

Newsletter: September 2023

Introduction

Welcome to the SSSG 2023 half year newsletter.

The first 6 months of 2023 has flown by and as we head towards the end of summer I reflect back on a busy period across the sector. For the worse reasons around global tensions, the sector is very busy responding to dynamic requirements which has highlighted the importance in a strong and resilient OME underpinned by capability and skills which SSSG is supporting.

2023 has seen another successful Fulmination event which you can read about in this newsletter, showcasing the activities and skills in the sector. With the second International Explosive Conferences scheduled for 2024, we can have confidence that the UK OME capability is growing in strength and stature with exciting work and career prospects.

A few updates on the working groups. Ken Cross stepped down from Chair of the Safety Working Group after 5 years leading this group. We thank Ken for his passion and efforts over this extended period and the impact he made to our Sector. Ken is succeeded by Rhys Jobbins from BAE Systems – welcome and thank you Rhys. Rhys is working with the group members to prioritise activities which allow the sector to advance and respond to requirements at pace ensuring safety is number 1 priority.

I also signposted in the last newsletter that we are forming a new Technology Working Group, to identify the future skills and capabilities required, to ensure that we meet new technologies in a rapidly changing world. This group is being led initially by Andy Burn from BAE Systems – thank you Andy for stepping forward to mobilise this group.

SSSG can only be successful through collaboration of sector members. Thank you for your ongoing support. Please continue to support SSSG and your organisation representatives. We are always looking for feedback – if you have any questions or requirements of SSSG, please contact us through Stephanie Ball: stephanieball@iexpe.org

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Safety Working Group Update



The chair of the Safety Working Group is Rhys Jobbins who took over from Ken Cross earlier this year. Rhys has worked for BAE Systems for 26 years, originally starting as an Apprentice and then a Graduate, prior to working in a variety of Land-Based, Naval Ammunition Design and Development Roles (including a 9-year “secondment” to the commercial aircraft industry within BAES). Rhys’ current role is Principal Engineer Product Safety at BAE Systems Land UK, Glascoed in South Wales. Having recently completed an MSc in Systems Engineering, he is passionate about the overlap between the principles and practices of systems thinking, and its application to the dynamic, ever-changing nature of safety across the product lifecycle. Outside of work, Rhys is a keen outdoor enthusiast and enjoys paddle boarding and playing bass in a number of local groups.

“I did not plan to have a safety related role in my career, however reflecting upon it now it is inevitable that working within Safety Critical Systems in the Aerospace sector would cause anyone to be indelibly shaped by the culture, practices and lessons learned. Safety may not always be considered the most exciting subject across the technical portfolio; however, it is fundamental to the continued growth of the industry. My personal experience is that the level of analysis required in considering the safety of Ammunition across its lifecycle, is equally challenging and rewarding. Whether it is assessing a Tank Round, which had been in the desert, or contamination of raw energetic material, product safety consistently provides challenges that require much comprehension, bounding, analysis and rectification. >>



>> "An important part of taking over the chair for SWG has been to understand the current work strands with a view to progressing them and refreshing them where appropriate."

The current work strands comprise the following topics and we will aim to progress these over the coming months:

- WS1. Safely Enabling Future Energetics Conference
- WS2. Sector Review of Best Practice for Energetics Research and Development Framework (Processes and Protocols)
- WS3. Review of state of the art controls for energetics Basis of Safety – Electrostatic Discharge
- WS4. Review of state of the art controls for energetics Basis of Safety – Standards and Guidelines
- WS5. Refreshing the Past Accident Review Database
- WS6. Control of Contractors in Explosive Working Environments
- WS7. Free From Explosive Contamination (FFE) and how others in the industry do it
- WS8. Incidents at the Shop Floor Level – How do we train competence through an organisation?

Given recent global events, the Ordnance, Munitions and Explosives (OME) sector is in its greatest stage of flux and expansion since the fall of the Berlin Wall. Therefore, it is of utmost importance to capture and share information and best practice. Since Fulmination 2023 we have added 11 new members to the SWG. As is the case with any team, the SWG is only as strong as its members and the experiences and thoughts that they bring. Therefore, I welcome people who wish to step forward, join the Safety Working Group and help to progress our collective knowledge.

Rhys Jobbins, Chair of the Safety Working Group.

Emerging Professionals Focus Group



Firstly, I would like to express how much of an honour it is to take over the chair of the Emerging Professionals Focus Group. Over the past 5 years of my involvement in the group, I have come to truly appreciate the group's value in representing new entrants into the OME sector. As I take over from Tom Mills, I can only hope that I can dedicate to the group and the industry, as much effort as he has these past 2 years. I am also pleased to announce that after Fulmination 2023 the number of organisations represented at the EPFG has increased with the addition of 6 new representatives to the group.

As to the focus of the EPFG over the past quarter: The Early Careers Stream at the recent Fulmination symposium was well received by all, drawing participation from within and outside the Emerging Professionals community. The EPFG has continued to learn lessons from that event in the hope of further improving it at Fulmination 2025.

The content delivered demonstrated the significant contribution of Emerging Professionals to the sector, as well as the breadth of opportunities available. The EPFG cannot overstate the importance of the engagement of the sector as a whole, to the success of the Early Careers stream.

The resounding lessons however were, the need to improve the opportunity for Emerging Professionals to contribute to the poster competition – a key feature of the stream. There is also a broad desire by the Emerging Professional community to engage more with senior members of the OME sector, to facilitate that transfer of knowledge and experience that is so essential to our continuous improvement as an enterprise.

Work on the Attract Task continued to look at opportunities to better represent the sector to those looking to build careers in OME. This includes considering frameworks that will facilitate a sector wide "joint front" in attracting new graduates in the various industries. The Attract Task is also in the process of generating publicly accessible media, that demonstrates the wide geographic reach of the OME sector and the opportunities available throughout the entirety of the UK. The aim of this task is to show that location is no barrier to entry.

Complementary to "Attract", the Retain Task seeks to fathom and address the issues affecting the decisions of emerging professionals to remain within the sector. A key source of data has, as ever, been the Fulmination Symposium. The EPFG is continuing to review responses from the retain session and the registration survey, in hopes of updating the report to the Sector Skills Strategy Group. A key concern is the anonymity of the data collected. Once analysed, this information will shed light on both where the sector is doing well and where improvements could be made.

Prior to the disruption of 2020 and 2021, a key vessel for the sharing of knowledge was the EPFG (then the ECGF) site visits. These events aimed to expose Emerging Professionals to activities in broader OME sectors in order to both broaden knowledge and improve the understanding of one's own contribution. I'm pleased to say the group is working on reviving this task, with visits planned for Q3 2023. In the way of a shameless plug, I would encourage anyone that could host such a knowledge broadening visit to contact the Institute.

Again, related to the aforementioned disruption, the work on the Webinar task initiated in 2019 to bring the Emerging Professional community together continues. Due to the popularity of the lunch and learn style webinars, the task was retained, as it represents a way for the community as a whole to build networks and broaden their knowledge, regardless of physical location and resource limitation. Two Coffee Roulette events are planned for November, in which Emerging Professionals are linked via virtual conferencing to a small panel of people at the next stage in their careers. Due to the popularity of these events within the community, I am forced again to make a shameless plea.

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The success of the Coffee Roulette events hinges on the availability of Mid Careers panellists. Therefore, anyone who is in the 10th - 15th year of their career and would care to dedicate an hour of their time to inspire Emerging Professionals, is cordially invited to contact the **IExpE**. In summary, the EPFG has continued to represent the Emerging Professional community in trying to broaden knowledge and address issues affecting those in their first few years in OME.

The progress in the various work streams is testament to the volunteer spirit within the OME community. I'd like to welcome those that have joined the group, and to encourage the rest of the Emerging Professionals in this sector to seek out opportunities to build their network and improve their experience within the sector, whether that be through the EPFG or on your own initiative.

Vincent Coombs, Chair of the Emerging Professionals Working Group.

Education & Training Working Group



Over the last 6 months the Education and Training Working Group have been working hard to provide support to the energetic industry.

Defence Munitions have been leading the way on Open Awards Level 2 Award, Certificate and Diploma in Skills for Explosive Operatives (RQF), and other organisations are looking with interest, to see if they too can use this as a route, providing on the job training and assessing competence as a foundation in energetics.

Go-Science have relaunched the STEM Futures – WOME hub for partners. This programme allows partners to easily put energetics workers on placements in partnering organisations. We are looking to expand the partners across the energetics industry, to enable exchanges of personnel. If you would like more details please contact **I.humphreys@cranfield.ac.uk** or **Jmsoftley@dstl.gov.uk** – WOME Hub lead.

A new nuclear hub is under discussion with GO-Science. The OME level 4 and 6 apprenticeship continues to grow. This year the first apprentices graduated from the 5 year programme, with over another 100 working their way through the programme and more than 30 from across the industry expected to start this September. The UWTSD is also looking to deliver some of the modules from the apprenticeship as standalone micro modules, which it is hoped can be used as a training aid for the industry.

The University is looking to work with partners to deliver some of the practical elements of the course, and as such have put an EOI to industry. For further information please speak directly to the **UWTSD Gareth Collett**.

Unfortunately the OME level 7 apprenticeship is struggling to attract students. Cranfield have offered the final year level 6 apprentices to come to Cranfield University for an overview and tour of the facilities on the 28th September 2023.

If you would like more information please speak to Tracy Temple: **t.temple@cranfield.ac.uk**

If we don't support the level 7 apprenticeship, there is a reasonable chance it will be withdrawn as an option for the Explosives Ordnance Engineering programme. The Explosive Substances and Articles National Occupational Standards are undergoing a review. The standards represent a common way of assessing competence across the industry and are encouraged by the explosives regulation in both HSE and MOD. Please let Stephanie Ball at the Institute know if you wish to be part of the review process: **stephanieball@iexpe.org**

Julie Softley, Chair of the Education and Training Working Group.

Future Technology Skills Working Group Update



The recently established Technology Skills Working Group is chaired by Andy Burn, the current Head of Technology at BAE Systems, Land UK. Andy has worked at Glascoed in South Wales for 27 years, joining British Aerospace as a graduate engineer and - in a classic act of nominative predetermination - started working in the pyrotechnics team before broadening his portfolio. He has been lucky enough to look after a range of technology projects in the Munitions business from energetic materials, through predictive modelling to novel test and evaluation approaches.

This role positions Andy to be able to work with SSSG colleagues to derive a Future Technology Route Map – but with a twist! We know that there are really transformative, exciting technologies emerging in our sector and that there will be new ones emerging as the landscape continues to change around us. Whilst understanding what these technologies are is really important to the working group, what we are really interested in is; what skills do we need to be investing in to ensure that when a technology is mature we have the right people, the right skills, the right experience in the sector to ensure that we can quickly and safely adopt these technologies?

It is early days for this working group, and gaining traction whilst everyone is busy is really challenging. However, we have started to develop the framework in which this route map may exist, and started to understand the breadth and depth of the problem space. It is daunting in its entirety, so we're trying to develop some tactical examples whereby we can explore the breadth of a technology area on one hand ("What is the thirty year technology route map for RAM?" For example).

Next we need to drill down on another technology area to identify the skills, acquisition and solutions for another tactically important area ("How can we get sector skills to allow in line, real time nuclear magnetic resonance spectroscopy?" As another example). >>

>> This can quickly get complex, and it's fair to say the answer is not yet clear; the working group are always keen to speak with folks who have experience of tackling these types of problems and who can point us in the right direction. Once we have worked out how to draw a link between a sector technology and the skills provision solution, we will need to work closely with Julie and the Education Working Group to ensure that Institute endorsed training courses keep pace with the sectors needs. I hope too that the Working Group will be able to share our embryonic thoughts in the next newsletter, and if anyone would like to be part of the Working Group please let me know.

Andy Burn, Chair of the Technology Working Group.

Fulmination 2023: **18th - 20th April**



This year's event took place at the East Midlands conference centre, a modern facility in the surprisingly leafy and spacious grounds of Nottingham University. Accommodation was in the Orchard Hotel, a short walk away from the conference centre or The Jubilee Hotel with a regular shuttle bus.

I was regrettably unable to attend the previous Fulmination event in Reading in 2022 due to COVID restrictions, however delegates who attended last year's event in Reading seemed to prefer the Nottingham venue and it is planned to keep Fulmination at this venue in the future.

The event kicked off with an address from the **IExpE** President Andy Carr, followed by three days of talks from three separate lecture theatres. Delegates seemed to appreciate the choice of three concurrent streams of talks. The range and subject matter of talks was wider than previously and reflects the increase in members from professions supporting the explosives industry, for example scientists and technicians.

Delegates themselves were also more diverse, with a greater number of women and early careers professionals. Credit is given to the Early Careers Focus Group for encouraging early careers professionals to attend.

Running parallel with the talks were numerous exhibition stands with enthusiastic vendors offering goodies and a chat. There was ample time and space for productive business conversations to take place and I also welcomed the opportunity as an IExpE Board Member to receive feedback from members.

A black tie dinner took place on the evening of the first day, with a record attendance of over 300 people. A professional compere hosted the evening and after dinner we were entertained by a brilliant and hilarious talk from Martin Bayfield, a former professional rugby player.

After the talk, awards were given to people and organisations who made outstanding contributions to the Institute and the Explosives Industry. I was informed that festivities continued after the meal



until the early hours, however as I was due to speak early the next morning I took prompt advantage of the comfortable on site accommodation.

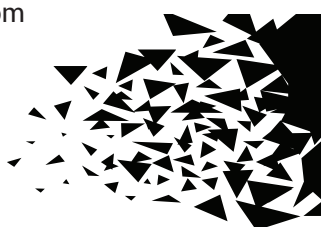
During the afternoon of day 2 a team building session took place where delegates had to complete a series of tasks to try to find out who has the communication, collaboration and problem solving skills to successfully complete Mission X.

A covered BBQ and bar outside the venue provided a more relaxed meal and networking opportunity on the evening of the second day.

The event was slick and professional, and it was obvious that vast amounts of time had been expended on preparation, to the credit of the **IExpE** events team. Going forward the plan is to consolidate on the success of the event and probably hold Fulmination once every two years, with a members weekend during alternate years. Comments on this proposal from members are welcomed.

The event would not be possible without the generous support of all sponsors.

Ruth Barber LL.B (Hons) LL.M AExpE, Solicitor.



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please visit iexpe.org**