replaced by pads on the bottom of the package, each initially with a tiny ball of solder stuck to it. These solder spheres can be placed manually or by automated equipment, and are held in place with a tacky flux.[1] The device is placed on a PCB with copper pads in a pattern that matches the solder balls. The assembly is then heated, either in a reflow oven or by an infrared heater, melting the balls. Surface tension causes the molten solder to hold the package in alignment with the circuit board, at the correct separation distance, while the solder cools and solidifies, forming soldered connections between the device and the PCB,

Selective soldering is the process of selectively soldering components to printed circuit boards and molded modules that could be damaged by the heat of a reflow oven in a traditional surface-mount technology (SMT) assembly process. This usually follows an SMT oven reflow process; parts to be selectively soldered are usually surrounded by parts that have been previously soldered in a surface-mount reflow process, and the selective-solder process must be sufficiently precise to avoid damaging them.

- source Wikipedia
Speaker Bio’s

LESSONS LEARNED FROM AREA ARRAY FAILURES
BOB TRINNIS - ROCKWELL

Bob Trinnes has 38 years’ experience at Rockwell Automation in Quality Engineering, Manufacturing Engineering, Process Engineering, and New Product Industrialization. He currently is Manager of Global PCBA Process Technology. He has undergraduate degrees in Electronics from the University of Akron and Computer Systems Management from Hiram College. He is a Six Sigma Black Belt and an ASQ Certified Quality Engineer.

CRITICAL FACTORS IN SELECTIVE SOLDERING
ERNIE GRICE - ERSA

Ernie has 28 years of soldering experience. He began his career developing processes for a contract manufacture and also worked for solder materials company. He has an extensive knowledge of the soldering process and the requirements to produce quality solder joints. Ernie has spent the last 13 years as Vice President of Sales for Kurtz Ersa North America. His work in the selective soldering field has helped establish ERSA as the leader in selective soldering world-wide.

CRITICAL FACTORS IN REWORK TECHNOLOGY
TODD DEZWARTE - ERSA

Todd has over 18 years of soldering experience in the electronics industry. He began his career as a field service engineer for wave, reflow and selective soldering machinery. Todd has spent the last 13 years as an applications engineer / product manager for rework and inspection processes. He has worked with some of the largest names in the electronics industry providing solutions for advanced rework applications.

Headquartered in Cleveland, Ohio, Lincoln Electric has more than 40 manufacturing locations, including operations and joint ventures in 20 countries and a worldwide network of distributors and sales offices covering more than 160 countries. For more information on Lincoln Electric and their 117 years excellence, please visit: http://www.lincolnelectric.com/en-us/company/Pages/company-history.aspx
Directions: https://www.google.com/maps/place/Lincoln+Electric+Automation/@41.586867,-81.523782,17z/data=!3m1!4b1!4m2!3m1!1s0x8830ffde3ef46a97:0x606978d91edbe29f
LINCOLN ELECTRIC CUSTOMER VISIT AGENDA

Visiting:
![SMTA Logo]
Surface Mount Technology Association

Website: [http://www.smta.org/](http://www.smta.org/)

Guests:
TBA 60-70 guests expected (independent arrivals to corp. parking lot)

Supporting This Visit:
Doug Lance, Sr. VP North America Operations
Geoff Lipnevicius, General Manager, Machine Division
Keith Clark, Manager, Electronic Factory
Jim Guynn, Advanced PCB Manufacturing Specialist

Friday, March 20, 2015
8:30 AM (Tentative)  Arrive at The Lincoln Electric Corporate Headquarters
                     22801 Saint Clair Ave. Cleveland, OH 44117

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<tr>
<th>Time</th>
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<tr>
<td>8:30 AM – 9:00 AM</td>
<td>Light Refreshments – SMTA Members Networking</td>
<td>Corporate Auditorium</td>
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| 9:00 AM – 9:30 AM  | Welcome & Introductions
                   | Lincoln Electric Corporate Overview                                                    | Corporate Auditorium            |
| 9:30 AM – 12:00 PM | SMTA Meetings (Key Speakers)                                                            | Corporate Auditorium            |
| 12:00 PM – 12:45 PM | Lunch                                                                                  | Corporate Auditorium            |
| 12:45 PM – 1:45 PM  | Lincoln Electric Machine Division Plant Tour
                   | Highlights include new Electronics Factory                                             | Corporate Auditorium            |
| 1:45 PM – 2:00 PM   | Break                                                                                   |                                 |
| 2:00 PM – 3:30 PM   | SMTA Meetings (Key Speakers)
                   | Wrap Up                                                                                |                                 |
| 3:30 PM           | Departure                                                                               |                                 |

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