



INCOSE UK Newsletter

MG from Abingdon! Viva (from) Las Vegas!

To begin with let me apologise for the really quite badly structured and factually incorrect punning in the title (well you try to squeeze Las Vegas and Abingdon into one title, suggestions gratefully kept to yourself, thanks). Anyway, on with it:

Abingdon is where we are for this years Autumn Assembly, same venue as last year. Our administrator, John Mead, has written a couple of articles concerning this event.

Las Vegas is where the recent international event took place and we have an article from our SEPDC chair, David Wright, on that.

That's Abingdon and Las Vegas (briefly) taken care of, the rest of the title is quite dubious and probably best forgotten. All I will say is that half of the title is right and the other half wrong but if you don't know which then you probably don't work in the automotive industry.

Other newsletter related business: Ladies and gentlemen it has occurred to me over the course of the last couple of issues of the newsletter that I don't receive a lot of material from the main body of the membership, especially technical articles. Now it may be that your thoughts are directed towards publishing in Insight, which I can fully appreciate, but why not try out a few ideas on our home members first? Let's see if we can stir up some discussion between our twice-yearly events...

On a different note altogether there are elections coming up. These elections are for the Region 3 (Europe) membership directors. These are the people that, as part of their role, relay chapters' and members' concerns to INCOSE central office. For the past couple of years, since Peter Brook held one of the posts, we, the UK membership, have been accused of not fully supporting our representatives in the international INCOSE arena.

Bearing this in mind I think it would be appropriate to put our collective vote behind any British applicant to the position. I think it's time to get our voices heard, we are after all among the four biggest chapters in the world.

Guy Tugwell CMC Chairman

President's Corner

When I took over as President of the UK Chapter in November last year, I made a presentation about my ideas for inclusion of Corporate Members in the running and sponsorship of the Chapter, to help facilitate moving forward the Systems Engineering capability of UK plc. There was quite a lot of interest and follow-up questioning, including requests for updates on progress through the Newsletter. At the dinner afterwards (or possibly in the bar), one member (you know who you are!) also suggested strongly that I had a 'master plan' up my sleeve and tried to elicit details. Of course, I had a few ideas, which to be fair were little more than extensions of a strategy document that my predecessor, Pete Lister, had put together early in 2000. I also had some numbers in mind, but I didn't want to publish them too quickly in case the next 6 months made me look stupid.

However, those 6 months have now elapsed, and the numbers don't look unattainable, so here are the objectives for my term of presidency, all to be achieved by the end of 2003:

- 1 Introduce and maintain a scheme of Corporate Membership of the UK Chapter, involving a small amount of sponsorship, but more importantly a recognition of its importance and a commitment as far as possible to funding of manpower to provide work products for the common good. Target: 10 members. Progress: we have 3 companies who have agreed to this in principle, with a few minor details to resolve. If you think your employers might be interested or approachable, please contact me or

Please send any contributions to this Newsletter to The Editor INCOSE UK Newsletter, Guy Tugwell, Brass Bullet, Pemchurch Chambers, 30-32 Cradock Street, Swansea, SA1 3EP
Tel: 01792 417227 Fax: 01792-558729 e-mail: guy@brass-bullet.co.uk

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John Mead!

- 2 Target: Increase of individual membership to 600. Progress: this is quite difficult as membership numbers are cyclic throughout the year. However, Pete Lister has created a model of this, and current numbers have been meeting the model predictions for the last 6 months. I am hoping that the introduction of corporate membership will stimulate an increased willingness to fund individual membership.
- 3 Target: sufficient capital to be able to fund events of interest to the members without needing to solicit sponsorship in advance. Progress: we have already achieved this. We are now looking for ideas on how we can use the surplus to further the promotion of Systems Engineering in the UK, for example through funding collaborative work with relevant universities, or other professional bodies. We still don't have that kind of capital, but with corporate membership (and corporate involvement in objective-setting) I have high hopes for the future. Any ideas in this area would be welcomed.
- 4 Target: build a synergistic relationship with other professional bodies, particularly APM and IEE (the Professional electronic Network on Systems Engineering, PeNSE). Progress: we have appointed a liaison with IEE (Stuart Arnold) and are just starting to work towards a scheme for SE certification. We have also contributed to a joint event with APM and ACM (Association for Configuration Management).
- 5 Target: create a set of agreed SE 'core competencies' to be recognised by SE employers and used as a basis for further education and continuing professional development in the UK. Progress: we have appointed an academic liaison (Doug Cowper of UCL) who has held talks with representatives of other universities and with the interested representatives of the National Advisory Council (NAC) on Systems Engineering. We hope to achieve much more once a caucus is formed from the UK Advisory Board corporate members.

I will report further progress to the membership regularly through this newsletter. Any comments, queries, or criticisms are welcome – as are offers of help!

Paul Davies

3rd European Systems Engineering Conference (EUSEC), Toulouse 21st - 24 May 2002

This event took place more or less in the centre of Toulouse, at the Pierre Baudis Congress Centre attached to a hotel. 36 papers were presented in 2 parallel tracks

as well as the usual plenary sessions. Mostly these were from France (as host nation) and Germany, with a fair few from the Netherlands and a smattering from UK, the USA and Israel. In fact only 1 paper was recognisably uniquely British, which was rather disappointing. I guess that restrictions on UK travel budgets are really biting at the moment.

Anyway, the conference was well worth attending, the catering and hospitality was excellent as one might expect from France, and all in all bodes well for the INCOSE International Symposium in 2204 which will be held in the same venue, organised largely by the same people. Particularly memorable papers were:

- Bill Schoening's (Boeing) opening paper on 'Solving the wrong problem' – brave man, putting himself on the stand first in the home of Airbus!
- A paper on competence assessment from Philips in Holland,
- One on implementing SE in new developments in railway projects (Railinfrabeheer in Holland, which won a best paper award),
- One on adoption of CMMI do's and don'ts from Q-Labs in France,
- [Especially] Jean-Philippe Lerat, a French consultant, on application of Bayesian belief networks in architectural trade-off studies and solution selection
- Rob Hamman from the University of Delft on Risk Assessment,
- A BAE SYSTEMS paper (hurrah!) on development of a new pre-development process.

I suspect that CD-ROM's of the proceedings will be available from AFIS (the French SE equivalent organisation affiliated to INCOSE), but I can't see an advert on their website (see www.afis.fr [in French!]), If anyone is interested I would recommend an email to their administrator, Michele Kolmayer (afis@afis.fr) who speaks good English – and don't worry, the proceedings are all in English!

This was truly a pan-European effort, with technical track organisers and paper reviewers from all over the continent, and slightly beyond - the Technical Chair, Michael Winokur, is from Israeli Aircraft Industries. Here's a picture of the closing ceremony: Heinz Stoewer, the INCOSE President-Elect, and who speaks Bavarian, German, French, Dutch and English fluently, is shaking hands with Luc Garnier of Dassault Aviation, the President of AFIS – they shared the overall responsibility of putting the conference together.



Paul Davies

Autumn Assembly in Abingdon

This year we are returning to the Four Pillars hotel on the outskirts of Abingdon –a venue that many of you rated highly on our last visit. The hotel is situated just off of the A34 between the M4, M40 and M5 just South of Oxford. Access from the M4 Junction 13 is the easiest giving rapid access from London, Bristol or even Wales!

The hotel has 62 en-suite bedrooms, which is not enough for you all so as usual it is first come first serve. Book early or walk / ride up the road to other local hotels. When booking mention that you are attending the INCOSE conference and if you are also attending the conference dinner they will knock £10 off of your bill at the end.

Their conference room also has a limit, which we have not broken before, but should there be a rush those who book first will be assured of a place. I recall that several of you arrived on Sunday for the last event there, and it is useful to know if you are doing this and available and willing to assist with set up tasks or registration rush on the Monday morning.

Autumn Assembly Flyer

The more people that become members and attend our events the easier it is to keep the price down, or if preferred, book better venues. So that you can assist us in this we have enclosed a small number of flyers which

are designed to promote INCOSE to potential members and on the other side to promote the forthcoming Autumn Assembly.

Please use these as posters on the notice board, or anywhere that it will be seen, or hand them out in your organisation or even post them to others that you think could or should be interested. Not only will it improve the economics if successful but it will also give us a wider set of opinions and experiences to learn from.

We know that it works – a new member at one event filled in the questionnaire to say that the marketing was not good. He had just found the application form on his desk otherwise he would not have known about the event! Please make good use of them!

PERSONAL NOTES FROM LAS VEGAS

First impressions on arriving in Las Vegas were dominated by the heat. It was early evening under a clear sky and the temperature was just over 40C. At least in this desert climate the humidity is low. The taxi ride to the Riviera hotel began to reveal the nature of this city as we passed the enormous casino-hotel complexes. The Riviera, where the Symposium was being held, has several thousand rooms in a number of tower blocks, all serving a huge conference area as well as the obligatory a large range of gambling rooms. You enter the hotel from Las Vegas Boulevard (“The Strip”) and carry your luggage past literally hundreds of one-armed bandits, video poker machines, and card tables, all brightly lit and

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The character of an INCOSE international symposium quickly asserted itself. Within two hours of arrival I had met two other delegates from UK, and two friends from the US who I had met at previous events and have continued to correspond with since then. Then we met up with one of the Australians who had just arrived with his wife and we immediately recalled the very successful Melbourne event last year. Many delegates at these events attend every year and often try to bring their wives with them. Friendships are established quickly. Partly this is due to the common interest of Systems Engineering but, prompted by the friendly reception given by the host chapters, the atmosphere is invariably friendly and welcoming.

The Symposium is not just about the technical paper and panel sessions. A great deal of routine business is completed when so many INCOSE members are gathered together in one place. On Sunday, I attended a meeting of the Chapters Committee with presidents or representatives from most chapters across the world. We discussed many issues and worked on a number of ideas to promote more effective Chapter administration and exchanged good ideas for running events and recruiting new members. We also heard of the US initiative to support and sponsor the National Engineers Week, and this prompted me to think about how we might do something similar in UK.

Monday is traditionally tutorial day. This year there were half and full day tutorial sessions covering all manner of subjects. Perhaps the most interesting innovation was the free tutorial session on System Engineering Fundamentals, which drew an audience of 187 people. Running in parallel was the Academic Forum, drawing on students and professors from universities around the world. The subjects discussed were Learning SE, Academic Accreditation, Supply Chain Networks, and “Is SE Evolving Fast Enough”. A new Academic Council is being considered and a group has been established to work on this idea. Monday also sees the Icebreaker Reception, which coincides with the exhibition hall being opened. This was an excellent event, made all the more memorable by 6 very tall and glamorous show girls who mingled with the crowd and were photographed with the delegates - a typically Las Vegas touch.

The Symposium properly got under way on Tuesday with the Opening Plenary. John Snodderley, the INCOSE President, addressed the meeting and mentioned some of the highlights of the past year. Three new chapters have been formed, the US National Security Agency has joined the Corporate Advisory Board (CAB), Version 2 of the SE Handbook has been released and is now available on the members' web site, and a new Terrorism Interest Group has been formed. He also revealed an ambitious vision for the organisation over the next 30 years, including the desire to have 20 to 50 thousand members in 30 countries, and for the organisation to be recognised for dealing with really challenging world problems through the application of Systems

Engineering. This was followed by a videotaped interview with Simon Ramo (the “R” in TRW) which was both interesting and thought provoking. The full tape is being made available for Chapters to show to members. Peg Billson from Honeywell then gave us her thoughts on Systems Engineering in the modern aerospace industry. She discussed the changing nature of the industrial supply chain and the challenges companies face in moving up the chain to deliver ever more integrated systems. She made much of the Design for 6 Sigma initiative and encouraged us to adopt it alongside traditional Systems Engineering to ensure high quality delivery first time. She also suggested that technical development should have a far greater focus on business opportunities, rather than letting scientists have free rein in conducting bottom-up research. Finally, John Snodderley presented an INCOSE Pioneer Award to Dr Andrew Sage, the author, academic, and current editor of the Systems Engineering Journal.

The next activity for me was somewhat unexpected, as I was co-opted by two American friends to attend a meeting on the subject of certification for Systems Engineers. This is a subject that has been high on the CAB agenda for a number of years, and a recent survey of members showed that 73% were strongly supportive of the idea. Certification was described as a voluntary process of confirming a level of proven ability in the discipline, and INCOSE were intent on making this step on a truly international basis. In discussion, the US participants quickly realised that a number of different regimes and initiatives already existed in member countries, and these should be captured and considered as the initiative was developed. A presentation had been made to the CAB and Board of Directors and a team is being formed to develop the detail of the scheme. After this I was finally able to get to see my first papers of the symposium, which were, as usual, both varied and interesting.

In the early evening came a meeting of the Region Three (Africa, Israel, and all of Eastern and Western Europe) Chapters, chaired by Terje Fossnes from Norway. Michael Winokur from Israel is on the INCOSE Technical Board and he made a plea for volunteers from the Region to fill the current vacancies on both Working and Interest Groups. We were briefed on details of the new arrangements for the Membership Board which is to subsume many of the responsibilities of the current Regional Directors. There will be elections in the Autumn for two representatives from the Region, and we were all encouraged to find good quality candidates to fill these posts. The meeting then turned to the arrangements for the International Symposium in Toulouse in 2004, which is making very encouraging progress. Again, there are posts on the organising committee which need to be

filled, and my observation was that the UK is not that well represented at the moment.

Of course, not all my time was spent in serious INCOSE business! What I have found over the years is that despite the variety of national and occupational backgrounds of the people who attend these events, there is an enormous amount of common ground between us. Discussions over a couple of beers (and this year a memorable dinner with US, Australian and UK friends with wonderful Alaskan King Crab legs!) provided some of the highlights of the trip.

The Plenary session on Wednesday saw a full house for Virginia Dunstone, a psychologist and therapist, during which she introduced us to her interesting ideas on control over our personal circumstances and the power of positive and negative thoughts. This was illustrated by her selection of one of the clearly sceptical UK delegates for some intriguing practical demonstrations, which seemed to leave him relatively unscathed, at least on the surface.

Later in the day, I attended a joint meeting of the Board of Directors and Chapter Presidents to discuss current issues. During this, John Snodderley mentioned that Las Vegas had attracted 851 attendees this year. Further details of the new Membership Board were revealed, including some fairly complicated transitional arrangements to get to the new structure. Donna Rhodes, who introduced formal strategic planning to INCOSE a couple of years ago, spoke on her efforts to make INCOSE more effective at operational planning and monitoring. All initiatives are now being handled through a formal life cycle plan coupled with review at a number of decision gates. Heinz Stoewer told us about a new “Technical Perspectives” white paper which is being written, basically to set out where we believe SE is going in the 21st century

The Closing Plenary on Thursday was an opportunity for next year’s organising committee to extol the virtues of the Washington event. It sounds exciting and ambitious: they are aiming for a maximum of 1200 delegates, drawn from a wide range of new domains e.g. biomedical SE; there is to be a live robotics competition, with cash prizes; there will be a VIP / Decision Makers track, giving them the opportunity to set out their view of the future; the exhibition will have a “university row” aimed to attract the younger student members. The web link is just about to be added to the INCOSE site, but the URL at www.incose.org/symp2003 is active now. The event will be held at the Hyatt Regency hotel in Crystal City, Virginia which is just on the edge of Washington DC. Finally, the Technical Board under the leadership of Bill Mackey gave their report on the year’s progress. The Guide to the SEBOK has taken longer than everyone expected and is still only a draft in review, but the target is

for it to be made available before the end of this year. A beta version of the new AP233 standard on data exchange for SE tools is out, and the international SE standard ISO 15288 has been agreed and about to be released.

So, all in all it was a thoroughly enjoyable event. This was my fourth International Symposium after catching the bug in Brighton, and I have every intention of continuing to attend. I hope this report might give you a little insight into what goes on and why it should feature in your plans for next year. And if the company budget will not stretch to a trip to Washington, how about laying plans for Toulouse right now – even better, volunteer to help organise Toulouse and your boss can't fail to approve the budget!

See you there!

David Wright

Newsletter and Journal distribution.

We do continue for some time delivering the UK Newsletter to members who have not paid their subscription on time hoping that this was in error and that they will get around to it! To assist you in this we have printed the renewal form again at the back of the newsletter.

The INSIGHT Magazine and the Journal are not distributed on this basis, if you have not paid, you do not get one. We never know exactly when the cut-off is but it appears to have been very short this year. Better late than never however so please renew now using the form attached or just by sending a cheque to John Mead quoting your membership number and any recent address changes.

John Mead

Events

IEE Lecture in Salisbury

Topic: "Delivering a low carbon future - the opportunity for UK industrial renaissance."

Speaker: Matthew Rhodes, founding chairman "Engineering for a sustainable future"

Venue: Salisbury Guild Hall, Tuesday 19th November, 6.30pm Coffee, 7pm Start

SYNOPSIS:

The UK government has set in train a plethora of initiatives aiming to shift the development of the UK economy onto a "low carbon" path. These include setting ambitious targets for renewable energy generation, establishing the Carbon Trust, and initiating far-reaching policy reviews on energy and transport. The Royal

Commission on Environmental Pollution envisaged a future in which we emit 60% less carbon in 2050 than we do today.

But how will these targets and policies be delivered? Does this represent a threat or an opportunity for UK engineers? All that is clear is that the outcome is likely to imply fundamental change in the economy and our technological infrastructure, starting now. This talk will be an overview of the technical and business opportunities being created by these major shifts in policy. I will argue that, despite the uncertainties remaining in the debate and in some areas of research, there are already things individuals and companies can profitably and practically engage in. Approached in the right way, these could create the beginnings of the next industrial revolution in the UK."

INCOSE @ Configuration Expo 2002

INCOSE UK was invited to present at the Configuration Management Association's (CMA) Configuration Expo 2002 conference at UMIST, on Wednesday 19th June. The conference was aimed at looking beyond the configuration management process by focusing on the people and body of knowledge aspects and how this overlapped with project management and systems engineering.

INCOSE UK representatives gave four presentations in the afternoon starting with Prof Alan Smith's (UCL) talk, which looked at a project as a system in its own right. A more detailed presentation on this topic is planned for the Autumn Assembly. Paul Davies (Thales) described INCOSE's objectives and the sort of issues that were being tackled in the world of systems engineering. Doug Cowper (UCL) provided an overview of the systems engineering body of knowledge and core competencies.

The day was concluded by Ian Wilson's (Brass Bullet) presentation on the modelling of systems engineering and other standards using UML.

INCOSE UK believed that supporting this event was a good opportunity to connect with Project Managers and Configuration Managers and make them aware of systems engineering and its objectives. However, the event unfortunately did not attract the 200+ expected delegates and the original idea of a three-track event had to be abandoned when only 30 delegates attended.

Doug Cowper
University College London

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Contact the Editor (Guy Tugwell) or INCOSE UK Administrator (John Mead) with your requirements.

SEATC News June 2002

A publication of the Systems Engineering Applications Technical Committee.

APOLOGY

First, let me apologise to all of you who received, I am told, hundreds of copies of the May newsletter. Some of you assumed that I was either pressing the "send" button over and over or that my send button was stuck. None of this was true. The best theory is that there was a glitch somewhere in the propagation.net system. Lew Lee is hot on the track of the problem, and we will not send any more messages until we are confident that it will work.

I also owe you a second apology and explanation why I did not explain this problem immediately. The answer is that when I got your [justifiably] angry emails, I learned that I could not reply to them because each reply would initiate another wave of emails. So there, I hope it is all over now and that you only get one copy of this newsletter. (People who are on two lists will get one copy each. I hope no more.) I also promise not to send out my messages through the Cox Cable Company which I believe was part of the problem.

GOOD NEWS

Ashok Jain reports that the propagation.net problem has been solved and we can begin distributing email again.

NEEDED BADLY, A SEAP EDITOR

As most of you know, a key SEATC product has been the SEAP (Systems Engineering Applications Profiles). This document describes how SE is applied in specific domains. Each WG and IG is responsible for providing a profile for the SEAP. What is needed is someone to own the master copy of this document and to integrate the contributions of each WG and IG as they come in. Here is any opportunity to get involved.

Joint Commercial Aircraft Working Group (JCAWG)

JCAWG will begin regular telecons starting June 26 at 8:00 am Pacific time (you can figure it out in your time zone) with new chair Wil Laska at the helm. The top priority will be to begin work on a revised version of the Commercial Aircraft Guidelines using the writing guide that the group developed last year. One of our goals from the beginning has been to develop a working relationship with other societies, the AIAA being a key society. We will begin to plough that ground. Telecons will be every two weeks. Telecons would have begun earlier except for the propagation.net problems which hampered our communications. The meet-me number is: 562-593-9428

As we always remind new members, don't call in too soon or you may find yourself in the middle of someone else's telecon.

Telecommunications, Information Systems, Aerospace and Defense Domains

The Conference on Systems Integration (CSI) will be held at the Stevens Institute of Technology in Hoboken, NJ on March 12-14, 2003. This conference will have an

emphasis on telecommunications, information systems, aerospace and defense domains. The conference is jointly sponsored by the University of Southern California, the National Defense Industrial Association (NDIA), and INCOSE. Dennis Buede and Jerry Luftman of Stevens are the conference chairs. Abstracts not exceeding 400 words may be sent before September 1 to celson@stevens-tech.edu.

INTELLIGENT ENTERPRISE WORKING GROUP (IEWG)

Matthew Turner released a version of 632A expressed in the PET tool from www.elipsis.com. Matthew is seeking review comments both in terms of whether he accurately captured the text and graphics version of 632 and secondly, whether any stubs should be included for tailoring or customising. If Matthew holds up we intend to represent 15288, and CMMI as well as the SEATC Domain Comparisons in PET. Hopefully when all are expressed in the same notation (less ambiguous than text and graphics) we will all be better able to compare and improve them. The IEWG continues to be interested in working with two or more INCOSE member companies to express their SE processes and practices in PET in order to increase the comparison base. Steve Krane, Parker Aerospace, and Jack Ring, gave a presentation at the Enterprise Learning and Knowledge Exchange Conference Sponsored by the Delphi Group. The presentation reviewed the work to date in staging Parker's fledgling Systems Engineering Division as an Intelligent Enterprise.

FUTURE OF SEATC

Jack Ring (Intelligent Enterprise Working Group) has initiated a dialogue on the future of SEATC. Here is a summary of some of the ideas so far:

- 1 Split SEATC into three TCs and merge the multi-domain view (comparison of domains) into SEBoK. (Ring)
- 2 Each WG and IG should determine its own destiny with the primary emphasis on the development of external products, that is, products which will have an impact on the practice of SE in each domain. In order to accomplish this, all WGs and IGs should have frequent communications (telecons, emails, meetings). (Jackson)

These two ideas are not necessarily mutually exclusive. What are your ideas?

What's new in your domain? Contact me.

Scott Jackson (sncjxxn@cox.net)

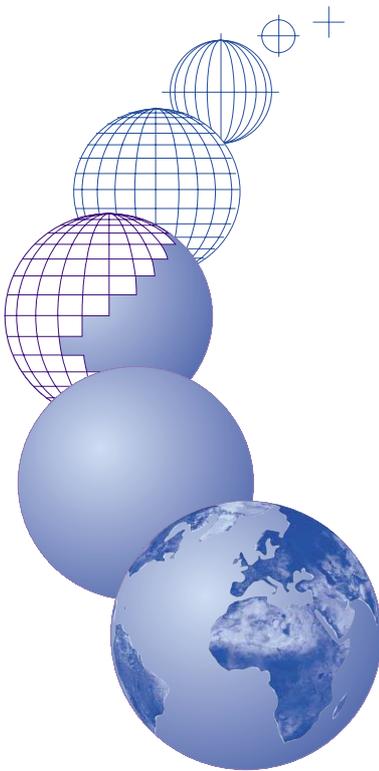
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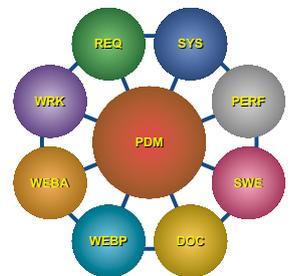
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Binary Image	01			Formattina command which causes the scanner		

Identity	Version	Draft	Name
1	1.01	01	Strip Count per Slide
2	1.01	01	Strip Count per Slide
3	1.02	01	Pixel Count per Slide Strip
4	1.02	01	Pixel Count per Slide Strip
5	1.03	01	Photodiode Analogue
6	1.03	01	Photodiode Analogue
7	1.04	01	Photodiode Digitisation
8	1.04	01	Photodiode Digitisation
9	1.05	01	Continuous Photodiode
10	1.05	01	Continuous Photodiode
11	1.06	01	Start Strip Digitisation
12	1.06	01	Start Strip Digitisation
13	1.07	01	Start Pixel Output
14	1.07	01	Start Pixel Output
15	1.08	01	Box Lid Open Event

Contact Details

President of the UK Chapter

Paul Davies Racal Defence Electronics Ltd
Scudamore Road
Leicester
LE3 1UA

Phone: 0116 259 4174
Fax: 0116 287 6677
e-mail: paul.davies@uk.thalesgroup.com, or
 paul.davies@ntlworld.com

Past President of the UK Chapter and Treasurer

Pete Lister Siemens Transportation Systems Limited
4 Highlands Court
Cranmore Avenue
Shirley
Solihull
B90 4LE

Phone: 0121 713 4311
Fax: 0121 713 4360
e-mail: peter.lister@stsl.siemens.co.uk, or
 pete@lister.globalnet.co.uk

INCOSE UK Administrator

John Mead 20 Beehive Lane
Binfield
Berks, RG12 8TU

Phone: 01344 422325
e-mail: John.Mead9@hemscott.net

Chairman of the SEPDC (Technical issues and queries)

David Wright AD Programme Management
Logistic Applications IPT
DLO Andover, Monxton Road
Andover
Hants, SP11 8HT

Mobile: 07802 655671
E-mail: david.wright@gtnet.gov.uk

Editor of the INCOSE Newsletter and Chairman of the CMC (Communication issues within and outside INCOSE UK and membership strategy)

Guy Tugwell Brass Bullet Ltd
Pemchurch Chambers
30-32 Cradock Street
Swansea
SA1 3EP

Phone: 01792-417227
Fax: 01792-558729
e-mail: guy@brass-bullet.co.uk

Academic Liaison

Doug Cowper University College, London
2-16 Torrington Place
London
WC1E 7HN

Phone: 020-76796825
Fax: 020-76796508
e-mail: d.cowper@ucl.ac.uk



**Instruction to
your Bank or
Building Society
to pay Direct Debits.**



Originator's Identification Number

6	3	0	1	4	6
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Please fill in the form and send it to:

JD Mead, The INCOSE UK Administrator, 20 Beehive Lane, Binfield, Berks, RG12 8TU

To: The Manager (please enter the name and address of your bank)

Bank/Building Society
<hr/> Address <hr/> <hr/> <hr/> <hr/>
Postcode

Name(s) of account holder(s)

Reference Number (Membership Number)

Branch Sort Code

(from the top right hand corner of your cheque)

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Instruction to your Bank or Building Society

Please pay INCOSE UK Direct Debits from the account detailed on this instruction subject to the safeguards assured by The Direct Debit Guarantee. I understand that this instruction may remain with INCOSE UK and, if so, details will be passed electronically to my Bank/Building Society.

Bank or Building Society account number

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Signature(s) _____
Date _____

Banks and Building Societies may not accept Direct Debit Instructions for some types of account

The Direct Debit Guarantee



- This Guarantee is offered by all Banks and Building Societies that take part in the Direct Debit Scheme. The efficiency and security of the Scheme is monitored and protected by your own Bank or Building Society.
- If the amounts to be paid or the payment dates change INCOSE UK will notify you 14 days in advance of your account being debited or as otherwise agreed.
- If an error is made by INCOSE UK or your Bank or Building Society, you are guaranteed a full and immediate refund from your branch of the amount paid.
- You can cancel a Direct Debit at any time by writing to your Bank or Building Society. Please also send a copy of your letter to the Administrator at INCOSE UK.

