

# preview

International Council On Systems Engineering UK Chapter Newsletter



## News – In Brief



...A Great Success!

This year's European Systems Engineering Conference was held during September in Edinburgh. The feedback from the event

suggests that everyone who went had a wonderful time. The hard work by the organising committee paid off, even though the General Chair, Paul Davies, told his wife "if you ever see me getting into one of these things again, you have my permission to shoot me!" This edition of Preview includes reviews of the event, a look at the social side, and the feedback from the delegates who attended.

## Annual General Meeting

The Annual General Meeting was held during EUSEC – details are in this edition of Preview. Several changes to the Board were approved, and our new President Andrew Daw was formally elected. Doug Cowper takes over as the President Elect, and Hillary moves into the Immediate Past President role.

Rick Adcock was formally appointed as Events Director, and Gordon Woods took over as Communications Director. You can find out more about the new Board Members on Page 3, and details of their roles on our web site.

## Spring Conference 2007 - Details Released



The Events Committee has released details of the 2007 Spring Conference. The theme is the continuing growth of Systems Engineering, and you can read more in this edition of Preview. A Call for Presenters is available on our web site. You are encouraged to submit abstracts to Andrew Farncombe, INCOSE UK Technical Director ([andrew.farncombe@incose.org](mailto:andrew.farncombe@incose.org)), by no later than 30<sup>th</sup> November 2006.

**Don't leave it too late to submit your ideas!**

## A Word From Your New Editor!

A warm welcome to this Winter Edition of Preview, and to my first as Editor!



If you notice one thing about this edition, it will probably be that a lot has changed recently! The recent AGM has given us a new President and President Elect, and confirmed the Appointments of Communications and Events Director. I succeeded Doug as Newsletter Editor, which seems sensible as it combines the Preview and ePreview editorial roles into one simple package! However, I suspect it will take a few editions for me to get to the high standard that Doug left. I only changed the colour scheme because I could!

Your feedback, comments and support will be most welcome over the next few years!

In this edition you will also find reviews of EUSEC. Although attendance was not as high as expected, you will find that everyone who did go or contributed had a fantastic time, both professionally and socially. No doubt this will whet your appetite for the next event, and Rick tells us about the 2007 Spring Conference.

Finally, I introduce Sandra Hudson, the new Chair of the Advisory Board. I am hoping that future editions will explain more about the important work of the UKAB, and describe the benefits companies gain from corporate membership.

Indeed, I am hoping I can encourage more of you to contribute in some way. A real benefit of INCOSE is the opportunity to share knowledge. We provide the mechanisms, but it does need you to provide the content.

So brush off your laptops, typewriters or pencils, and send a contribution to the next Preview!

*Simon Hutton*  
Preview Editor



Winter 2006

## In This Issue:

- Annual General Meeting Notes
- Who's Who on the New Chapter Board
- EUSEC Feedback
- Who's Who in the New Board
- 2007 Spring Conference
- News from UKAB and Local Groups



**INCOSE UK Chapter**  
**Annual General Meeting**  
**19 September 2006**

The Annual General Meeting of the UK Chapter of INCOSE took place on Tuesday 19<sup>th</sup> September, in the main auditorium of the Herriot-Watt University, Edinburgh, during the INCOSE European Conference.

**Item 1 – President’s Report**

Retiring President Hillary Sillitto presented his report covering his two years in office, explaining the growth in the organisation to cope with the increased activity and highlighted the more useful products now available, plus the increased awareness and need for Systems Engineering in Government and other areas. He reported on the increased membership, and the greater UK impact upon the international scene produced by having 3 of our members in international positions within INCOSE, and providing the greatest contribution to the ‘Global Systems Engineering Environment’ section of the ‘INCOSE Vision 2020’ document.

Hillary finished by referring to the Awards that the UK Chapter had won in the last 3 years, and thanked the UKAB members and the board members for their support during his term. He wished his successor well. A copy of Hillary’s presentation may be obtained from the Secretary.

**Item 2 – Secretary’s Report**

**Item 3 - Financial Report**

In the absence of Peter Lister, Bob Dale presented Peter’s report. The key points were a slightly reduced turnover at £102k for the year under review, due primarily to lower attendance at both of our events during the year.

We currently had accumulated funds of £78.9K including £41.6k on deposit; an increase over the previous year, and this was regarded as being sound and having sufficient to service forecast needs. A copy of Peter’s report will be available from the Secretary

**Item 4 – Events Report**

Events director Paul Davies reported on two successful events this year with the current EuSEC event being a great technical and social event being only disappointing in the number of members that had come along to enjoy it and the number of UKAB members who were not present.

He reflected that the balance had changed in the market place and that there were now many competing events being held and he wondered what our future holds. An input from the floor stated that this competition is not negative but a sign of our success in popularising Systems Engineering and that we now had a good base to grow from. Paul agreed but wondered whether we were doing it correctly, as within Germany and France industry sponsored working Groups without having to raise funds from events. He called for volunteers to analyse the problem and help shape the framework for future INCOSE UK events.

Paul reminded us that he was standing down and that he wished his successor Rick Adcock every success.

**Item 5 – Elections**

In the absence of the Secretary, Hazel conducted the election of officers for the coming year and the following positions were confirmed.

<b>President</b>	Andrew Daw
<b>President Elect</b>	Doug Cowper
<b>Finance Director</b>	Peter Lister
<b>Secretary</b>	Allen Fairbairn
<b>Immediate Past President</b>	Hillary Sillitto
The following board appointees were also confirmed:-	
<b>Technical Director</b>	Andrew Farncombe
<b>Communications Director</b>	Gordon Woods
<b>Events Director</b>	Rick Adcock
<b>Representative for liaison with Professional Bodies</b>	Stuart Arnold
<b>Representative for liaison with Education and Training bodies</b>	Adrian James
<b>Head of Consultative Panel</b>	Hillary Sillitto

**Item 6**

Amendment to the Articles of Association – AGM voting arrangements.

Both proposed changes were approved by a show of hands and the Secretary has been asked to make the necessary changes to the articles of association.

**Item 7**

Following his election as President for the coming year, Andrew Daw presented his plans for the period ahead.

He recognises the need for deconfliction of events and plans to co-ordinate a list of those participating and hoped to work this in with INCOSE UK International obligations. On the International scene we need to continue to work on the USA version of professional recognition documents which need Internationalising as there is a considerable interest in the subject.

Andrew apologised for not having completed the Strategy document which he has been working on for some months with the intention of releasing it today. He confirmed that it would be available at a date to be advised, but definitely by the end of the year.

Andrew set out objectives for his Presidency, comprising:

- 1) The language challenge - there are many people currently involved in the Systems engineering function but many are called other names- these could and should form a substantial increase to the membership base;
- 2) Creation and sustenance of the Architecture working group in which he is personally very interested;
- 3) Furthering our Competencies activity which had so far proven a great success, having been adopted by a number of other organisations.

Andrew thanked Hillary for all of his past efforts and reminded all that he would not be riding off into the sunset as he was now immediate past president and therefore had a continuing role.

He thanked all members present for attending and looked forward to working with them all in the future.

*John Mead  
 Administrator  
 INCOSE UK*

The UK Chapter Board – An Introduction to the New Faces!

The AGM has brought several new faces to the Chapter Board. **Andrew Daw** has taken over as the Chapter President, although Hillary remains on the Board as Past President. **Doug Cowper** has been elected as President Elect – avid readers of Preview will know that Doug has been the Newsletter Editor for the past few years. **Gordon Woods** succeeds me as Communications Director, and **Rick Adcock** takes over as Events Director.

Simon Hutton  
Newsletter Editor

**Andrew Daw** was elected as the INCOSE UK Chapter **President** during the Annual General Meeting held at EUSEC 2006. During the AGM he shared his thoughts about the direction he sees the Chapter taking during his tenure, and looks forward to developing these ideas into a clear strategy over the next few months.



**President  
Andrew Daw**

**Rick Adcock** was confirmed as the Events Director at the Annual General Meeting held during EUSEC 2006.

Rick is Deputy Head of the Centre for Systems Engineering (CSE) in the Cranfield Defence College of Management and Technology (DCMT). Rick has 20 years experience of the defence world, working in industry, consultancy and education. He worked as a Principal Systems Engineer for BAe Systems and MBDA. He was responsible for the development of Systems Engineering process and the evaluation and implementation of Systems Engineering Tools. Rick was involved in the creation of the Systems Engineering for Defence MSc at DCMT whilst still working at BAe.



**Events  
Rick Adcock**

Secretary  
Allen Fairbairn

Past President  
Hillary Sillitto

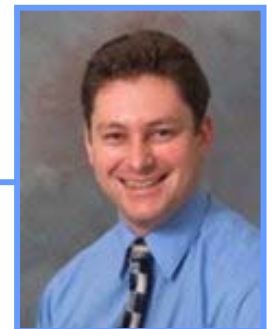
Technical  
Andrew Fancombe

Financial  
Pete Lister



**Communications  
Gordon Woods**

**President Elect  
Doug Cowper**



**Doug Cowper** was voted in as **President Elect** at the 2006 AGM held during EUSEC 2006.

After completing a four-year apprenticeship at the Royal Aerospace Establishment at Farnborough (later to become D.E.R.A and then QinetiQ and DSTL), Doug has spent most of his working life in the Aerospace and Defence industry. Roles have included Engineering Manager for Land Systems at Ultra Electronics in Cheltenham. Doug was also Business Development Manager for University College London's Centre for Systems Engineering, where he gained his Ph.D. Doug is a chartered engineer and a full member of the IET and INCOSE. An active member of both organisations, he was until recently the editor of Preview – a role he has reluctantly passed on!

Doug is a Senior Systems Engineering consultant with Sula Systems.



**Gordon Woods** took over as the **Communications Director** during September 2006, a role confirmed during the 2006 AGM.

Gordon led the first team to deliver an Ada project to the UK MOD way back in 1988 as a software manager for VSEL. Since then he has been at the forefront of systems engineering for the nuclear, aerospace, banking and defence sectors with practical exposure to all phases of the project life cycle.

In addition to his role as the Communications Director for INCOSE UK, he is a member of the INCOSE Region 3 Requirements Working Group and a committee member for the RESG with responsibilities for industrial liaison.

Within the next few years he aims to significantly increase the take up of INCOSE membership at the senior management levels and to diversify INCOSE UK presence into the non-Defence sectors.





The European Systems Engineering Conference

Edinburgh 18th-20<sup>th</sup> September 2006



Paul Davies,  
General Chair  
EUSEC2006

The premier SE conference in Europe for 2006 took place at the Edinburgh Conference Centre, Herriot-Watt University, a month ago. The INCOSE UK Chapter played host, but the organising committee was truly international – 2 Norwegian, 2 Dutch, 2 German, an Israeli, a South African, one token American, and a French/Belgian Conference Manager plus the half-a-dozen Brits. This was the biggest conference we'd organised since the International Symposium in Brighton in 1999, and continued the series of European conferences held every 2 years since 2000, this being the first in the UK. Most of the committee had worked together before on previous symposia, which gave us the benefits of continuity, collective head-knowledge and Europe-wide address books.



Planning Committee Meeting 7.07 am

The shape of the conference was a bit different from what we normally run – 3 days, with 2 tutorials plus 2 parallel technical paper streams each day. Each day started with two invited speakers, either in plenary session or in parallel sessions. Then two presentation sessions of refereed technical papers, and in the last session on each day there was 'something completely different' – Panels on day 1, a Tool Vendor Challenge on day 2, and a closing plenary briefing on new INCOSE products on day 3. In addition, we ran an Academic Forum on the Thursday following the main event, attended by representatives from Universities in Holland and France as well as UK. The Board of Directors of INCOSE

central ran a Board meeting at a local hotel, and joined in the start of the conference – Paul Robitaille, the INCOSE President, gave the opening address. The Main Auditorium (right) for



plenary sessions was superb, in fact the visibility and sound was excellent everywhere.

The Invited Speakers were chosen mainly from outside INCOSE, with something valuable to say from outside our normal domains, that we can and should learn from. Even Sarah Sheard, an INCOSE stalwart for many years, addressed the topic of complex systems science, a move towards an academic foundation for the largely empirical principles that we all work to. They were all excellent, but highlights for me were Moti Frank, an Israeli behavioural psychologist who has researched into the personal characteristics that are good indicators of people who make good systems engineers; Simon Harris, a Management scientist from Strathclyde University, who has studied decision-making styles across cultures around the world; and Willie Theron, who is busy architecting South Africa's next generation gas-cooled nuclear reactor, where all requirements and modelling are traced to the safety case.

The Tutorials were all well received (see John Mead's report on the feedback questionnaire), but I single out for special praise the offering on Architectural Frameworks from James Martin (below, with Alain Faisandier).



This followed in more depth from our own Hillary Sillitto's opening plenary exposition on UK system-of-systems integration, and its representation using MODAF.

Choosing the technical papers to present is never easy, and the standard of submissions was very high. In the end, those we felt guilty about excluding from the programme were very well presented as posters on the rear wall of the auditorium; one questionnaire return thought that Kirsty Brown should be given a special prize for the best poster! Back in the parallel sessions, there was at least one paper from each Chapter in Region 3, including Finland, South Africa and Israel – and they were all there on merit. But we can be proud that the two best paper awards (for best adherence to the conference theme, "Systems Engineering in a multi-cultural environment", and for the most innovative use of SE, both went to UK Chapter members – Jon Holt and Michael Emes respectively. Congratulations!



Michael Emes and Jon Holt with Doug Cowper (centre)

Following the successful experiment at the UK Spring Conference, all speakers were allocated 45 minutes for their presentations. This was

universally well received, from participants and presenters alike. The longer time slot allows the authors more time to develop their argument, more time for questions and answers, and an opportunity for presenter and audience to take their time in English, a second language for many. This practice is strongly recommended for all future international events, and probably for UK events too.

A new idea this year was the Tool Vendor Challenge (TVC). The six participating companies, who all exhibited, were given a problem of a home appliance management system, and a set of systems engineering aspects to consider. They were only given the problem 3 working days before being asked to give a 20-minute presentation on how their tool would help the audience to improve their design process in considering the problem. All acquitted themselves admirably, given that they had to field visitors to their exhibition stands in parallel; most of the presentations are now up on the [www.incose.org/eusec2006](http://www.incose.org/eusec2006) website. We had to fit a few extra things into the programme.

Firstly, it was my great pleasure to present Philip M'Pherson with the INCOSE Founders Award. This is in recognition of his long and distinguished career in SE, and his contribution to its establishment as an academic discipline in the UK.



Secondly, there was our Chapter AGM, a couple of months earlier than usual, at which Andrew Daw took over from Hillary Sillitto as Chapter President:



Doug Cowper became President-Elect; and I stepped down as Events Director in favour of Rick Adcock. I have greatly enjoyed the six years I have spent in the Chapter leadership team, it has been great meeting so many of you, but I feel I need a rest! At one point when things were getting 'a little tricky' at the Conference Centre, I texted my wife as follows: "To quote Steve Redgrave, if you ever see me getting into one of these things again, you have my permission to shoot me!" Her reply came very quickly: "Yes, but he didn't mean it, and I doubt you do!" And Paul Schreinemakers, my co-Chair for this event and General Chair for the forthcoming IS2008 in Utrecht, has already asked me to be MC there...



The evening entertainment in Edinburgh was quite special. On the Monday evening, we were led in to the Banquet dinner by a piper in full regalia, closely followed by guests of honour Paul Robitaille and

Bob Kenley, the INCOSE Secretary, who had dressed properly for the occasion. After dinner, an exhibition of highland dancing made a welcome change from listening to John Mead's jokes – although that would have been impossible anyway, as John had lost his voice!

The Tuesday evening visit to Stewarts Melville Rugby Club for an excellent dinner preceded by a tutored whisky tasting was very popular, especially for John who needed it 'for medicinal purposes'. Our thanks go to Rona Sillitto (pictured with John) who came up with the idea, found the venue and organised the guided coach tour through Edinburgh to get there.



Finally, my thanks go to our Sponsors and Exhibitors, without whom the funding of the event would not have been possible; and certainly the Exhibition Hall was busy throughout the event.

Thanks also to John Mead (naturally) and Karin Moens, our Conference Manager from Toulouse, a little-known suburb of Edinburgh; and of course to the rest of the committee for all their hard work in making this such a high-quality event. Cheers!

*Paul Davis  
EUSEC General Chair  
INCOSE UK*



**EUSEC 2006 Committee – "...And Now, Relax!"**





**Conference  
Social life!**

In addition to the very busy schedule of the technical programme in Edinburgh there was a very busy list of organised social events. The Herriot-Watt events were as advertised and booked through the registration process, and included an Ice Breaker reception and a Banquet on the Monday night. The Whisky tasting combined with dinner on the Tuesday could also be booked, and there was a Sunday evening dinner with the Board of Directors – mostly from the USA. The organisers managed to let their hair down on the Wednesday evening on a canal trip when most other people had gone home.

The Sunday evening dinner at the Bonham hotel in town was sold out, attended by 40 approx half of whom were BoD and the other half mainly EuSEC organisers and Region 3 Chapter leaders. It was a pay your own way and find your own way event with no formalities or speeches etc and a good getting to know each other start to the event.



**Sunday dinner at the Bonham**

On Monday evening we had the Banquet preceded by the Ice Breaker, both of which were free to full time conference attendees.



I was there in time to follow the piper down from the INCOSE UK stand in the exhibition hall to the banquet together with the assembled company. Having talked almost continuously since arrival of the

organising team on Saturday, to exhibition builders and exhibitors arriving on Sunday and 7am meetings and delegates on Monday I lost my voice before we got to the banquet. Thanks to those who insisted that all it needed was another whisky and provided one to help.



On arrival in the banqueting hall we were entertained by Pipes and Scottish dancing girls. It would not have been right if for the main banquet in Edinburgh we were not treated to some Haggis, neaps and tatties, for starters followed by Scottish Salmon and for the line up at the bar afterwards to be washing it down by with the native whisky.



**A fair challenge – even for John!**

Tuesday night was the night out for most when sixty of us coached it to the Daniel Stewart's and Melville College Rugby Club at Inverleith with our tour through the city aptly described for us by Hillary filling his running commentary with local history especially relating to famous Scottish engineers. The whisky tasting continued the lively start with most of us enjoying the description and tasting of three of the local tipples with an evening view out to the castle against the sky.



Then into dinner which also carried on the native diet approach including Cranachan for dessert but resorting to some foreign bottled help to slosh it down. Having been drinking for most of the evening some were

still disappointed that the bar was closed when the coach got us all back to Herriot Watt. They wanted to do more networking apparently.

With this behind us it was now into the final day, and another 7am meeting for the organisers. When nearly every one had left, except the academics and those staying in Scotland for a holiday, the workers could let their hair down and venture off on a canal boat restaurant from nearby Ratho for the last dinner and another view over Edinburgh in the dark. The outward leg was mostly engaged with enjoying our meal followed by getting off when it stopped to turn around and a return leg of jokes including a considerable Norwegian navy input (who presumably felt at home on a canal boat) and some jokes about Texans that left some guessing.



**Jessica, Karin, Paul Schreinemakers and Nanny on the riverbank.**

Although primarily responsible on the organising team for running the off site events I must thank Hillary and his family, primarily Rona, for their major contribution in selecting and advising the venues and all other local input which contributed greatly to the overall enjoyment of the EuSEC event.



**Karin and John "off duty"!**

*John Mead  
Administrator  
INCOSE UK*



## How was it for you?

Unfortunately for many of you it did not happen. The one universally agreed downside was the lack of delegates at this very good venue close to an attractive and lively city. Paul has already covered how good the proceedings and content were in an earlier article. I will give you a view from the Event Improvement Questionnaires that were returned at the event.



Overall the event was judged by 29% to be good value for money, to be ok by 66% and to compare favourably with other international events by 39% and ok by 48%. The length of the conference was just right for the vast majority but the majority did not like having presentations and tutorials in parallel. This is a clear statement that there was more on than we could pack into 3 days so people had to choose what to miss – or only see the items they thought most important. I think this reinforces our long-term policy of having a separate day for tutorials at UK events.

In response to “will you come to the next one” 58% said yes the rest said if they can get approval etc. No one said no!

### What did you like best?

One answered “Nothing specific –just generally well run and enjoyable” But others had their favourites – “The presentations and tutorial were excellent” – others complimented the variation and content of presentations available but specifically James Martin’s papers came in for specific praise. Several praised the Tool Vendor Challenge. To many it is networking and finding new ideas and how other people are doing things, which keeps bringing them back. Also the university campus and accommodation was good – but not big enough for an American couple apparently. At £40 per night and included if you booked early it had to be very good value.

### What did you not like?

This always brings up a stream of minor problems as though folks are hunting for something just answer the question. If it is too hot for one it is too cold for another but we do ask to see if there are consistent dislikes. To every “restricted choice due to parallel tracks” is a “too much choice & having to miss tutorials I would have enjoyed attending”. There was just too much good stuff to do! The programme was such that it was impossible to go and see the beautiful city of Edinburgh someone wrote. You simply miss too much.

Attendance very disappointing, no abstracts published for some papers, some papers lacked SE depth, too long lunch breaks, and some companies just there for recruiting were mentioned by some. The catering, although we were generally impressed with it all, they let themselves down over provision of vegetarian meals at the banquet, and a gap in provision on Wednesday lunchtime when several thought that it had all gone.

The most consistent complaint, and I think justly so, was the Ice Breaker reception which for the ticket price of £20 only gave one free drink and some expensive nibbles but they had also failed to stock up the bar so that people could purchase more drink.

### New features for 2008.

We asked for suggestions and received a few:

- Panel debates and Tool Vendor challenge were good, make more of them.
- A more defined and open paper selection and best paper award process.
- Make the Ice Breaker a real ice breaker with perhaps an opening ceremony and or by any scheme to encourage people to mix.
- Encourage more support from and integration of academia.
- More focus on topics or themes for each day and sessions with themes.
- Have a master class on topics rather than tutorials.
- A partners / social agenda.

If you are still with me up to here I suspect that you do not want to flog all the way through the smaller questions about each feature, but perhaps I will select one comment from each, a high or a low depending on what was most said.

### Organisation and marketing

Virtually everyone commented that they both received information on the event early enough and that they thought the inclusive accommodation if booking early was a good incentive to do so.

### The venue

Edinburgh was a suitable location and so was every question we asked about it with only Wednesday lunch being mentioned by a few who missed it. The comment that “having people in Blue and White Hockey shirts was good” will not go down well with our rugby supporting Paul or Karin who purchased them.



### Conference rooms

Good for nearly all.

### Presentations

More good than any other category against every question.

### Tutorials

Good choice, excellent presenters for virtually all.

### Exhibition

Good space, accessible, and good networking environment. Mix of exhibits was not what all wanted to see.

### Poster sessions.

What poster sessions said some. Sadly this was not given adequate prominence and although many appeared to have read them several did not know the authors conducted sessions in front of their wall mounted topics – if anyone turned up to listen. They were displayed prominently along the main walkway which everyone had to use but they really should have been incorporated into the exhibition hall and more attention given to them.

### Panel Sessions

Panels were generally liked and the only consistent comment referred to lack of debate at one of them.

### Social events.

The banquet was good for 66% and the Tuesday evening out was universally voted good by all who attended.

Thank you all who took the time to complete and hand in the forms –we do take note of your comments and endeavour to improve our future events to best suit the requirements of more of you.

*John Mead  
Administrator  
INCOSÉ UK*



## Why go to an INCOSE event?



**Rick Adcock**  
Events Director

The next INCOSE UK event will be the Spring Symposium in April 2007. Event details and a call for paper are now available.

Due to 10<sup>th</sup> anniversary specials and clashes with regional events, we have not had a traditional UK conference for some time. Many of you may have forgotten how good these events are, or have never attended one.

The theme for the 2007 conference has been deliberately set as a broad look at the future development of Systems Engineering

as a discipline. We would like to see papers re-affirming the principles of Systems Engineering; presentation of current research and best practice; and evidence of the expansion of Systems Engineering into other application domains.

### So why come to a UK event?

We aim to provide a varied program that will be of interest to:

1. *Anyone new to Systems Engineering, who wishes to find out how the discipline can be of use to them.*
2. *Organizations wishing to showcase their Systems Engineering expertise or looking for innovative solutions to Systems Engineering problems.*
3. *Practitioners who need to keep up to date with the latest trends in Systems Engineering, or who wish to actively participant in the evolution of the discipline.*

So, something for everyone; and that is before you include the opportunity to meet old friends, network with other Systems Engineers and have a good time.

The UK chapter of INCOSE has always been a vibrant part of INCOSE, and this is largely because of the active involvement of its membership. I hope to be able to make the future UK events just as worthwhile and relevant as they have been in the past.

Anyone who would like to make suggestions for future events, or volunteer to help with the organization, please contact me on [Rick.Adcock@INCOSE.org](mailto:Rick.Adcock@INCOSE.org).

*Rick Adcock,*  
Events Director  
INCOSE UK

## Are You Always In The Picture?

Hopefully you find this newsletter informative, useful, and a tangible benefit of your INCOSE membership.

### But are you getting all the news from INCOSE UK?

**Preview** is sent to all members every three months. The Spring Edition appears during February, followed by Summer (May), Autumn (Aug) and Winter (Nov) editions.

Contributions are welcomed members, and can include original articles, events reviews, previews of future events, book reviews, or general news that may be of interest to systems engineers.

**ePreview** is an e-mail bulletin issued every 3 weeks or so to bridge the gap between Previews. This ensures INCOSE members are kept up-to-date with events and topical news. ePreview also gives an opportunity to raise advertising revenue for the Chapter. Make sure



you receive your copy and check that John Mead has your current e-mail address.

Finally, [www.incose.org.uk](http://www.incose.org.uk), the INCOSE UK web site, is a rich source of information. Our web master, Stuart Cornes, keeps the site up-to-date, so it is worth a regular visit. You can also download past editions of Preview and ePreview.



Don't forget that access to the experience and knowledge of our systems engineering community is a real benefit of INCOSE membership. INCOSE provides the mechanism to share your knowledge, but it needs **you** to provide the contents!

*Simon Hutton*  
Newsletter Editor  
INCOSE UK

## Not a Member Yet?

### Join INCOSE To-day!

#### What would I be joining?

By joining the UK Chapter you also obtain full membership of INCOSE – The International Council on Systems Engineering.

#### How do I join?

Download the application form and direct debit form from our web-site at [www.incose.org.uk/joining.htm](http://www.incose.org.uk/joining.htm) or contact John Mead at [john.mead@incose.org](mailto:john.mead@incose.org).

#### What are the benefits?

- A UK and world-wide forum for systems engineering.
- UK and International Interest groups, Working Groups and Conferences.
- A chance to influence the way Systems Engineering develops.
- The opportunity to network and learn from other Systems Engineers.
- Regular newsletters and Journal from INCOSE and the UK Chapter

#### What does it cost?

Full members pay £72 per annum (reducing to £68 if paying for a full year by direct debit). Students pay £20 per annum. Membership subscriptions are allowed for tax relief. The UK Chapter has been approved by the Board of Inland Revenue under Section 201 Income and Corporation Taxes Act 1988.





## INCOSE UK Spring Conference, 16-18 April 2007 **The Future of Systems Engineering**

*Is Systems Engineering evolving to meet its new challenges?*

The 3-day event will consist of tutorials, papers, case studies and workshops. The theme for the conference is the continuing growth of Systems Engineering, both in the evolution of its technical approaches and in its acceptance and standardization as an essential discipline across a wide range of commercial sectors. We are interested in papers that describe the evolution of Systems Engineering tools and techniques to deal with more complex, integrated problems. Of particular interest are papers dealing with the increased formalization of architectural notations and approaches to facilitate the application of Systems Engineering to networked systems of systems; and the effect that this has on other system issues such as contractual relationships and risk, acceptance, security, safety, etc.

We are particularly interested in case studies which demonstrated the benefits, and risks, of a Systems Engineering approach. To facilitate this one page case study outlines will be sought. Successful authors will be invited to present and discuss their examples in special panel sessions.

Who will benefit from involvement or attendance at this event?

1. *Anyone new to Systems Engineering, who wishes to find out how the discipline can be of use to them.*
2. *Organizations wishing to showcase their Systems Engineering expertise or looking for innovative solutions to Systems Engineering problems.*
3. *Practitioners who need to keep up to date with the latest trends in Systems Engineering, or who wish to actively participant in the evolution of the discipline.*

The following suggested topics and challenges are proposed: -

- **Enterprise Architecture**, how do we apply SE techniques to understand, acquire, integrate and operate the Systems of Systems needed to satisfy all enterprise stakeholders? Are Architecture Frameworks a help or hindrance in achieving this?
- **SE research and education**, where do the Systems Engineers of the future come from and who is responsible for the continuing expansion of the SE Body of Knowledge? Do we need to develop a new system science, or simply rediscover the old one?
- **Requirements and Risk**, has the role of requirements changed in the new system of systems world? Are our current techniques for dealing with risk up to the job?
- **Integration and Acceptance**, what are the new challenges for these activities by increased networking, open standards, service oriented architectures, etc? How do we deal with system wide properties such as reliability, usability, safety, security, etc?
- **SE Management**, what is the relationship between SE and project management? How do we make the business case for SE in non-traditional SE domains?

Please share your experiences so that we can enrich our understanding, and advance our profession. The event is also an excellent opportunity to network and discuss issues with key people. As always, there will be a conference dinner followed by lively after dinner speaker.

A formal call for draft papers and case study proposals will be issued during November 2006, with a likely final submission date of January 2007.

Any questions on the event please contact [John.Mead@incose.org](mailto:John.Mead@incose.org)

## UK Advisory Board - UKAB

IncoSE UK is supported by the following organisations that make up the UK Advisory Board. The UKAB advises the Chapter Board on aims and strategy, and co-ordinates working group activities with the technical director.



THALES



BAE SYSTEMS



ATKINS



GENERAL DYNAMICS  
United Kingdom Ltd.



### Sandra Hudson – UKAB Chair

**Sandra recently succeeded Les Oliver as the Chair of the UK Advisory Board. Here she introduces herself to the wider INCOSE UK Membership, and outlines her aspirations for UKAB.**



I am the Process Lead for General Dynamics United Kingdom, Mission Systems with a particular focus on Systems Engineering. I have 10 years experience as a project Systems Engineer, working on airborne and ground reconnaissance systems. Over the past 6 years I have helped projects implement the company standard Integrated Product Development Process and has taken the process through several cycles of CPI. I am the CMMI lead within General Dynamics UK and was project manager for the CMMI Maturity level 3 appraisal. I work closely with all disciplines in the Company on process improvement activities.

I have been a member of INCOSE since 1999 and the General Dynamics UK representative on the UKAB since the company joined in October 2003. I served as secretary of the UKAB from mid 2004 to November 2005. I was a member of phase 1 of the Systems Engineering Competencies working group and am leading the phase 2 activities.

I would like to promote the INCOSE UK Advisory Board as a conduit between the INCOSE UK Board and the member organisations for information exchange, identification of key systems engineering-related issues and access to executive management. To expand INCOSE UK membership and raise the profile of systems engineering I believe you have to win the hearts and minds of the executive management within our organisations because usually individuals will not attend INCOSE events unless their organisations support them financially.

At INCOSE UKAB meetings we aim to discuss priority issues related to systems engineering in the UK and advise the Board on industry trends and good practice, such that they can respond to the needs of systems engineers by focusing Spring Symposium and Autumn Assembly topics on particular areas of interest.



#### INCOSE UK Proceedings For Sale

We have proceedings from past conferences for sale, including:

- INCOSE International Symposium 1999 – Brighton
- UK Spring Conference 2006 – “The Best of British”
- UK Spring Conference 2005 – “Interoperability”
- UK Spring Conference 2004 – “Moving the Profession Forwards”
- UK Spring Conference 2003

We also have a limited number of the unique 10<sup>th</sup> Anniversary Mugs left over from the 2004 conference.

Contact Gordon Woods (Gordon.woods@incose.org) for more details or to buy a CD or Anniversary Mug.

## Around the Regions

### Rail Interest Group Event "Railway Systems Engineering in Action" 12 September 2006

Jon Elphick and Mark Irving, both from WS Atkins, delivered their presentation entitled "Railway Systems Engineering in Action" to the INCOSE Railway Interest Group on Tuesday 12th September 2006, at London Underground's 55 Broadway head quarters. The presentation covered the topics discussed in a paper they had previously submitted (and was subsequently selected as a Key Reserve Paper) to the EuSEC 2006 conference in Edinburgh.

The presentation used three recent case studies to describe a practical approach to the use of Systems Engineering, employed successfully by Atkins. Jon described how he and Mark came together to develop the Concept Design of Telecommunication

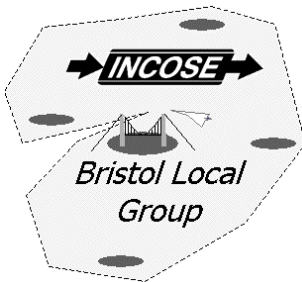
Systems for the new Jubilee and Northern Line Service Control Centres (SCCs). Initially a clear project plan was documented and an information model was prepared to describe how source documentation would be related to the plethora of project documentation. Jon then spent some time explaining the concepts of source documentation 'Triage' and the 'Tagging' of identified requirements. The Triage and Tag information generated by the project team was initially collected using Excel templates, then imported into a DOORS database. The database was then used as the basis of the Assurance Case to the client, demonstrating requirement traceability.

Mark reviewed the second project, where the client brief was to develop a Concept Design for the new Victoria Line SCC. The same basic approach was adopted, with improvements based on the lessons learned. Mark presented an example of how an argument is used to provide rich

traceability between requirements tags and design clauses. A comprehensive DOORS database was generated to host the collated data; this included the Triage of over 1300 documents and the generation of almost 3000 SCC system requirements.

Jon then presented the final case study - a non-rail industry project! The message here was that the approach was successfully implemented in the detailed design lifecycle stage of a computer control system - an airport baggage handling SCADA system. The approach has proven successful, with all three projects meeting client expectations. The approach did not add significantly to the cost, while it was believed to have contributed to an improvement in the quality of the designs in each case.

**Find out more about the Rail Interest Group and future events at:**  
[www.incose.org.uk/rig.htm](http://www.incose.org.uk/rig.htm)



### INCOSE Bristol Local Group

### Defence Industrial Strategy Event 27<sup>th</sup> September 2006

Hillary Sillitto, Head of the MoD Integration Authority and immediate past president of the UK chapter, gave us a stimulating talk on how Systems Engineering is the cornerstone of the UK's Defence Industrial Strategy. Only by systems engineering being practised in both the MoD and Industry can the real need, of bringing technology to the soldier under fire, be realised. "We are now at war," he said, and technology research and documentation needed to be kept in their proper place; the former outside of critical projects and the latter only in support of real actions. We also need a better way of measuring maturity of critical projects to encompass mission assurance (it's fighting

power) as well as product and delivery assurance. Effective metrics do exist, but are not often used.

Sharing with us not only published material, but also his current personal views, he invited comments right from the start and it wasn't long before a lively debate ensued. A good proportion of the 30 in the audience managed to have their two-penn'orth but we were still left with a lot to think about.

**Find out more about the Bristol Local Group and future events at:**  
[www.incose.org.uk/bristol.htm](http://www.incose.org.uk/bristol.htm)

### INCOSE Bristol Local Group "Decommission, Dismantle, Demolish, and Dispose of" 27<sup>th</sup> June 2006

As well as the fun of building new things, Systems Engineering also includes getting rid of old ones. This is nowhere more relevant than in the Nuclear Power industry where early reactors have now reached the end of their operational phase.

Whoever would have thought that the announcement to stop operational use of a system would lead to increasing the workforce, inventing new processes and ways of working, acquiring new skills and finding new vigor and enthusiasm. Certainly, the guys at Hinkley Point nuclear power station didn't think so three years ago. But, today, it is a very different story.

The Bristol INCOSE group had its annual outing to the restful Somerset coast, to find

an operation, far from restful, involving thousands of tons of earth, hundreds of container-loads of mildly radioactive materials and a quarter-mile long welded pipe all on a restricted plot of land with no free access to road or water. Of course, it doesn't look quite like in the picture, but the two reactor buildings, now clear of their 72,000 fuel rods, are currently planned to still be there in 80 years time when, with their radioactivity halved 16 times over, they will be safe enough to demolish without recourse to special handling.

But, as in all projects, plans could well change before they come to fruition. What doesn't seem will change (at least, not under the present management regime) is the way project managers and contractors work hand in hand, meeting every morning, with every contractor present, with 4 minutes of music to call the meeting to order and with contractors having their say

first. No wonder they can react quickly to changes in circumstances - like rescheduling, with only 3 weeks notice, the removal of 12 transformers, half of which weighed in at 110 tonnes, so that they could meet year-end financial targets.

**Verdict: A great evening out, with some great lessons learned.**



**The Intrepid Bristol Team at Hinkley Point Power Station**



## Events Calendar

### UML to Hardware: Bridging the Design Flow Gap – 22 November 2006

Chip Fryer is a novel tool developed at Loughborough University to bridge the gap between UML system level design and conventional hardware design flows. This INCOSE UK UML Practitioners Group meeting will demonstrate a prototype version of Chip Fryer. The event is hosted by the Midlands Local Group at the SEIC, Loughborough, and will be held in conjunction with the Loughborough Programmable Logic Interest Group. Details: <http://www.incose.org.uk/Midlands.htm>.

### Carrier Strike: Engineering Joint Air Power – 23 November 2006

This IET-hosted defence lecture will be delivered by Rear Admiral Nigel Guild, Senior Responsible Owner (Carrier Strike) at Savoy Place, London. Details: <http://www.iee.org/events/carrierstrike.cfm>.

### What is a systems engineer, and how do we make them? - 29 November 2006

Are systems engineers born or can it be taught, and what is a systems engineer anyway? This interactive workshop based event is hosted by the Bristol Local Group, and will give you the chance to air your views and join the nature vs. nurture debate. Details: <http://www.incose.org.uk/bristol.htm>.

### Soft Systems Approach to Railway Interfaces – 30 November 2006

This INCOSE UK Rail Interest Group event starts at 6pm at 13 Fitzroy Street, London, on Thursday 30 November. Sanjeev Appicharia of the Rail Safety and Standards Board will describe work to develop a methodology to define and review standards. Details: <http://www.incose.org.uk/rig.htm>

### INCOSE International Workshop – 27 to 31 January 2007

The annual International Workshop provides INCOSE members the opportunity to come together and collaborate on a broad range of current projects and new initiatives. The next workshop will be at The Embassy Suites, Albuquerque.

### A Year (and a bit) in the life of MODAF – 31 January 2007

MODAF has been with us officially since September 2005. This Bristol Group event on Wednesday 31 January 2007 will provide a mixture of retrospective case study material, and attempt to define the place of MODAF within the architectural frameworks community.

### Systems Engineering for Future Capability – 12 and 13 February 2007

The third Systems Engineering Conference to be held at the SEIC, Loughborough, will focus on contributions from military and civil sectors in support of future military capability. Previous conferences have been by invitation only – this conference is open to all. Details: [www.seic-loughborough.com/conference](http://www.seic-loughborough.com/conference).

### INCOSE UK Spring Conference – 18 to 20 April 2007

The next INCOSE UK Spring Conference is scheduled for 18 to 20 April 2007. The theme is "The future of systems engineering – is systems engineering evolving to meet it's new challenges?" Details: <http://www.incose.org.uk/Downloads/sc07-flyer.doc>.

### INCOSE International Symposium 2007 – 24 to 28 June 2007

Mark your calendar for the INCOSE 2007 International Symposium, 24-28 June 2007 in San Diego, California, USA. The theme is *Systems Engineering: Key to Intelligent Enterprises*. Details: <http://www.incose.org/symp2007/>

**Preview** is the Quarterly Newsletter of the UK Chapter of **INCOSE**, the International Council on Systems Engineering. All INCOSE UK members receive a copy of Preview, in addition to the 3-weekly e-mail bulletin **ePreview**.

Original articles, letters, thoughts or views on Systems Engineering in the UK and worldwide are welcomed. The Spring Edition of Preview will appear during February 2007. Contributions should be sent to the Editor at [simon.hutton@headmark-analysis.co.uk](mailto:simon.hutton@headmark-analysis.co.uk).

Alternatively write to Headmark Analysis, 8 Inglewood, Barrow-in-Furness, Cumbria LA13 9UN.

The deadline for the Spring Edition is **1<sup>st</sup> February 2007**.

If you have an event you would like to have publicised to the UK Systems Engineering Community through Preview or ePreview, or wish to contribute an article, please contact:

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