SMART Group 25th Anniversary Seminar

Thursday 22nd October, Oxfordshire Golf Club, Thame, Oxfordshire

Seminar starts at 9.30am with the table top exhibition open from 9.00am

Internationally renowned speakers, a table top exhibition, in a central location are all guaranteed to make your seminar experience rewarding, beneficial and provide you a better perspective on current industry practices. The one day seminar is a mixture of process technology, reliability, environmental and business advances presented by users and based on our seminar theme which is –

Reduce Waste – Improve Reliability – Increase Profit

The format of the day includes a key note morning session with two speakers from Rockwell Collins, USA, after lunch delegates have the opportunity to select from simultaneous presentations covering reliability, business and environment issues due to impact us now and in the future

9.00- 9.25am Arrival Coffee and Exhibition

9.25am Introduction Keith Bryant – Chairman of the SMART Group

9.30-12.30pm Key Note Session

Manufacturing Wrong: Case Studies in Non Conformance
Doug Pauls & Dave Hillman, Rockwell Collins USA

11.00-11.30am Coffee and Exhibition

12.45pm SMART Group Fellow Awards Peter Swanson – Honorary Vice President

12.45-1.45pm Lunch and Exhibition

1.45 – 4.45pm Afternoon Sessions (3.00 – 3.30pm Coffee and Exhibition)

Reliability Session
Chris Hunt – NPL Nathan Barry - Rolls-Royce/Goodrich Russell Shipton - ERA

Environmental Session
Nigel Burtt – Enjaybee Marion Quarington – MTL Mike Fenner – Indium

Business Session
Peter Barnwell – CIL Mark Hutton - BPA








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9.30am – 12.30pm

Manufacturing Wrong: Case Studies in Non Conformance

Doug Pauls & Dave Hillman, Rockwell Collins USA

All companies have to deal with numerous parameters in electronics manufacturing in order to produce a high reliability, high quality product. Well tuned manufacturing processes are profitable, but Murphy's Law regularly throws a wrench into the works. Non conformance issues, or the cost of not doing it right the first time, create waste, jeopardize reliability, and cut into corporate profits. This key note session is designed around case studies, each chosen from the experiences of the presenters, in which manufacturing problems were identified, diagnosed, root causes determined, and corrective actions put in place. The intent is to provide the attendee with troubleshooting methodologies and practical knowledge of remedial measures or actions to take.

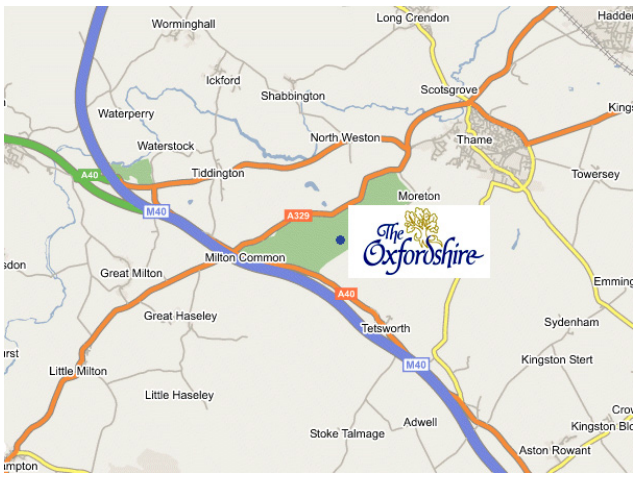
Topics to be covered include:

Board Finishes
Evaluating / Qualifying Material Sets
Soldering Processes
Cleaning Processes
Cleanliness Assessment
Conformal Coating
Rework and Repair Processes
Field Returns and Failure Analysis
Costs of Non Conformance (CoNC)
Enterprise Sourcing: A Cancer to Be Fought

The Oxfordshire Golf Club, set in the rolling hills of the Chilterns, is located approximately 45 minutes drive northwest of London on the outskirts of the historical university town of Oxford. It has always been one of the most popular locations for SMART Group events due to its location, easy access from the south and north and conference facility. Designed and built by the world-renowned architect Rees Jones, his first in Britain. No expense has been spared in creating this beautiful course. A tactical blend of bunkering, strategically placed lakes, wispy rough and wind make this a real challenge. Combine that with its natural beauty and you have all the course you'll ever need.

Directions to seminar venue

The Oxfordshire, Rycote Lane, Milton Common, Thame, Oxfordshire 0X9 2PU



From London
Leave the M40 at Junction 7 and take the A329 to Thame.
The Oxfordshire is on the right-hand side of the A329 just 1.5 miles (2.4 kms) from the motorway.

From Oxford
Follow the signs for the A418 and then A329 to Thame

From Birmingham
Leave the M40 at Junction 8a (no exit at junction 7) and take the A418 to Thame for 0.25 miles, then take the 1st right (A40). Follow this road, at the A329 turn left. The location is1.5 miles on the right-hand side.

(Please note don't follow your GPS route all the way, it will take you to a farm and the farmer can get a little upset with so many visitors)

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After Lunch delegates have the choice of attending any of the separate sessions:

1.45pm – 4.45pm Environment Regulations Session

Nigel Burtt - Enjaybee, Marion Quarrington – MTL, Mike Fenner – Indium Corporation

Do Environmental Regulations Leave You Feeling Green and Not In A Good Way? Are you left feeling dizzy and slightly nauseous by the rising tide of environmental regulations such as REACH, EUP, and proposed changes to the RoHS and WEEE Directives? In these difficult financial times it is even more important to understand the genuine impact of these measures on your business and manufacturing facility. Would you like some help in finding the correct balance of costs to make sure you comply with the actual requirements against possible over-reaction where the necessary implementation is somewhat less clear?

Topics to be covered include:

Proposed legalisation RoHS Update
Are you told your product needs to be REACH compliant?
Current legislation: its impact on your company
Practical onsite implementation
Cost of compliance
Impact of global expansion
Will US create Federal version of RoHS?
Practical issues with compliant materials in manufacture
Halogen/Halide-Free materials

1.45-4.45pm Reliability – Design, Production and Quality Control

Chris Hunt & Davide de Maio, National Physical Laboratory, Teddington, England

Manufacturing high reliability lead-free circuit assemblies is challenging, and fully understanding the pitfalls and understanding material properties is a necessity for design and production engineers. Component, PCB and solder joint reliability data will provide a fast track to success, saving money and helping to prevent a company's loss of reputation. Illustrated in a practical manner, NPL has been leading industry's lead-free research and providing practical and accessible guidance for over 10 years. The unique aspect of this workshop is that each topic is backed up with detailed reports and practical guidance documents produced by the NPL Team.

Topics to be covered include:

Component damage and degradation
PCB coatings and through hole reliability
Tin whiskers and tin pest
Copper dissolution
Surface contamination and failure modes
Solder joint reliability and methods of test
Conformal coatings and reliability results

Place for Failure Analysis in Optimisation of Waste, Reliability and Yield Improvements

Russell Shipton ERA

Everyone encounters failures from time to time: Component manufacturer, board and equipment assembler, end user. Correct attribution of the cause can be critical for producers to getting production back on track, keeping costs down, and keeping reliability up: It can be equally vital to end users for keeping operations running or to enable appropriate litigation. Common questions are: Is this something I am doing, or is something else doing it to me? Was my component/equipment the cause, or the victim? The presentation will work through the need for and benefits of failure analysis, it will present some case histories, and it will outline a systematic approach to FA. It will include a range of example and pictures of the problems that have been encountered over our 40 year history of FA.

Vibration testing of lead-free vs. Sn-Pb solder joints

Nathan Barry - Rolls-Royce plc and Goodrich Corporation Joint Venture

The high-cycle fatigue properties of lead-free solders are of particular interest to high-reliability industry sectors, such as aerospace and military, since their products are expected to operate in environments with high vibration levels whilst maintaining long service lives. While experimental and modelling work on the susceptibility of lead-free soldered assemblies to vibration, compared to their Sn-Pb counterparts, has increased in recent times, most studies do not effectively isolate the effect of intrinsic solder properties on the results. This makes comparisons between studies difficult and is akin to comparing two materials using two different test machines, each with different loading regimes and test piece geometries. The presentation will outline results of trials and provide guidance on the practical issues faced on product development

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1.45-4.45pm National and International Business Session

The Role of an Independent EMS Company in the UK – and Some Observations from the USA

Dr Peter Barnwell – Chairman, Custom Interconnect Ltd.

The Electronics Manufacturing Services business in the UK has grown from the rather simplistic contract manufacturing industry to a more sophisticated and important industry. In spite of the threat of low cost offshore manufacture and the ever deepening recession, it has proved possible to run and grow a significant and successful business. The presentation discusses the basis for this, with particular reference to the level of technology and investment required. It highlights the critical services that have to be provided and draws a comparison with the author's experience of large high volume manufacturers in the USA. The conclusion is drawn that with the right technical, commercial and sales approach there is an ongoing role for such a business in the UK.

Topics to be covered include:

Brief background to the EMS business
Competitive pressures
Advantages of UK manufacture
Key needs for a successful company
The problems facing the large very high volume manufacturers
Some personal experience in the US market
What does the future hold?

Market and Technology Trends in the PCB Industry

Mark Hutton - BPA

BPA Consulting Ltd was established in 1971 to provide in-depth analysis and forecasts of emerging technologies. This information is typically used by systems, component and materials companies to set their short and long-term commercial and technical strategies. BPA has worked for well over 400 companies around the world and aims to provide a detailed international coverage of current and developing electronic and related technologies and markets covering the USA, Japan, W Europe, SE Asia and the rest of the world. To support our work we have also built up an extensive databank covering the world's markets and technologies for electronic equipment, components and related materials. The interactive nature of the databank, e.g. types and numbers of ICs relative to total substrate area, acts as a vital crosscheck to current analysis and future forecasts.

The presentation will look at some of the key technologies that have been reviewed and analysed by BPA over the past year e.g. flex and flex-rigid printed circuits, high speed electronics, wireless modules, mobile phones, automotive, ultrathin copper and HDI trends and describe them in the context of the current world electronics market. The presentation will also allow the audience a glimpse into the future with BPA's latest five year forecast.

IPC Roadmap 2008-2009

Over the next several years, the electronic interconnect industry will experience numerous technological changes. Some of these advancements will be small and hardly noticeable; others may genuinely transform the industry. For any company in the electronics supply chain, having an understanding of these changes can mean the difference between success and failure.

Published every two years, IPC International Technology Roadmap for Electronic Interconnections has been a leading resource for identifying some of these changes since it was first introduced in 1993. Its development is the direct result of an extensive two-year study into the future technology landscape of the industry. The IPC Roadmap focuses exclusively on the printed board and electronics assembly industries, and centres on the manufacturing of substrates and assemblies. During this session there will be a short overview of the IPC Roadmap and three delegates will have the chance to win copies of the document which is worth over £150.

Table Top Exhibitors include:

Blundell - Chiltern Connections - DKL Metals – ETEK Europe – Humiseal - Indium - ITRI - Gen3 Systems – O'Dell Rework Solutions – SCH

For your Table Top Booking Form go to www.smartgroup.org/images/stories/events/Tabletop25th.pdf
Alternatively call Tony Gordon on 01494 465217 Today as there are only a few left

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Seminar Booking Form

Seminar £85 for SMART members; £175 non-members + VAT

Price includes, arrival tea, coffee; mid morning tea coffee & biscuits; lunch; afternoon tea and coffee. Seminar proceedings will be available from the SMART Group website.

Return Booking Form with payment to:

SMART Group, 85 Easton Street,
High Wycombe, Bucks HP11 1LT

Telephone: +44 (0) 1494 465217
Facsimile: +44 (0) 1494 473975

I would like to book ……..place(s) at the conference for the following (Please tick):

- ❑ SMART Group 25th Anniversary Seminar, Oxfordshire Golf Club, Thame, Oxfordshire
- ❑ SMART Group Member ❑ Non Member

Payment is due at time of course booking and may be made by Visa/Mastercard/AMEX by completing the mandate below or by cheque made payable to SMART Group. A pro forma invoice can be provided by fax if required, on receipt of a company purchase order. A VAT receipt will be provided on receipt of payment, together with booking confirmation, hotel locations and map/directions to conference location.

Booking conditions:

Full refund if cancellation notification received more than 10 working days before the event, subject to £30 administration fee per delegate. Refund of 50% if cancellation notification received 6-10 working days before the event date. No refund if cancelled within 5 working days. However, an alternative delegate may be nominated. We reserve the right to cancel the event or change content at any time, a full refund of the fee or the opportunity to attend the seminar if re-scheduled

Company PO Number for Proforma Invoices: _____

Name: _____ Job Title: _____

Company: _____

Address: _____

_____

Postcode: _____ Tel: _____ Fax: _____

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Second Delegate: _____ Job Title: _____

Email: _____

Third Delegate: _____ Title: _____

Email: _____

To pay by Visa/Mastercard please also complete the following and fax booking form to (+44) 01494 473975
Please ensure all sections are completed fully in order to comply with credit card companies' requirements to validate transactions

Visa/Mastercard no; _____ Card expiry date: _____

Card security code (3 digits printed on card signature strip): _____

Name (as printed on card): _____ Signature: _____

Cardholder's statement address: _____

_____ Postcode: _____

Book your place with payment before 31st August and save 10%