Dallas Expo & Tech Forum - Thursday March 3rd, 2016
Location: Plano Center 2000 E. Spring Creek Pkwy Plano, TX 75074

8:00AM Registration opens
10:00AM Expo Opens

8:30AM Tech Sessions Begin
3:00PM Show Closes

Thanks to our
Breakfast Sponsor, Island SMT

Thanks to our
Door Prize Sponsor, SVTronics

Thanks to our Technical
Sessions Sponsor, CR Assembly!

Thanks to our
Lunch Sponsor, NPI Technologies
Free Technical Program & Schedule

Morning Schedule

8:30AM – 9:15AM
**Teardown: Why is it Important to See What’s Inside Our Gadgets?**
*Bill Cardoso, Ph.D, Creative Electron*

The impulse to break a new gadget to "see what's inside" is often the first sign someone will become an engineer. However, modern teardowns go far beyond pure curiosity: they provide us critical insights into the nature and construction of these devices. In this talk we will cover the teardown of several gadgets, from the early Blackberries to the Apple Watch, to understand how the SMT industry has changed. These findings will also help us forecast where we are going as a community by discussing miniaturization and packaging, automation and labor force location, device features, and other important topics. These are key issues we need to address to keep U.S. SMT manufacturing relevant.

9:15AM – 10:00AM
**Read a Board Shop Fast - How to Perform a Lean Self-Assessment Audit**
*Richard Rahn, Leonardo Group*

How “Lean” is your company? Why should you even care? It should come as no surprise that Lean Manufacturing (along with its sister strategy Six Sigma) has become essential for survival in today's hyper-competitive world. Lean companies tend to be more profitable, more flexible, with fewer defects, and much higher employee satisfaction and involvement. While it is sometimes thought that Lean is not a good fit for "job shops" or smaller organizations, continuous improvement and the use of the scientific method certainly does, which is the essence of Lean.

Fortunately, it's not that hard to assess your current state of Leanness. A 60-minute walk-through of your facility can give you a surprisingly accurate snapshot of your Lean maturity, as well as give you some great ideas for improvement. In this 45-minute session, veteran Lean mentor Richard Rahn will train you in the use of a quick self-assessment audit, based on the well-know "Read A Plant Fast" method that was published the Harvard Business Review in 2002, and adapted to SMT Board Shop environments. You’ll be able to return to your facility, conduct the audit fast, and be on your way to launching or enhancing your Lean improvement.

10:00AM  EXHIBIT HALL SHOW OPENS

11:00AM - 11:45AM
**Cleanliness Makes a Difference When Miniaturization Kicks in - A New Test Method for Identifying Contamination Coming from the Build Process**
*Mike Bixenman, DBA, KYZEN Corporation*

A weakness of current reliability test methods is that they are performed at the qualification and validation stage. These methods are run on test boards designed to simulate the actual product being built. Both electronic and chemical test methods are typically performed by outside reliability labs. Once the process is signed off by the OEM, CMs do not have a simple test method that they can use to verify that the product is being built to designed test levels. Ionic testers were commonly used as a process check but with the emergence of highly dense interconnects and more complex flux designs, this process tool does not provide an accurate assessment.

A new site-specific test method has been designed to run a performance qualification on boards built with the specified soldering materials, reflow settings and cleaning methods real time. High impedance measurements are performed on break off coupons designed with component geometries used to build the assembly. The test method provides a gauge of potential contamination sources coming from the build process that can contribute to electrochemical migration. If the process is outside limit values, the CM can do a root cause analysis and correct the problem. The purpose of this research paper is to present an improve test methodology for ensuring that assemblies are built to the designed specifications.

Afternoon Schedule Continued next page
12:00PM  Complimentary Lunch

Join us for Complimentary BBQ Lunch (with a Vegetarian Option) and Networking on the Show Floor - PLUS Door Prize Drawings!

1:30PM – 2:15PM  
**Impact of Flux Residues on the Reliability of Electronic Assemblies**  
*Bruno Tolla, Ph.D, Kester, Inc.*  
Reliability is one of the key performance drivers of the microelectronics industry today, from conventional Electronics Assembly to high-end Semiconductor packaging applications. The miniaturization and complexification of the component architectures, coupled with their operation in ever harsher environments, dramatically increases the risk of in-field failure. In this context, understanding the chemical influence of flux residues on the failure modes of electronic assemblies is of paramount importance for the selection of assembly materials and the design of adequate processes. For this purpose, we will leverage our fundamental knowledge of flux systems and soldering mechanisms, and complement it by a series of customized tests for corrosion and electrochemical migration in various application-representative configurations. Chemically-driven failure modes will be analyzed in terms of the chemical equilibria at play between the flux and its environment (the assembly operating conditions). This will illustrate how sound chemical principles paired with a thorough understanding of the application environment can enable the design of robust and reliable chemical packages mitigating the risks of in-field failures for the final assemblies.

3:00PM  
Expo Closes

**Current Exhibitor List, Corporate Member Companies are listed in Bold**

| Acculogic, Inc. | Nimar Group Inc. |
| AIM | Nordson ASYMTEK/ Torenko & Associates |
| Air Products and Chemicals, Inc. | Nordson DAGE |
| ARQ Electronics Manufacturing Services, Inc. | NPI Technologies, Inc. |
| ASM Assembly Systems, LLC | PAC Global, Inc. |
| Aven Inc. | PalPilot International Corporation |
| Bare Board Group | Panasonic Factory Solutions Company of America |
| BBM Inc. | Precision Technology |
| BEST Inc. | Production Automation Corporation (Prime/PAC) |
| CalcuQuote | Protavica |
| Circuits LLC | Prototron Circuits |
| Conductive Containers, Inc. | RESTronics Southwest, Inc. |
| CR Assembly | Rich Sales |
| CVInc. | Saki America Inc. |
| DG Marketing Corporation/ Sovella | Seica Inc. |
| Eatman Associates | Seika Machinery, Inc. |
| Electronic Interconnect | SMAC MCA |
| Engent | Smart Splice LLC |
| FHP Reps | SMTVYS LLC |
| GSC - Garland Service Company | Southwest Systems |
| Hisco | Spectra Sales Corporation |
| i3 Electronics, Inc | StenTech Ltd. |
| ICAPE Group | Sunshine Global PCB Group |
| Island SMT | Super PCB |
| JBC Tools USA, Inc. | SVTronics, Inc. |
| JTAG Technologies | Tech Spray/ Metcal |
| Krayden, Inc. | Teradyne, Inc. |
| Krypton Solutions | Texmac/Takaya Inc. |
| KYZEN Corporation | The IPS Group, LLC |
| Libra Industries | TTM Technologies, Inc. |
| Lone Star Circuits | Vision Engineering, Inc. |
| Nikon Metrology | Westak |
| Nitronix Circuits | YXLON International, Inc. |
| | ZESTRON Americas |
Presidents Message

Greetings to SMTA Dallas Chapter members and guests.

It is time for all of us to focus on our main event here in north Texas. The EXPO and Tech Forum is a big deal for each of us. We gather the technologists and the suppliers with the intention of expanding our knowledge and helping our respective companies. As we are all members and guests of an association, the strength is in our relationships. Participate in the event as an exhibitor or as an attendee so that you get the benefit of being involved. Meet the right people to solve your problems and challenges.

Gary Tanel, Dallas Chapter President

Dallas Chapter Membership Rolls— 122 Members !!

We welcome our newest members to the SMTA family:

Randall Massey          Individual B2P Solutions LLC
Boyd Thomas             Associate (Students/Retirees)

Corporate Members: 32,  Corp Participating members: 14,  Individual Members: 64,
Global Members: 3,    Associate members: 8,             Participating Members: 19,
                        Associate/Student Members: 9

Dallas Chapter Corporate Member List - January 2016

ASSET InterTech          Fujitsu Network Communications  Precision Technology, Inc.
Barry Sales, Inc.        GSC (Garland Service Company)  Roper Resources, Inc.
BBM, Inc.                JTAG Technologies          Southwest Systems Technology Inc.
Circuitronics            Keysight Technologies       SPEA America
Conecbos LLC             Krypton Solutions           Sunshine Global PCB Group
CIVInc.                  Libra Industries            SVTronics, Inc
CR Assembly Corp         Mek Americas LLC            The IPS Group, LLC
DG Marketing Corporation  Morgan Newton Company       Techni-Tool, Inc.
Dragon Circuits          National Circuit Assembly  Trilogy Circuits, Inc.
E.T.S. Group, Inc.       NPI Technologies, Inc.      Variosystems, Inc.
Electrolab Inc.          One Source Group            VI Technology
EWD Solutions            PAC Global, Inc.
FHP Reps                 Philips Entertainment
I have had people ask me why I joined the SMTA. Being a hardware design engineer, I am not like the majority of members who work in the contract manufacturing business. An epic failure in my engineering career led me to joining the SMTA. At a prior company we launched a new sensor design which had some significant packaging challenges. In order to fit the proverbial 8 pounds of stuff in a five pound bag, we decided on a three piece multilayer rigid flex board assembly that contained processors and programmable logic requiring multiple BGAs. As I was busy in the hardware design, I was not active in the vendor selection process which led to the lowest bidders that could meet our tight schedule.

Our prototype run consisted of ten boards. Eight of which worked during initial testing. After time though, all the boards eventually failed over time due primarily to PWB fabrication issues and some assembly errors. Fortunately my boss had experienced the same type of fabrication issue and was supportive during this time on a highly visible product for the company. Before the second round of prototypes, I reached out to people I trusted whom had relevant experience in the design, fabrication and assembly communities. After some minor tweaks to our design, we went with a PWB shop that took the time for the complex fab and a contract manufacturer that had a proven track record for these types of assemblies. The second pass prototypes came up and worked nearly flawlessly. The lesson learned was even with the most robust design, if it cannot be properly fabricated and assembled, the product will not be successful. Shortly after I started regularly coming to meetings to gain knowledge and additional exposure to the SMTA industry in order to enable more successful products in the future.
Employment Openings. Attached are the job descriptions for the two openings at SV Tronics, Inc.

1 Final QC Inspector
2 AOI Operator.

Contact Scott Chambers of SV Tronics, Inc. for more information:
Scott Chambers
Quality Manager
Office: 214-440-1234 X 127

Special Thanks to the following volunteers!!

Technical Advisor (Appointed): Viswanadham Puligandla Ph.D. (Nokia (Retired))
Phone: 972-355 7107
Email: viswam38@gmail.com

Technical Advisor (Appointed): Riki G. Brown (LeeMAH Electronics)
Phone: 951-733-2806
Email: rbrown@leemah.com

Social Media Editor (Appointed): Alicia Hamby (Circuitronics)
Phone: 469-226-4872
Email: aliciahamby@circuitronics.com

Set Up Committee (Appointed): Jimmy Randolph Fallin (Philips Entertainment)
Phone: 214-647-7960
Email: jimmy.fallin@philips.com

Program Director (Appointed): James Eatman (Eatman Associates)
Phone: 972-771-1903
Email: eatman@compuserve.com

Board Liaison: Richard Henrick (Sanmina Corporation)
Phone Contact: 256-882-4579
Email Address: richard.henrick@sanmina.com
REASONS TO JOIN YOUR LOCAL SMTA CHAPTER

- Do you have something to share such as new technologies or new products?
- Are you new in a sales territory – do you know all the players? Do they know you?

Be informed and involved on the Local Chapter level:

- Take advantage of technical information provided at local meetings Get to know colleagues in your local area
- Network for technical information and get to know companies and people in your local area
  - Share information with colleagues on new products and services

THE MISSION OF SMTA

The Surface Mount Technology Association (SMTA) membership is a network of professionals who build skills, share practical experience and develop solutions in electronic assembly technologies and related business operations.

MEMBERSHIP DUES

Participating: $50 - If your company (same location/division) holds a Corporate Membership it’s employees are eligible to receive the full range of benefits at a discounted price.

Individual: $75 - This membership is designed for individuals who wish to join SMTA to receive all the benefits independent of a Corporate Membership.

Corporate: $450 - A corporate membership in SMTA provides discounts to employees located in the same location/division where the Corporate Membership is held.

Student/Retiree: $5 - The Student/Retiree Membership is available to all full-time post-secondary students and retirees at a discounted rate.

HOW TO JOIN

On-line at www.smta.org