advancing systems engineering

preview

International Council On Systems Engineering UK Chapter Newsletter

In brief

Logo competition

Bob Dale receiving his prize from Prof. Derek Hitchins

For those of you who unfortunately missed the Spring Conference in Tewkesbury, here are the results of the Logo competition. The designs were anonymously sent to the UK Chapter Board members who independently voted on each design. John Mead collated the votes and the clear winner was Bob Dale, whose entry, strangely enough, was "if it ain't broke don't fix it" – keep the Logo as it is!

Bob was awarded a signed copy of Derek Hitchin's latest book, presented by Derek himself at the Spring Conference.

The UK Chapter Board will be considering the whole issue of the Logo and re-branding of the UK Chapter over the next few months to coincide with the 10th Anniversary Event in September.

We would like to thank all of you who spent time to design a logo for the competition.

INCOSE founders award for Allen Fairbairn, UK Secretary

Allen Fairbairn, the UK Chapter Secretary, has been honoured with an INCOSE Founders Award, to be presented at the Opening Plenary of the 2004 International Symposium in Toulouse. I am sure you all would like to join me in congratulating Allen for this achievement and thank him for all his efforts in INCOSE activities.

Spring conference

This edition's featured item is the UK Chapter's Spring Conference, see pages 4 and 5.

Conference delegates: heads down in the ballroom

Printing and distribution of Preview is kindly sponsored by University College London's Centre for Systems Engineering

in THIS ISSUE

Please email your news and views to d.cowper@ucl.ac.uk
www.incose.org.uk

In profile - Hillary Sillitto, President Elect - INCOSE UK

In a last minute change to the scheduled "In Profile" on John Mead, Administrator, INCOSE UK. Hillary Sillitto has kindly stepped in instead.

I joined INCOSE around 1996, when I was developing the systems engineering philosophy and approach for what is now the Thales Optronics business in Glasgow and Staines. Having studied Physics at St Andrews, I started my career at Ferranti in Edinburgh, which was a fantastic education in engineering. I did an Applied Optics MSc at Imperial, where I learnt computer assisted optimisation of lens designs - a real tightly coupled "system" problem, since the quality of every part of the image is affected by the shape of every lens surface. I worked on all sorts of electro-optical systems, many of them novel and innovative, as optical designer, optical engineer, team leader and systems engineer. From around 1990 I was the Chief Engineer System Concepts for the electro-optics department, doing a lot of work on the precursors to the current IRCM programmes. In 1993 I moved to what is now Thales Optronics, working on "system concepts" and systems engineering techniques for land, naval, air and automotive systems (don't ask!). I got very interested in re-use and product line architectures, and in how to apply systems engineering techniques in a way that enhance or focus innovation rather than the reverse. I became involved in the Thales Systems Engineering network around 1997, and represented the Optronics business in the corporate Systems Engineering Steering Committee for several years. Around 1999, I was appointed Chief Systems Engineer, introducing DOORS to the company, and then became Chief Engineer of the company around 2001. For the last 18 months I have been seconded to Thales UK Corporate as Engineering Director for Prime Contract Support. I led a team developing engineering processes for prime contracting, and continue to assist and review prime contract programmes - for example as a member of the joint Thales/BAE SYSTEMS phase and technical review teams for the Future carrier, and several other really interesting programmes. I'm also now involved in delivering our international in-house training programme for prime contract teams, and in a small process convergence working group looking at aligning engineering processes across Thales' new worldwide divisional structure. I have been in the Institute of Physics for longer than I care to remember, sat on the Scottish Branch committee for many years, and they kindly made me a Fellow last year.

What existing INCOSE products do you find useful in your "day job"?

I hate to say this, but in terms of formal working group outputs - none! Though there are some really interesting ideas coming out of the IEWG, and some lovely ideas in a draft document that Jack Ring and a small team will be publishing at Toulouse. I devour "Insight" and "Systems Engineering" the moment they come through the letter box, there are always really useful nuggets in them.

What additional products would you like to see developed?

A "Bart Simpson's Guide to Systems Engineering" - targeted at people who don't even have time to download EIA 632 or 15288, never mind read them. Something you can show your boss or accountant, and use to sell systems engineering to students, politicians and technical directors of 10-man SMEs.

How do you see these products being developed and how would you encourage the members to participate in the development?

I'm exchanging ideas with Dipesh to see how we can revitalise working groups. Working groups need to have a clear short term objective. Small teams work best because you get commitment and a bit of staying power, yet anything intended to be an INCOSE product needs to have wide stakeholder input and buy-in. So I'd like to see us making much more use of conferences and assemblies to "blitz" the development and validation of real INCOSE products with a wide cross-section of the membership, with a small, focused core team to refine, develop and stabilise the "product" in between times.

If there is one thing about the UK chapter you would like to change, what would it be?

We need to be much better at making the business case for systems engineering - and then, having made the case, accepting responsibility for delivering the business benefit we claim we can offer. Systems engineering has got to prove that it can deliver in the real world. While we all have our favourite programme manager jokes, I imagine they have feelings too! If we want to have fun developing real systems that solve real problems and cost (other peoples') real money, we will never get away from accountants, CEOs, programme managers or politicians - so we have to factor them into our thinking, talk their language, and accept them as legitimate stakeholders and team partners.

When you take over the presidency of the UK Chapter, what challenges do you think you will face?

First, I think Paul and Phil have done a brilliant job stabilising the Chapter - establishing UKAB, the agreement with IEE, the better newsletter, and this year's Spring conference with the excellent new membership figures. That may be difficult enough to sustain - but we have to build on it.

I think there is one fundamental issue, with several knock-on ramifications, that up to now we have not had to really address except by default, but that we can't put off much longer. It's about whether systems engineering is a restricted profession or a widely shared skill. This defines our recruiting base and strategy. Do we want to certify or charter systems engineers, and if so can the current certification scheme be transplanted to this side of the Atlantic? This initiative is a major plank of current INCOSE strategy, yet I know several people whose opinion I take very seriously who will have nothing to do with it, and I assume want us to go in a completely different direction. One reason for their concern (I think there are others that we need to understand) is that certification is based on the INCOSE SE handbook, which is an excellent document but still (at Version 2) pretty DoD centric. We need to decide as a chapter whether we can live with this, and if not, whether we can provide enough direction and resource to contribute to an acceptable alternative.

It is a matter of concern hat the UKAB is I think still entirely "defence and aerospace" whereas we aspire to a much broader appeal.

This brings us to the "systems engineering or engineering of systems" debate. As a Hitchins disciple, working for a company whose systems engineering method is based on EIA 632, I honestly believe we need both. We certainly want to build on the UK's "holistic systems" heritage, and if we can put the 10th Anniversary Dinner together the way we hope, that message will come across loud and clear.

The bottom line is - can we grow our membership to a level that will make people take us seriously as a professional (or otherwise influential and widely respected) body in this country, and make a difference to UK PLC? There are a number of different ways we might try to do that, and some might be mutually exclusive. Do we push for certification and chartering? Do we try to "infect" every engineer with a bit of systems thinking? Can we do both?

First and always, we need to make sure we are becoming steadily, day by day, more useful to our existing members. Then we need to attract and retain new ones. And we also need some serious strategic thought about our future direction.

If you have a question you would like answered by our panel of experts or a point of view you would like to share with Preview readers then please send to:

d. cowper@ucl.ac.uk

or write to:
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c/o UCL Business
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London WC1E 7HN

In profile next time, John Mead, Administrator, INCOSE UK

President's corner

This is the first newsletter we have issued since our Spring Conference was held in Puckrup, near Tewkesbury, a few weeks ago. The event was very well received by the many members who attended and it was very pleasing to see such a good turnout. Those present certainly got involved in the proceedings, with lively question and answer sessions, not to mention the discussions going on in the bar and restaurant afterwards. We had an excellent set of tutorials on the pre-conference day and two days of high quality papers during the conference itself. The Keynote Address was by Prof Derek Hitchins, the founding President of our Chapter, who spoke about *Systems Engineering: Past, Present and Future*. It was great to see Derek on such good form and in such good health. Lester Waugh of EADS Astrium treated us to an excellent after dinner speech that was both entertaining and thought provoking and provided a real insight into the Beagle 2 space programme. I would like to thank all the speakers for making it such a valuable event and for giving us all the benefit of their systems work and experiences. Several people commented that the quality of the "systems debate" exhibited by the papers was very high indeed and this demonstrates that INCOSE, and systems engineers in the UK in particular, are moving the discipline forward very successfully.

The event saw the introduction of a new award. As part of our policy of encouraging involvement in the Chapter, the UK Board has set up several new initiatives and one of these is an award for "Best Paper" at our Spring Conference, with a £100 cash prize (and a certificate!). The winner is decided purely by the voting slips submitted by the members attending and I am pleased to announce that the first winner of the award is Paul Davies of Thales Airborne Systems … who is of course the Immediate Past President of the Chapter! Congratulations to Paul, whose paper on *Ten Questions to ask before opening the Requirements Document* was universally praised. Another award was also announced at the Conference: the result of our Chapter Logo competition. We received several entries and the UK Board members cast votes in a fair ballot. The rather unusual winner was the entry that suggested that we retain our existing logo ("if it ain't broke, don't fix it") and Bob Dale of MBDA received a signed copy of Derek Hitchins new book "Advanced Systems – thinking, engineering and management" as his prize.

We have also set up a scheme through which student members can apply for some financial support from the Chapter to attend the International Symposium. Details are available from Doug Cowper. I hope to see many of our UK Chapter members at this year's International Symposium in Toulouse from 20th to 24th June, which promises to be a very stimulating event.

We are progressing with plans for our Chapter's tenth anniversary event in the autumn, probably linked to our Autumn Assembly. Please keep an eye open for the details and do your best to attend … it will be a very memorable occasion and we hope to have some very exciting speakers at the grand dinner.

I look forward to seeing you at Toulouse, at our Anniversary Autumn Assembly and at future INCOSE events in the UK and around the world.

Prof Phil John
President of the UK Chapter

Events calender

JUNE

3rd June 2004	17.30, London Local Group "Practical Case Study of Verification and Validation". Network Rail, Eversholt Street. Email: d.cowper@ucl.ac.uk
20th - 24th June 2004	14th Annual International Symposium & 4th European Systems Engineering Conference - Toulouse, France www.incose.org/symp2004/

JULY

13th - 14th July 2004	Introduction to UML, IEE Systems Engineering PN Trianing Course, Hotel Russell, London UK Tel: 01435 765647

Planned events:

London local group
September 2004 — London Local Group Requirements Workshop by Praxis Critical Systems, venue TBC

NOVEMBER

8th - 9th November 2004	UK Autumn Assembly
Mid Nov 2004	Local London Group "Systems Engineering Management Plan Workshop" venue TBC

Spring conference in colour

This year's Spring Conference was held at the Hilton Pukrup Hall Hotel in Tewkesbury, Gloucestershire. For those of you who missed the event, it included a key note address from INCOSE UK's founding President Prof. Derek Hitchins, a full programme of SE topics and an entertaining after dinner talk from Lester Waugh from EADS Atsrium about his Beagle 2 trials and tribulations.

During the event the INCOSE UK board also held a joint strategy meeting with the UKAB (advisory board). Topics on the agenda ranged from future events to membership (both individual and corporate).

Copies of the proceedings are available on CD from John Mead for a small investment!
john.mead9:ntlworld.com

SE networking over coffee

A learning experience at the spring conference

Jocelyn and her Thales team about to hit the town!

For the third year in a row I found myself organising the Tutorial day at the Spring Conference. It is always something of a nail-biter because we never know until the very last minute whether enough registrants will sign up for each tutorial. This year was better than most thanks to the early issue of the event brochure which meant that we received the first glimmers of interest nearly 8 weeks before the event.

Was it a good year for Tutorials? Certainly in terms of quantity and quality of offerings, we had a bumper year with several new proposals as well as some old favourites. It was necessary to downselect to a sensible number to offer in the event brochure for the first time that I can remember. We were up on last year with 40 registrants as opposed to 29, however the distribution between tutorials was uneven. The most popular two tutorials accounted for 28 registrants, with the other three sharing the remaining 12. The two half day tutorials didn't run because they did not attract any interest.

Were new offerings preferred to old? The most popular tutorial was *Real Time UML for System Engineers* from Matthew Hause and Francis Thom of Artisan, with a record 16 registrants. This was the fourth time that this tutorial had been presented. The next most popular was From *Problem Space to Systems Solution* presented by Prof Derek Hitchins, and this was the first time of presentation. Clearly novelty is not essential for success.

Were the efforts of the presenters appreciated? Of the 29 Tutorial Questionnaires returned (a 72.5% return rate), an overwhelming majority felt that the tutorial had met their expectations and that they would recommend the tutorial to others. With the technical aspects of the tutorials averaging 6 out of a possible 7 on the marking scale, we can assume that most of the customers were fully satisfied.

What will be different next year? The poor take up of half day tutorials this year and last year makes me think that they are not really worthwhile offering in future. I am not sure what the reasons are - possibly the perception of a lack of depth, or the thought of "wasting" the other half of the day. Early attention to marketing the tutorials seems to have paid off in terms of increased numbers, but I still think that more registrants could be found. If anyone has any views or suggestions on tutorials then I will be pleased to hear from them and endeavour to improve the breed for SC2005.

Will you be taking a tutorial next year? I certainly hope so. The questionnaires reveal that if you haven't taken in a tutorial before, you should. They are a truly worthwhile learning experience.

Peter Lister
Siemens Transportation Systems
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SC 2004 how was it for you?

This is my usual report on the information that you fed back in the conference improvement questionnaire sheets of which we had a record number. It does mean that some poor mug, or willing volunteer if you wish to do it next time, has even more to do. We could do a percentage of course but we never do. Every one of your feedback comments are read, entered into an analysis document and each Board member given a copy. Before I do the analysis let me first tell you "How it was for me!"

Having been recommended this venue some years earlier and having tried to book it for a number of events it was always booked which indicated that it was popular, however this time we started earlier and managed to acquire it. Concerns I had, as one always does was not about the ability of Hilton to produce adequate food, but is it the right size to accommodate the number of delegates that will turn up in 4 months time and would the exhibitors be happy in the rooms surrounding the ballroom? The hotel would only hold bedrooms for us until 6 weeks before the event a time at which we frequently have no bookings at all. We had done our absolute best to get the brochures out early in order to ensure people had plenty of time to book and it was really encouraging when a small number did book straight away. However our attempt to close bookings a week before the start in order for Support Shop to produce accurate lists of attendees, print off the correct number of hand-books and deliver them, badges, attendee lists etc just did not work. It was totally ignored by many and the last minute rush up to the final Saturday was not an exercise we

plan to do again. I visited Support shop on the last Friday morning, to support them, and the lady who controls all these things was looking very hassled and you can imagine the response I got to, "How many are coming?"! She was tearing her hair out. Even I was described as an ogre by one lady who rang with a last minute booking on Friday afternoon, although it felt to me as though it was the hundredth last minute booking of the day.

When the full information on tutorials, programme, venue, prices etc to book had been available for 6 weeks! Why wait to the last day before booking? Of course it meant virtually all weekend working again.

If Douglas Cowper can get his registration form in on 1st March why does it take several of you until 24th April and a couple until 26th 9and numbers were still changing daily)?. I suspect all of this was a

serious contributing factor in the difficulty the hotel was having in providing adequate food. When I finally gave up on Monday in trying to keep up with the numbers coming and asked the hotel to cater for 100 attendees for each of the following days I suspect that the message did not get to the kitchen although it apparently reached the accounts department. As far as I can recall the

Peter eliciting feedback from Tutorial delegates

lunch on Monday was fine and none of you complained about it.

Next time, if the Board agrees, we will close the booking some days before, and keep it closed, not to save the Support Shop and I all the hassle but to ensure that those who do get organised and book in time get a proper service and the food etc that they have paid for.

Even exhibitors like to know how many are coming before they decide how many staff to send and can never make their minds up until the last minute - and they all want feeding as well.

And how was it for you? –Well there was a great deal of support for the whole event, 137 –ish attendees, a higher quantity than before and higher quality in just about every department. There were only five people who considered it expensive, none that considered it cheap. No surprises there then. If I jump to your impressions

weeks.

What did you like best? As far as event content there were several compliments on the Tutorials in the questionnaire, but Peter will report on those separately as there was a specific question sheet. Every one had good things to say about presentation content –"the high quality of presentations" or similar was probably the most repeated response with special reference on many occasions to Derek's keynote, Paul's award winning paper, Beagle 2, and the after dinner speaker Lester Waugh. The Requirements and Tools sessions were most highly acclaimed. The location also came in for many compliments.

Things that you did not like:– obviously the Tuesday morning debacle and the lunch. Some said lunch arrangements: I suspect this means the way the buffet was run rather than the fact that it was a buffet because this has been by

vided space for we decided to provide classroom style and this was the first time that nobody had a chair problem. So even though it was a fairly late minute decision we felt we just had space to get you in and provide you with table space etc. We did have last minute additional folk say 10-ish and this meant that you were pretty close together. Would those that were cramped have preferred to have no table? It was tables that took up the more than adequate space for 100 theatre style. Space for 200 theatre style the hotel claims.

What topics would you like to see at the Autumn Assembly? One rapidly forms a view of what is flavour of the month when you read these responses. This year it is "Risk Management" that leapt out at me. The SEPDC will have to go through these more closely but if you are a risk management fan you might like to start producing a paper or point to some expert that we might invite along?

There were many useful comments in response to "Please comment on any of our events and this one in particular." I will précis a few of the repeated topics: Poor lunches - where are all our academics? – still discussing the same topics as last time I came - Clearer separation of " methods and process" & "tools"- review the exhibition – Lunch in the exhibition hall – involve other disciplines - more Railway papers please etc.

I repeat the following for obvious – if selfish – reasons. Well organised conference – Thanks - the room layout was good, it made it easier to follow the presentation and take notes, and - conference room layout was a bit cramped.

Lester Waugh entertaining us all with the Beagle 2 story

What we did not get was -Why no CD? I guess you all had the message that when available you will be sent a copy.

Or any comment on the handbook: except – we should have been given all the timings in advance: from one who had recently changed his address and not told us, and one who booked on the last but one day.

I did not recognise a response from an exhibitor although I asked for them specifically as I knew some were unhappy, but had several verbal comments that they all wanted to be in one hall with the lunch and we know that this is the preferred approach. We cannot make people talk to you whether in one hall or several but hopefully people did finally make time to visit you.

I hope that you were one of those who clearly did enjoy it, and thought it time well spent.

John Mead
UK Administrator

Kuldeep, Doug and Paul Cooper planning a future London Local Group meeting

of the hotel there were small numbers who judged it "Excellent" in every category, even catering. I was amused by the delegate who in answer to the question elsewhere "What did you like best about the event?" replied Breakfast! Every category except catering had more "good" responses than any other. Catering had 20 "good" and 21 "adequate", and catering was the only one to receive "inadequate" responses and I must say I do agree. However I do have some sympathy with them when the numbers went up so rapidly towards the end. I suspect that the final word on numbers may not have got to the kitchen.

Thank you for your patience on Tuesday morning when they totally failed to meet the contracted commitment on set up of the conference room which they had had (except for numbers) for

the far

the preferred arrangement in the past but the poor lad who had to set it up was clearly not up to organising two or more serving positions. This was bad and so was the second course which turned out to be "Fresh fruit basket" some of which clearly was not, and cheese board and celery, on the middle day. I do not recall seeing this? There were quite a few who, contrary to earlier events where longer breaks have been requested thought they are now too long –so obviously we got that wrong and I am sure I can promise that they will be shorter in future. Yes there were some comments on conference seating. Throughout INCOSE UK events we have always had theatre style seating and always had complaints about the chairs from someone. However when the numbers attending the Autumn Assembly did not reach the numbers that we had pro-

Teleogic enjoying a busy exhibition

Workshop on Systems Engineering Standards:

Architecture Frameworks (DoDAF, MoDAF, etc.)
AP233 – Future ISO Standard for SE Data Exchange
SysML™ – UML™ for Systems Engineers

Bath (UK) 7th July 2004
(in conjunction with ISO TC184/SC4 Meeting)

Keynote Speakers:

Capt. Bob Leeming, RN – AD Logistics Process, UK MOD
Truman Parmele - Chief Architect, NII, Office of Secretary of Defense, US DoD
Jim U'Ren – NASA Jet Propulsion Laboratory

The aim of the event is to provide the attendees with good overview of the three standards, and how they can be used together. Presenters will provide brief tutorials on each of the standards, and describe how the standards are planned to be used by their organizations. Other presentations will look at how the standards fit together and the advantages of combining them. The presenters include recognised experts on each of the standards, and business people who have seen the benefits of using them. There will also be a panel session, discussing the standards and fielding any questions from the audience. Software demonstrations may be possible, time permitting. The workshop will commence at 9:00 and is scheduled to finish by 16:00

Programme:

- **The DoD Architecture Framework** – Truman Parmele, US DoD
- **AP233 in the MoD –** Capt. Bob Leeming, RN, UK MOD
- **SysML Overview** – Alan Moore, Artisan Software
- **The AP233 Project** – Jim U'Ren, NASA JPL
- **The Realities of SE Data Exchange** – Simon Hutton, 3SL
- **SysML and Product Structures –** Roger Burkhart, John Deere
- **The MOD Architecture Framework** – Cdr. Bill Biggs, RN – UK MOD
- **UML-Supported System Verification** – Harald Eisenmann, EADS Astrium
- **Integrating AP233, SysML and DODAF** – Ian Bailey, Eurostep

Programme may be subject to change at short notice

Cost is £130 for the day, inc. lunch. There is also a social event on the evening of 6th July (£55).
Register at: www.bath2004.co.uk

Editor's note

This edition's feature is, naturally, the spring conference. Preview has covered special features like book reviews and tax credits for R&D and we would be interested in other topics you would like covered. Please send us any suggestions and even better how about contributing an article or two!

Preview is coming up for its first anniversary – time flies when your having fun! I would welcome any comments or suggestions regarding the format and please can I urge you to send in your letters and questions.

Doug Cowper
Editor, Preview

CDs for SEs

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We have a number of CDROM gathering dust and are keen for you to take advantage of this.

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Please send cheque (payable to INCOSE UK) and delivery details to
John Mead, 20 Beehive Lane, Binfield, Berks, RG12 8TU

Around the regions

London

The London Local Group steering committee met on the 1st April to formula the groups forthcoming events. The meeting reviewed the draft programme from the last meeting and agreed the following programme:

3rd Jun 04 "Practical Case Study of Verification and Validation", Network Rail, Eversholt Street

Sept 04 "Requirements workshop" by Praxis Critical Systems, Praxis Offices in London, Location and time TBC.

Nov 04 "Systems Engineering Management Plan Workshop" venue TBC

The meeting also considered other events from previous meeting:

- "Heathrow's Terminal 5" BAA, Victoria TBC
- Hosting the Olympics as a logistics exercise
- Systems Security – not just IT but security in the face of terrorism
- Workshop for project managers – Why is Systems Engineering Important?

The meeting agreed to take actions on these topics and venues and review them at the next meeting.

Doug Cowper
University College London
Centre for Systems Engineering

How do you get involved with regional activity?

Are you looking to participate in local INCOSE activities?

or

Are you looking to set up a regional group?

For more information about regional activities or how to go about setting up a regional group, please contact:

John Mead on 01344 422325
or   email: john.mead9:ntlworld.com

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