



INCOSE UK Newsletter

When Two or Three are Gathered Together

Stop press for this quarter's Newsletter is a report from the AGM. As usual with our AGMs, there is not much to report – the Board perceive a distinct lack of enthusiasm for the procedural side of INCOSE UK and we try to keep things to a minimum. Unfortunately there were only ten members present (and three of those were Board members), despite the lure of a presentation by Paul Davies on system test metrics.

It is fortunate that no matters of real importance were up for discussion, because in accordance with the INCOSE UK Articles of Association we need at least 10% of the membership present (or by proxy) for a quorum. With membership currently at 330, even the three proxy forms that we received got us little more than a third of the way to a quorum.

Now I know that the management of INCOSE UK Ltd may seem to be an irrelevance, but without some form of legal entity we would not be able to operate. It would be more difficult to enter into contracts with hotels, run bank accounts, market events and accept sponsorship. In addition, the officers would be personally liable for any company debts. This seems to me to be a rather large risk – especially when you (or more often your employer) pay for the privilege of taking part! Like all companies we are subject to Company Law, which dictates certain procedures that have to be adhered to.

We have a duty to inform you of what is going on, even if few of the membership are interested in the workings of INCOSE UK Ltd. It would be possible to prepare a written report, but I am not convinced that it would have any greater impact and it would involve the Board in additional work that does not directly further the aims of INCOSE. In any case, according to the Articles of Association we still have to hold an AGM because in effect all members are shareholders of INCOSE UK Ltd,

and all companies have to hold AGMs for their shareholders.

So, what can we do? It seemed like a good idea at the time to remove the AGM from its 'graveyard' slot in the Autumn Assembly and associate it with a local meeting. The concept was to give members a reasonable chance (over the years) to attend a 'local' AGM and make their voices heard. Clearly we need to rethink this approach, but re-instating the AGM at the Autumn Assembly is only a cosmetic solution – there may be a 'captive' quorum present, but there is seldom any query or debate.

As always, I am open to suggestions provided that they are legal, feasible, and relevant to the matter in hand. If people aren't bothered about INCOSE UK Ltd provided that the events keep happening, then we could propose some changes to the Articles of Association to change the rules for AGMs. We would however need a meeting to agree on these changes!

Pete Lister

President of the UK Chapter of INCOSE.

The UK Chapter Autumn Assembly 2000

Around 100 people gathered at the Goddard Arms in Swindon on the 6 and 7 of November for the second Autumn Assembly. The AA format has evolved over the years from an Annual General Meeting for the UK Chapter, with some added attractions, to an event in its own right. This year we dispensed with the AGM altogether, planning to hold this as a separate evening event in January. We designed the AA as an opportunity to air and debate key issues facing Systems Engineering, with a distinct emphasis on both in-depth coverage and audience participation. The format is a mixture of presentations, panels and perhaps most importantly, some audience participation.

Please send any contributions to this Newsletter to The Editor, INCOSE UK Newsletter, c/o Peter Lister, Aerosystems International Ltd, West Hendford, Yeovil, BA20 2AL.
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The organizing committee chose the subjects for this year's assembly carefully. After brainstorming about ten candidate subjects we evaluated them against their potential interest to members. We gauged this interest using the new members survey and our own experience of subjects that we knew from other INCOSE events were likely to attract interest. The final test was to see whether we could persuade a champion to take on the role of session chair to put together a programme and enlist speakers for the proposed session. This whittled the original ten subjects down to the four that were actually presented.

There is a major emphasis on audience participation at the AA. Yes, you can just sit back and just listen to the information that is offered, but the idea is to use the opportunity to ask questions and state ones views. Fortunately the audience did not disappoint, with a succession of pertinent questions and relevant observations.

The first day offered sessions on the Systems Engineering Capability Assessment and the use of UML in Systems Engineering. The SE Capability Assessment session was chaired by Paul Davies of Racal Thomson Defence Ltd, and was motivated by the recent assessment of his company by DERA. There were presentations from Paul, and Dick Allen-Shalless of Racal Thomson Defence Ltd, as well as presentation from John Keenan of DERA (one of the assessors involved). Valerie Gundrum of Lockheed Martin presented a perspective from an organisation where CM assessments seem to have become a way of life. Paul concluded with an overview of non-defence/aerospace CM users – I think that many were amazed to find that one of the biggest is the Disney Corporation.

The session on UML in Systems Engineering was conceived as an attempt to discover the extent to which this latest 'Silver Bullet' might help the SE practitioner. Dr Rob Collins of Entelecheia, the session chair, presented a micro tutorial entitled 'UML for SE in 45 minutes or less!'. This was true to its title, and was followed by perspectives from Kevin Howard of TME, Steve Trevellion of Rational and Dr Jon Holt of Brass Bullet. In the event there was little opportunity for discussion, but from what I heard later from delegates they were either reasonably comfortable with UML, or were still getting to grips with what it was all about.

The AA dinner followed that evening, and discussions were continued until well after midnight. Prof. Philip M'Pherson entertained us after dinner with some important lessons that he had learnt during 50 years of systems engineering. Unfortunately I can only recall a highly amusing discourse, so I will probably be condemned to relearn these lessons the hard way.

The first session of the following day took the form of an investigation of Systems Engineering in Academia. A panel of academics was posed the question 'How can academia support stakeholders?', followed by a panel of industry based engineers responding to the question 'What does industry want from academia?'. The whole session was ably introduced by Prof Peter Sydenham, assisted by co-chair Martin Testo. Martin has taken on the tricky issue of investigating the interface between INCOSE UK and our academic members, and this session was an opportunity to try and draw some conclusions from the assembled panels. I am not sure that we made any astounding breakthroughs, but there were a number of issues raised that should form the basis for future discussions. The main message that came across was the need for communication between industry and academia.

The final session was about Integrating Human Factors into Systems Engineering. This took the form of a teach-in by several HF specialists, followed by breaking into groups to discuss key issues raised. The session was co-chaired by Colonel David Wright and Dr Ron McLeod of Nickleby HFE Ltd. Other speakers included Bob Miles of the HSE (Health and Safety Executive) Offshore Safety Division, Eleanor Forest of Nickleby HFE, Mel Forster of the DPA (Defence Procurement Agency) and Ken Paler of BAE SYSTEMS. The feedback from these discussions will hopefully find its way into the UK NAC (National Advisory Committee) on Human Factors. The consensus of the five groups was that HF need to be more closely integrated into Systems Engineering activities, particularly at the early stages of a project. To make this work, the HF specialists need to take a more pro-active role – suggesting concepts and solutions rather than issuing guidelines.

The material used the sessions, together with resumes of discussion, has been posted on the INCOSE UK Web site. You are welcome to have a look, but if you want the full experience, make sure that you book for the 2001 Autumn Assembly to be held on 5 and 6 of November.

I would like to say a big thank you to our sponsors, BAE SYSTEMS, Racal Thomson Defence Ltd, Nickleby HFE Ltd and the IEE. Their sponsorship has helped us to advertise and underwrite the assembly and ensure that an enjoyable and interesting event could be staged.

Pete Lister

The Spring Symposium 2001

MAY 14 – 16, 2001

The planning for the Spring Symposium is currently in full swing. We have confirmed the venue (Landmark Hotel, Daventry), and we will shortly be reviewing and selecting the papers that are on offer. Shortly after we extended

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Do you want to contact over 300 Systems Engineers in the UK and Europe?

Place an advertisement in the INCOSE UK Newsletter. At £100 for a full page, £50 for a half page (using your copy) it costs less than the postage for your own mail shot.

We can also stuff your flyers with our Newsletter (charges dependent on impact on postage costs). We can negotiate reduced rates for educational or non-profit making bodies.

Remember that we will publish a listing of your forthcoming event absolutely free.

Contact the Editor (Pete Lister) or INCOSE UK Administrator (John Mead) with your requirements.

the deadline for papers to the 31st January, there were sufficient proposals on the table to cover the planned two days. If you have a paper in mind then there is still time to submit it to Mike Prince if you are quick. Mike is Technical Chair for the Symposium, and as well as managing the paper selection he will be looking for volunteers to chair sessions. Please contact Mike if you would like to get

involved in this way, or can suggest someone else for the role.

We have about 4 proposals for Tutorials so far, and we could do with a few more. There is enough space to run 6 tutorials simultaneously on 14th May, and we are open for full or half day offerings. If you have been wondering whether to take the plunge then let us know as soon as possible. You should bear in mind that there is a remuneration package for tutorial providers, which at the very least will help to defray expenses. Stuart Cornes has agreed to review Tutorial proposals and select a complementary set that will hopefully offer a broad spectrum of choice. Please contact Stuart for more details about the Tutorial requirements and arrangements.

The venue has plenty of space for exhibitors, and Bob Briggs will shortly be sending invitations to a the list of those who have previously exhibited at our events. We are proposing to schedule the exhibition to run from lunchtime on the 15th May through to lunchtime on the 16th May. This will allow plenty of set up and break down time, and plenty of 'prime' delegate time during extended lunch breaks and the evening run up to the Symposium dinner (15th May). If you want details of the exhibition package, then contact Bob.

As ever we are looking for sponsorship to help underwrite costs, and will be inviting companies to sponsor elements of the event. BAE SYSTEMS are already active on the CD-ROM front. We are planning to issue papers on CD-

Stock Clearance Sale!

1998 International Symposium (Vancouver)

CDs £5 each to clear

1999 International Symposium (Brighton)

CDs £10 each to clear

Send your orders to John Mead - Address at the back of the Newsletter

ROM format (a first for a UK Symposium). There will be the added bonus of an electronic copy of every paper given at previous INCOSE UK Symposia. Other sponsorship possibilities include the brochure, the event programme, individual sessions, refreshment breaks and pre-dinner drinks. If you think that your company would like to demonstrate its commitment to Systems Engineering through sponsorship of the Spring Symposium, then please contact John Mead.

Keep an eye on the web site, because further details will appear there first. There will probably be an interim mail-shot, before a full brochure is published. We are planning to use the Support Shop to handle the registrations because they did a good job for the Autumn Assembly. In the meantime make a note of the dates in your diary and prepare yourselves for a great event. If you have any general queries about the event then contact Pete Lister or John Mead.

SS2001 CONTACT DETAILS

Mike Prince – Technical Chair

michael.prince@baesystems.com

Stuart Cornes – Tutorial Selection

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Bob Briggs – Exhibition Organisation

bob-briggs@green-leas.freereserve.co.uk

John Mead – Sponsorship, Marketing and Admin Management

john@johndmead.demon.co.uk

Pete Lister – General Chair

listerp@plcsun.siemens.co.uk

Pete Lister

Election of Officers - Winter 2001/2

By this time next year, our President Elect will have taken over the President's role, and I will have become Past President. This means that we will be needing someone to step forward to take on the role of President Elect. As you may have seen elsewhere in this Newsletter, we also need someone to run the CMC (Communications & Membership Committee). The CMC chair is automatically a member of the INCOSE UK Board.

The other elected positions (as always) will also be open for new nominations – Secretary, Chair of the SEPDC etc. We usually ask for nominations in the Autumn, and mostly end up persuading the current holders of an office to stay on. I am raising the issue now in the hope that several of you will come forward and nominate yourselves for office. Don't worry about the existing officers being upset by being ousted – I think that all of us

would be happy to take a back seat and make our contribution to INCOSE in different ways.

An early indication of interest will give us time to introduce you to the task so that you needn't be concerned about being dropped in the deep end. If you are interested in taking a greater role in INCOSE, but don't feel that you are ready for leadership, we would still like to hear from you. With a few more volunteers we might be able to set up some really active committees and working groups.

During our founding year (1994/5) we had around 30 members playing an active role in the Board and supporting committees. There have been some new faces in the intervening years, but we are now down to about 8 or so members who attend more than one meeting a year. There are probably another 10 or 12 who can be relied upon to take on 'ad-hoc' tasks (for example session chairs at the AA). This is not enough to ensure reliable back-up in the event that one of the activists is unable to participate for any reason. Nor is the turnover of committee members sufficient to bring in as many new ideas, skills and fresh approaches as I would like.

So, have a think about it, and if you would like to have a go please contact me.

Pete Lister

Research Fellow and PhD Studentships in Computer Science

SCHOOL OF COMPUTING, INFORMATION SYSTEMS AND MATHEMATICS, SOUTH BANK UNIVERSITY

The School is a research-rich environment, attaining a 3b in Computer Science in the last RAE and looking to build on this rating for the next RAE. Current research within the School is funded by industry, the EPSRC, and the European Union.

We now seek to strengthen our busy teams through the following appointments:

- 1 *Research Fellow in Requirements Engineering (fixed term 3 years) Ref CISM/BIC*
Salary £21,024 - £33,810pa

Opportunities are available for enthusiastic individual to contribute to the School's Research in Requirements Engineering Process Modelling. Successful applicant will be implementing a framework for process modelling and improvement of large-scale complex systems evolution.

Applicants holding a doctorate in computing or in a related discipline, or who have an equivalent level of research experience and publications are invited to apply. Informal enquiries can be made to Professor Robin Whitty, Director of Research on 020 7815 7423, e-mail: robin.whitty@sbu.ac.uk

2 *Two PhD Studentships in Requirements Engineering Process Modelling and Analysis*
Ref CISM/RS
Bursary £8,500pa plus fees

A three year EPSRC funded studentship is available for research leading to a PhD. Research will be related Requirements Engineering Process Modelling and Analysis. Applicants must have a first or upper second class honours degree in an appropriate subject. Informal enquiries can be made to Professor Nimal Nissanke on 020 7815 7025, e-mail: nissanke@sbu.ac.uk

An application form and further details are available from the Human Resources Department, South Bank University, 103 Borough Road, London, SE1 0AA, or telephone: (020) 7815 6223 (24 hour answering service) or email: humanres@sbu.ac.uk Please quote appropriate reference number. Closing date for the request of applications 7 February 2001.

An Equal Opportunities Employer.

Ad submitted by Ddembe Williams

INCOSE UK is happy to publicise academic courses and employment opportunities that may be of interest to our members. Please contact the Newsletter editor or John Mead if you have material that you would like us to publish. Please note that our publication dates are somewhat variable so we cannot guarantee to hit a specific date.

Pete Lister

Integrated Systems? How?

Systems Engineering models to date with their so-called life-cycles have failed to provide a common understanding of systems engineering. Semantics are a minefield of misunderstanding and disagreement. "Requirements" mean different things to people even within a common domain. Standards continue to fail to provide the help which they should to other than those engaged in "management".

Universities are creating new courses but with different perspectives and core aims, perhaps too much influenced by government and industry, to the detriment of their content.

Much duplication of effort occurs prior to during and after the bid phase due to the lack of a suitable SE model.

Railway trains, tracks and signalling have their problems, our roads are clogged with traffic, new air traffic control systems fail to enter service any where near on time, we are trying to improve our health service without understanding the design as a system, and we are tempted to treat safety as a bolt-on goodie which can be purchased for a legacy system by throwing money at it.

We have excellent conferences and symposia world wide, but is systems engineering design in particular being improved? Systems are still broken down into manageable pieces which fail to re-assemble into an integrated, safe, reliable whole, working groups do not understand their relationships and interfaces, they do not interact, sub-contracts are managed badly, and within a single large system, do not interface properly, and can lead to major failures. This can commence with badly constructed "Requirements", followed by badly constructed industrial design from system level to "nuts and bolts". Too often this results also in software designers having to design without a systems engineering created design requirement specification.

Regarding all of the foregoing, there needs to be a common model to impose a common discipline. For too long people have written, spoken, created unsatisfactory standards, constructed systems engineering courses, and taught, without a common model for a specific understanding of a common discipline. The abundance of General Systems Theory still can not connect with those who do the real work. Glossaries and categories without this model are meaningless also.

Finally, to hear the Head of the Association of Train Operating Companies speaking on TV about "getting the interfaces right", was dispiriting. Addressing interfaces without accurate design knowledge directly related to operational needs, is still the failed method of reductionism. With the right model this is easy to see. Where is our Systems Design Model? Integrated systems??

George Caple

Have we really got things that wrong? I believe that where the best practices currently available are actually adopted wholeheartedly, and with proper support, then the outcomes can be very good. Conversely, where myopic management either fails to apply SE (i.e. the NHS and the UK Transport System (sic)), or believes that bandying around a few SE buzz-words is enough, then the failures continue to mount up.

It is true that we have a duty to 'sell' the benefits of 'real' SE to our managers, and ensure that our peers are properly trained to apply the best practice, but ultimately most of us do not control the decisions that are taken. What I find frustrating is that the failings are often entirely predictable (e.g. inadequate requirements management as George mentions in his piece), and almost any competent SE practitioner presented with the case history can identify them.

As to defining subsystems, this is an essential part of delivering a large and complex project. It is virtually impossible to instil a common vision into several hundred (or thousand) people spread over several sites (or continents) – even if there is a will to receive the vision.



SIEMENS

Systems Engineers - Poole

Siemens Transportation Systems Ltd. in Poole provide specialised radio communication and telecommunications systems to meet the specific needs of railways and metros both in the UK and overseas.

STSL's systems provide the main voice and data communications links between trains, train controllers, staff on stations and in maintenance depots or other areas of the railway. Communications need to be maintained both above and below ground in an environment that is hostile to electronic equipment. Some aspects of the systems may be safety related. Radio technologies used include both digital (GSM, GSM-R and TETRA) and analogue (MPT1327).

We have vacancies for **Systems Engineers** who will work on projects and be expected to contribute to bids. You will work within a multi-disciplinary project team and will be expected to draw together the various engineering disciplines and activities involved in the full development lifecycle.

As a senior engineer, you will be responsible for complete work packages which will be defined in terms of budget, timescales and scope.

You will also be expected to maintain an awareness of current practice and future trends in communications systems, railway infrastructure and operations, and systems engineering processes and methods. In addition, you may have the opportunity to travel and work overseas.

SKILLS / EXPERIENCE

- A solid experience of hands on systems engineering in a relevant development and systems integration environment
- Degree or equivalent in a relevant engineering discipline
- Good technical communicator, both written and verbal
- Good team player
- Ability to assess timescales and costs
- Innovative, persuasive, committed and energetic

If you would like to apply, please send your C.V. and a covering letter to:

Fiona Lawrence,
Human Resources Department,
Siemens Transportation Systems,
Sopers Lane, Poole, BH17 7ER

Tel: 01202 782400
www.siemens.co.uk/transportation
E-mail: stsjobs@poole.siemens.co.uk

However, if you don't manage the System level correctly, fail to identify the appropriate subsystem requirements, and fail to engage the talents of your subsystem suppliers at the earliest stages of design, then the end result is something of a lottery. Sadly, too many projects have cut corners at the outset only to be condemned to protracted and expensive modifications later.

What are your views? Are the methods and materials wrong, or is it the way that organisations apply (or misapply) them? Are we missing the essential truths of SE? The Newsletter awaits your contribution to the debate. Send your contributions to me at listerp@plcsun.siemens.co.uk, or by snail mail to Siemens Transportation Ltd, 4 Highlands Court, Cranmore Avenue, Shirley, Solihull, B90 4LE.

Pete Lister

Do We Never e-mail You?

Keep in touch with INCOSE - it helps us to keep in touch with you.

We have recently been circulating invitations to the AGM, and a call for papers, by e-mail. We do this as soon as the information is available. The hard copy version comes later, takes up a lot of time, and costs us more to send. If you did not get an e-mail invitation it is almost certainly

because the address that we have on file is rejected or alternatively we do not have an address for you at all.

I have received a reply from several of you in response to a note I put into the mail distribution asking for updated contact details. Unfortunately there are still number of e-mail addresses that are being rejected. So if you have changed your e-mail or not received anything from us on e-mail recently please let us know your address. That way we can give you early notification of news, events and activities. Please send the information direct to Mary Stoneham (mary@ilogix.co.uk) who looks after our UK database. Please include your full name and membership number (if possible) because it helps us to track you down in the database.

John Mead

Events – Reports and Advance Notices

THE GENERIC UNIFIED SYSTEMS ENGINEERING METAMODEL (G.U.S.E.M.)

“FROM SCENARIO TO NUTS AND BOLTS”

Incorporating, “Systems Design, the Forgotten Focus of Systems Engineering”

A lecture and debate at Savoy Place on Tuesday 20th February 2001 at 10:00 am.

What is the Generic Unified Systems Engineering Metamodel? Why is it essential for the future development of systems engineering methods, standards, the use of tools, and working groups?

Chairman – Mr. George Wallace, Lockheed Martin

G.U.S.E.M. - Mr. George Caple

UML - Dr. Jon Holt, Brass - Bullet

G.U.S.E.M. Animation - Professor Derek Hitchins

How would GUSEM help the MOD and other Customer interfaces? How could sub-contract success be helped? How could the bid phase be helped? How could time and effort be saved in these areas?

Can the model help to improve the understanding of the purposes of, and the relationships between Working and Interest Groups?

Why not just have conventional processes? Would the model help to further the understanding of one's own systems engineering processes? Could one use SSM, UML, one's own best practice, and other techniques within the model? How would this be done?

Why not just use IEEE P1220, EIA 632, ISO 15288, or a good book?

How would Systems Design, the forgotten focus, be rediscovered? How would all design disciplines be better able to work together? How would roles and responsibilities be clarified? How would safety, reliability, testing, etc. be better addressed?

How would GUSEM be used daily and effectively? How would CMM results be improved?

For further information contact either George Wallace at george.wallace@lmc.com, or George Caple at georgecaple@cs.com.

FIFTH IEEE INTERNATIONAL SYMPOSIUM ON REQUIREMENTS ENGINEERING (RE01)

27th-31st August 2001, Royal York Hotel, Toronto, Canada

Visit the Symposium web site at <http://www.re01.org/>

Sponsored by the IEEE Computer Society

In cooperation with: ACM SIGSOFT, IEEE TFRE, IFIP WG 2.9, and INCOSE

Patrons: NASA, CITO, IBM, Mitel, Springer, BCS RESG, KMDI,GI Fachgruppe 2.1.6 - RE, and University of Toronto

OVERVIEW

RE01 is the fifth in a biennial series of international symposia on Requirements Engineering. The symposium will provide an opportunity for researchers and practitioners to share ideas and experiences, while enjoying the hospitality of the oldest and grandest hotel in

Toronto. The symposium will include a technical paper track, with refereed papers describing novel research, experience reports, and surveys. The program also includes keynote speakers, panel sessions, state-of-the-art tutorials, and an exhibition, which includes companies with RE tools and services, book publishers, and other related exhibitors. We also have a series of

demos of research tools, and a doctoral workshop for PhD students.

Invited keynote speakers will include:

Dr. Pamela Zave, Technology Advisor, AT&T Laboratories, USA

"Requirements for Evolving Systems: A telecommunications perspective"

Professor Gene Spafford, Director, CERIAS, Purdue University, USA

"Requirements Engineering for Information Security and Assurance"

Dr. Mike Lowry, Principal Investigator, Automated Software Engineering, NASA, USA

"The Role of Validation and Verification in Requirements Engineering"

Mini-tutorial speakers will include:

Professor John Mylopoulos, University of Toronto, Canada

"Conceptual Modelling in Requirements Engineering"

Professor Axel van Lamsweerde, Universit Catholique de Louvain, Belgium

"Goal-Oriented Requirements Engineering"

If you are working in the area of RE, or are just interested in finding out more about the field, we would like to welcome you to join us in Toronto in August 2001.

Steve Easterbrook Bashar Nuseibeh

General Chair Programme Chair, RE'01

Email contact: info@re01.org

KEY DATES

Paper abstract submissions (mandatory) 15th Feb 2001

Full paper submissions 22nd Feb 2001

Notification sent to authors 2nd May 2001

Tutorial proposal submissions 6th April 2001

Doctoral workshop submissions 6th April 2001

Posters and Research Demonstrations 14th May 2001



AFCEA LONDON



AFCEA is a non-profit organisation that has three branches in the UK - London, South and West each with their own programme of events. London has a dinner meeting virtually every month, which includes a speaker on communications, electronics and the application of them. This year the London theme is “ Modernising Government “and it has attracted a number of important speakers that have generated a great deal of interesting debate. We also have the occasional lunchtime meeting, technical visits, and a number of social events.

Next months events include :- a lunchtime with Mr Peter Gershon, Office of Government Commerce, a Corporate luncheon, and an evening presentation by Jeff Parris Gen. Manager BT Quadrant –‘Communications for Public Safety’

Meetings are usually held at the Duke of York Headquarters (near Sloane Square), starting at 18h00 for cocktails. The full programme of activities and meetings is issued to members and it is only £20 to join – at the moment. Email Iain Kerr on iainkerr@clara.net for a membership form and programme and visit our website www.afcea.org.uk.

Camera-ready submissions 1st June 2001

CALL FOR PAPERS

RE01 will provide an opportunity for researchers, practitioners, and students to exchange problems, solutions, and experiences in RE. It will emphasize the crucial role that RE plays in the development and delivery of systems, products, and services that permeate all aspects of life and increasingly serve users across national, cultural and professional boundaries. In addition to wanting systems to deliver required functions, users increasingly demand systems that are usable, reliable, secure and responsive. In a rapidly changing world, users and product managers expect today's products to be adaptable to their future technical and social environments.

RE01 invites submissions of high quality papers describing novel research, experience, and state-of-the-art surveys in RE. Proposals for tutorials, tool demos and poster presentations are also welcome. Topics of interest include, but are not restricted to:

- Requirements elicitation through interview, observation, reverse engineering and re-engineering
- Requirements modelling, analysis and re-use, including domain modelling
- Handling non-functional and quality requirements
- Formal representation schemes and specification

languages, and formal analysis techniques

- Multiple viewpoints, conflict resolution, and inconsistency management
- Prototyping, and animation and execution of requirements
- Requirements management, traceability and metrics
- Evolution of requirements over time and across product families
- RE standards, processes, methods and environments
- RE case studies and experiences
- RE and information systems development
- Interaction of RE with software architecture, design, verification & validation, and software maintenance
- Analysis of safety, reliability and other high assurance requirements
- Cognitive, social, political and cultural factors in RE
- Human-computer interaction, groupware, and CSCW aspects of RE
- Artificial intelligence techniques for RE
- RE education

See <http://www.re01.org/submission.html>) for submission details and for information on how to submit panel and tutorial proposals, doctoral workshop papers,

posters and research demos. For any other queries, please contact info@re01.org.

Dr Neil Maiden

Publicity Co-Chair, RE'01

(Abridged from an e-mail circulation)

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Chairman of the SEPDC (Technical issues and queries)

Mike Prince BAE SYSTEMS
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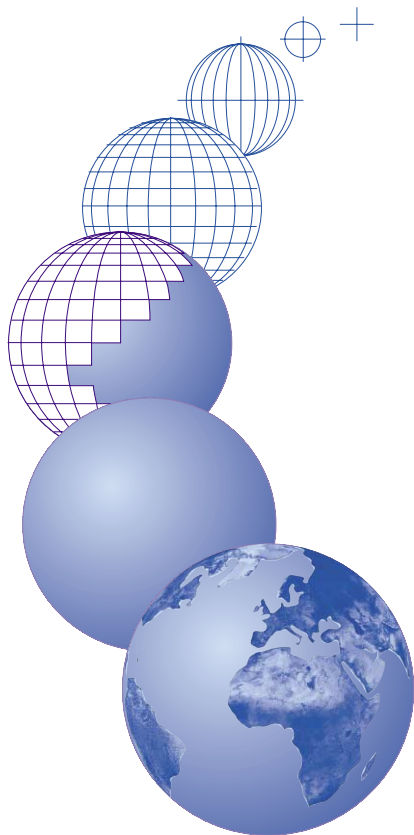
Phone: 01202 404840
e-mail: michael.prince@bae.co.uk

Cradle-4

From concept to creation...

3SL

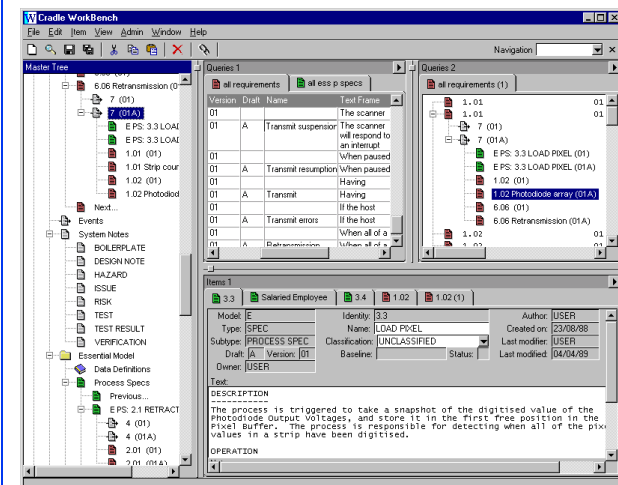
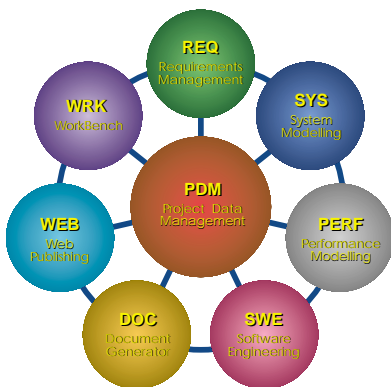
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Cradle-4 is the arbitrarily scalable solution for all of your systems engineering projects. Cradle supports small or large, distributed or local, simple or complex developments within a single framework that blends with your existing standard desktop and SE tools.

Major new features include:

- **Runs natively on all Windows platforms**
- New single-window UI with toolbars and tooltips, standard Windows keyboard shortcuts and UI styles
- Predefined integrations with Word, Excel, PowerPoint, Acrobat, FileMaker, and FrameMaker applications, for HTML files, and TIFF and EPS images
- Programmable requirements capture, with sentence mode and auto-set
- Word plug-in for text and table capture, and to drive Cradle from Word
- Table editors and Explorer style hierarchies with drag & drop
- RTF and HTML export direct from lists and tables
- Fully customisable WorkBench tool with views, filters, forms and sessions
- Web Publishing module, hyperlinked HTML and SVG from your database
- Graphical hierarchies shown in new Hierarchy Diagrams
- Process and scenario modelling in new Process Flow Diagrams
- Extended function modelling with industry standard IDEF0 diagrams
- Hierarchical renumber, reorder, rename, copy, delete functions in all tools
- Auto-insert operation and auto-spread operations in Diagram Editor
- Colour-coded and extended error reports in diagram checks
- URL support in item attributes to link to external data
- Automated constructors for BD, eFFBD, and PFD diagrams
- Change task pause and revise functions in CM system
- Extended table handling and cross referenced item sorting in documents
- Alerts messaging and e-mail interfaces
- On-line user manuals, task reference and technical references
- PJI print job control, NxM A0 and A1 plots and SVG support
- Firewall, mapping, compression and encryption, and PPP dial-in support



We are expert in tool integrations, particularly for RM-only and legacy modelling toolsets. Please ask for details.

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