

YOU VOTED OUR ANNUAL LEAD-FREE EVENT A SUCCESS - BUT WHERE NOW?

Thanks to everyone who attended our 7th Annual Lead-Free event in February.

Our speakers did a great job in keeping to their allotted (short) time in updating the audience on the latest status of their specialised subject. They then all responded in the two question and answer sessions. We appreciate all the feedback you gave us:

"It was superb - short presentations, with Question Time worked really well"
"Excellent day & enlightening"
"Useful & helpful"
"Gave me a great insight into lead-free soldering"
"A great way to get up to speed quickly"

There is no question that our industry is still slow in responding to the legislation that will soon be upon us. SMART Group is doing its very best to assist members through this challenging time. We continue to offer frequent seminars and workshops. Our next major event will be at the Nepcon Exhibition, 11-12 May, where again the 'SMART Group Lead-Free Experience' will be a major feature, this is a hands-on event (this time its FREE! but you must pre-register), separately we are organising 13 papers at the Process Technology Seminars.

If you have any concerns that you feel have not yet been addressed or would like to suggest an event please do not hesitate to contact us on info@smartgroup.org

I hope you enjoy our newsletter: **Mike Judd**



Unprecedented response to SMART Group Annual Lead-Free Event - see page 2.

SMART GROUP PROUDLY ANNOUNCES HANDS-ON LEAD-FREE EXPERIENCE 3



During both days of the Nepcon Exhibition we will again be running our Lead-Free Experience, the venue is Brighton and the dates are 11th or 12th May 2005. We urge you to reserve your place to avoid disappointment.

This event provides a unique opportunity to gather experience with lead-free materials and processes whilst attending the UK's premier electronics exhibition. With the support of Reed Exhibitions and our Technology Partners it's FREE for delegates to register.

The feature is sponsored by Electronics Manufacturing Products. Delegates will be able to view production equipment using lead-free alternative alloys featuring surface mount and through hole terminations. Delegates can also bring board designs, process issues and have all their questions answered as part of "Lead-Free Experience 3".

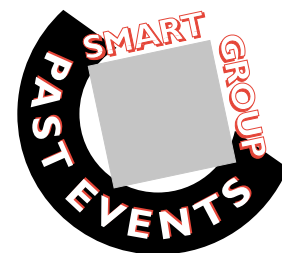
To register for your FREE place at the "Lead-Free Experience 3" go to www.nepcon.co.uk/page.cfm/Action=PreReg/PreRegID=2/t=m

PROCESS TECHNOLOGY SEMINARS FREE AT BRIGHTON



SMART Group Process Technology Seminars at Nepcon Brighton organised by SMART Group and sponsored by Electronic Manufacture & Test magazine. Each presentation is 25minutes with a gap of 30 minutes between each topic, visitors can plan meetings around the seminars and not miss any of the key events at the show. Registered delegates will be the first to have copies of all the papers to review and pass on to other members of their companies. Find out more and book your FREE seminar place NOW! www.nepcon.co.uk

UNPRECEDENTED RESPONSE TO SMART GROUP



ANNUAL

Our Chairman for the day was
Peter Swanson, Intertronics/Dynamix

LEAD-FREE EVENT



Over 200 delegates packed into the Wycombe FC/London Wasps Business Centre for the 7th Annual Lead-Free Seminar and Exhibition.

The format this year was different, allowing 8 presentations from experts in their field covering: legislation, design for lead-free, pcb's and finishes, components, materials, equipment, reliability, recycling.

Each presentation was limited to 15 minutes, to concentrate on the update status of the subject. Both morning and afternoon sessions were followed by a debate loosely based on the BBC programme 'Question Time' with all panelist's featured plus James Lingard from DTI.

This event was part of the European LEADOUT scheme and Sandra Estanislau, from ISQ - Institute de Soldadura a Qualidade, Portugal, was present.

The pictures show the audience and all the panelists (plus Sandra Estanislau). Final picture - for the best question asked during the day, Julie Pile from Sundance Multiprocessor Technologies, was presented with a London Wasps rugby shirt.



- The speakers and panelists were:
- Practical Legislation Issues - Nigel Burt, Dolby Laboratories
 - Design for Lead-Free - Bob Willis, EPS
 - PCB's & Finishes - Martin Goosey, Rohm Hass
 - Components - Vincent Synnot, Flint Distribution
 - Materials - Steve Dowds, Henkel Technologies
 - Equipment - Gerjan Diepstraten, Vitronics Soltec
 - Reliability & Implementation - Alan Brewin, NPL
 - Recycling - Alan Dukinfield, RID UK

All presentations and surveys conducted at this event are available to SMART Group members from our web site.

Peter Swanson presenting the cheque on behalf of SMART Group to Helen Mannion, Corporate Fundraiser for MND

SMART GROUP PRESENTS CHEQUE TO MND CHARITY

Peter Swanson, Director and Honorary Life Vice President of the SMART Group, visited the MND, Motor Neurone Disease, Association's National Office in Northampton to present a cheque for £1,300. The SMART Group raised the money through a raffle and an auction at its biennial European Conference. Mr Swanson said: "It was a really good day for me. Visiting gave me great insight into the achievements of the Association, the knowledge that our donation will be used to good effect, and was for me personally, an emotive experience."

**BGA INSPECTION
CRITERIA AND
HANDS-ON TRAINING**



Soldertec, St Albans 26th January

For the first time SMART Group put together a Hands On BGA and Land Grid Array Inspection workshop to teach the techniques and the criteria for BGA inspection.

The workshop on 26th January included both x-ray and optical inspection and was an ideal way of having staff trained on what is acceptable and not and how to recognise process defects like BGA warpage, Popcorning and much more. The session illustrated criteria for tin/lead and lead-free joints and introduced the latest IPC standards.



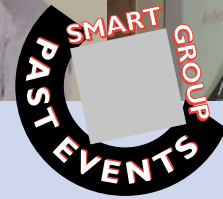
**SUPPLY CHAIN
MANAGEMENT
SEMINAR -
LINN PRODUCTS**

SCOTLAND, MARCH 3RD 2005



Willie Campbell (Chairman SMART Group Scotland) opened this event with a brief introduction & introduced host Brian Kennedy, Operations Director of Linn Products.

Continued on Page 4.



**SMART GROUP
AUTOMATION WORKSHOP**

JJS Electronics, Lutterworth - 10 March 2005

The focus of the day was to review automation as a tool to ensure that products are manufactured in the optimum location and manner. There has been a rush to move production to distant shores without, in many cases, considering the effects on the whole product plan. In essence, does it make economic sense to design in Europe, build in Asia and then ship back to a customer in Europe?

Peter Grundy, of Smart Group, set the scene by describing many of the factors that need to be considered when manufacturing overseas and he then built an example, based on experience, of a company designing a product in Manchester, having it built in Thailand and then shipping it back to a major customer in Germany. The pitfalls of this operation were described.

Peter Chan of IPTe described the rapid developments in 'back-end' automation and how mechanical assembly and test can be automated to a very high level. Peter used an example of high volume manufacturing in the UK where highly automated assembly methods allow high efficiencies, rapid job changes and a very high degree of flexibility for the future. Efficiencies have grown from the 60% level with the early systems of the late 1990's to today's flexible cells where 95% efficiency is the norm.

None of these automated systems run well unless the product has been designed Ok in the first place and Alec Groves of British Aerospace Radar Systems described how good forethought will make any product, be it a one-off radar needing 12 years to develop or a mobile phone built in millions, flow through the production process without hold-ups or multiple revisions. Designers cannot create new products in isolation and must be aware of their actions and the impact they may have on others. He cited the grand example of the Duomo in Florence as living proof of how design must include knowledge of manufacture.

Having made something, it is important to know if it works to specification and also reliably so Bernard Sutton of Bernard Sutton Consultancy described various strategies for test ranging from manufacturing defect detection to final function analysis. No single methodology will capture all test functions and so much care and forethought must be put into design-for-test regimes to enable the product to be built to exacting standards in the most economic manner. Bernard managed to distill the essence of each in the timespan allowed although each one could easily be the subject of a day's debate.

Finally, Naim Kapadia of JJS Electronics described the areas of automation important to JJS and how some operations required manual activities to gain the necessary flexibility for the product type and its volume. Total automation would not work for JJS but strategic automation to resolve bottleneck conditions is continuously being monitored and is purchased when proven to be sensible for JJS and the customer. Naim organised a factory tour after his talk so that the way in which JJS has organised its customer profiles and use of automation could clearly be seen. The Smart Group warmly thanks JJS Electronics for hosting the event and all the participating lecturers for developing an important theme into an interesting and worthwhile topic.

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Speakers included Professor Umit Bititci from Strathclyde University who described supply chain management as encompassing all supply processes from generating demand to delivering the product. His paper was entitled 'Measuring Supply Chain Management'. It was recognised that manufacturing companies competitiveness was a function of their supply chain capability and so Scottish Enterprise funded research to determine how to measure and compare the supply chain process of local manufacturers. A survey determined that the cost of Total Supply Chain Management ranged from 3.5% to 8.5% of the revenue generated, therefore there was potentially a 5% improvement in revenue. During phase 1 of this project one company identified £7 million of savings in their supply chain management cost.

Brian Kennedy, presented a paper - 'Software System for Manufacturing Cost'. Linn Products

sees deployment of IT systems as being a critical part of improving their supply chain management. Over the last 10 years they have evolved from a company with a 3 month fixed build plan with 1 month production batch sizes to a dynamic system which sees 3 day customer delivery. In future Linn sees the IT system being developed further and improving lead time from suppliers by rationalizing them and working in closer partnership with key suppliers to reduce leadtimes; understanding and improving the DTM/DFT processes and developing their employees to be more flexible and hence more responsive to customer needs.

Ivor Tiefenbrun, CEO & Founder of Linn Products sees Eastern Manufacturing as a real threat to the UK electronics manufacturing industry and so began by looking at what can be done differently to safeguard the future. Following a trial a strategy was begun around

implementing a single stage build process, where people were the main focus, with tools and automation there to enable operators to work more effectively to build quality products. Unlike production lines where operations are deskilled, single stage assembly required a higher level of skill, however this increased job satisfaction and pride in their work.

Within 3 months of implementing a single stage build philosophy, a superior quality of product was being produced, increased flexibility enabled the factory to build on demand, and ultimately customer satisfaction was significantly improved.

Stephen Wallace, also from Linn, presented 'Procurement in a High Mix Low Volume Manufacturing Environment' and Jeremy Pearce from Soldertec gave a 'Legislation update on WEEE and RoHS'. The day concluded with a factory tour.

DIARY 2005

6th April

Design for Reliability - NPL, Teddington

11-12 May

Nepcon Electronics Exhibition including: SMART Lead-Free Hands-On 'Experience 3' SMART Process Technology Seminars Metropole - Brighton, UK

19th May

Lead-Free Considerations for Rework, Test & Inspection Seminar & Table Top Exhibition Shannon, Ireland

20th May

SMART Ireland Golf & Shooting Day

1st June

Lead-Free Materials Workshop Hemel Hempstead

22nd September

RoHS Legislation & Compliance Seminar & Table Top Exhibition Dublin Ireland

1st November

ALL you ever wanted to know about Lead-Free Wycombe FC Conference Centre

1st December

Manufacturing Process 'The Transition to Lead-Free' Cork, Ireland

VISIT BRIGHTON IN MAY!



Ian Crawford
Reed Exhibitions

A valuable and successful trade show brings people and information together in a time-and-space-efficient way.

This year, Nepcon 2005, in Brighton, will represent one of the greatest concentrations of technologies, products, equipment, services, information and new ideas for electronic manufacturers that we will have seen in the UK for quite some time. The 2005 event promises to be even better than in 2004; there are more exhibitors, and fantastic special features packed with valuable content, efficiently packaged

at the Brighton Metropole, and taking place in the space of just two days to maximise the value of every minute.

But the special events we have added to the formula for this year deliver even more value for engineers who must deal with issues such as the transition to lead-free, manufacturing best practice for emerging technologies, and the technical and economic challenges of building electronic products in western Europe. And let's face it, that's just about everyone in the business today.

For example, if you want the truth about lead-free, the SMART Group is probably the best source of independent knowledge and information. Nepcon 2005 hosts the SMART Group's Lead-Free Experience workshops for the third year running. We are closer than ever to the deadline for lead-free legislation, and this year's content reflects that fact. As businesses now move into the implementation phase of the conversion, the SMART Group has valuable guidance. And that, too, is just a short walk from the exhibition floor.

All in all, May 11-12 at the Brighton Metropole will be an information-dense experience for all who attend. I am really looking forward to it, and I believe this year Nepcon will deliver even more value than ever.

