

## President's Address - Xmas 2023

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This is the first UK Chapter Dinner since I was elected as President, so I have looked at the EW-related things that have happened since I last attended an event, which was pre-Pandemic. I'll start at the highest level with the war in Ukraine (or the Special Military Operation, if you prefer than euphemism). The media is full of stories and articles about the use of UAV, UAS, RPAS (generally called 'drones') in the skies over Ukraine. Dig a little deeper and you will also find reports on the 'invisible battles of electronic warfare' which are targeting not only drones, but also radios. CNN say that the Russians are mass-producing systems for "trench electronic warfare" to create the EW equivalents of earth and concrete fortifications to protect the areas which they consider to be within their borders. The BBC has reported that Russian EW has influenced a return to field telephones connected by cables (something that my Great-grandfather, Grandfather and Father would have recognised from their long service in the Royal Engineers Signal Service and the Royal Signals). Less publicised in the mainstream media are the actions being taken by the Russians to minimise the effectiveness of the weapons supplied by NATO; most of these - to some extent - utilise GPS-type signals as part of their navigation assets. The fact that the GPS signals from satellites can be jammed by relatively crude pieces of electronics seems to have surprised some of the "decision makers", if not those of us in the EW community. I can't resist making the observation that a possible beneficial spin-off from this is that manufacturers of vehicles might now comprehend the vulnerability of their autonomous driving systems to malicious actions.

So far, the focus of the stories being reported is on what we would call Electronic Defence and Electronic Attack and the third arm of EW - Electronic Surveillance - has not received the same amount of media attention, despite it being key to success in the other two arms. Electronic Surveillance was the key activity of the "Ravens" and the other "black" birds (in other words, aircraft performing secret missions). It was this work that led to EW professionals being called "Crows". Analysis of the data collected in this way with other intelligence is what allows the scientists in our community to understand what our opponents are capable of doing in the Electro-Magnetic Spectrum and therefore allow us to be prepared if they do it. But we have seen how our governments seem to be incapable of understanding scientific intelligence assessments (whether it be biological threats from a virus or assessments of the EW capabilities of Russia and China). This lack of understanding leads to a failure to anticipate the scale of potential effects and to prepare for the eventuality of a possibility becoming a reality.

Consequently, support to EW - in terms of manpower and money - is always lagging behind the threat assessment. We are fortunate that we have some knowledgeable military personnel in establishments such as Defence Intelligence, the Air and Space Warfare Centre and the JEWOSC. We also preserved some key technical EW capabilities in dstl (even though a lot of the Electronic Surveillance capability was "privatised" when DERA was dismantled). The dstl EW teams have maintained a technical understanding and capability with a group of Subject Matter Experts (otherwise known as SME). These have enabled EW capability to be developed and deployed to assist in the efforts to safeguard Ukraine from further Russian actions in their Special Military Operation. We also have a significant EW industry, the largest portions of which tend to be involved in the headline-grabbing major programmes such as Typhoon, Tempest, and Dragonfire. Alongside these, the Small- to Medium- sized Enterprises (otherwise also known as SME) in the UK have retained their ability to be innovative and to be able to create cost-effective point solutions at speed, often working in close co-operation with dstl.

Many of the SME (of both kinds) involved in the UK's response to the events in the Ukraine are members of the UK Chapter of the AOC. Many of us in the AOC have been involved in the UK's responses to other world affairs - through the Cold War, the Falklands War, the Gulf War, actions in the Middle East and the wars in Iraq and Afghanistan. We have aimed at sharing knowledge and awareness of EW amongst the membership and with those who are responsible for decisions in the Government.

For a long period of the Chapter's recent history, the leader of our EW Community was John Clifford. We all know what he did to formalise the NATO understanding of EW and to support individual members of the AOC. Until the recent AOC Europe Conference in Bonn, I had not really met his wife, Jane. Once I had, I saw how highly she was regarded and warmly greeted by so many members of the AOC from Chapters and Roosts across Europe and the USA. In discussions after the Conference, it was clear that Jane had contributed a lot to the successful running of our Chapter and to the excellent reputation that we had across the world. Consequently, the Board of the Chapter have decided that we should recognise Jane's contribution by awarding her a Commendation.

For the final part of the formal events tonight, I would like to look forward to what I hope we can achieve in the next phase of our EW journey.

At a personal level, I will present the Board with my observations and recommendations for things we could take to strengthen the Chapter. One of these will be to increase the level and effectiveness of advocacy and - more importantly - education regarding EW, especially in decision-making circles. Ideally, I would like this to be with the AOC in an independent role, but I recognise that this may be by supporting the existing scientific and industrial parts of the EW enterprise. I will call upon my own links with parts of the Enterprise, but I will be looking to current members to assist in this task.

In my opinion, one factor in the potential shortfall in deployable UK EW capability is that we haven't had a knowledgeable senior person with overall responsibility for EW for a long time. The AOC cannot directly change this, but I think it is really important that we find and recruit an increased number of AOC members in the UK with recent experience of senior posts in all parts of the Enterprise, including the military and industry, alongside our SMEs. We need these to engage with people of similar experience (I think I can say that without upsetting HR by using the forbidden word "age") so that the peer group in the Enterprise can move forward together.

The increasing awareness of the importance of EW in the war in Ukraine presents us with a window of opportunity to influence the creation of capability in the UK that can provide Electronic Surveillance, Electronic Defence and Electronic Attack in a relatively short time and at reasonable cost. Hopefully, the immediate dangers posed by the Special Military Operation in the Ukraine will cease in the near future. As a priority, the UK must be ready to build up its Electronic Surveillance activities with its NATO partners in order to understand the threat posed by adversaries and prepare counters to them before they take action. After all, it is effective Electronic Surveillance and accurate intelligence assessments that do most to provide a clear understanding of what we need to do to provide security to us and to safeguard our peaceful ways of life. I am not standing here asking for "world peace", but I sincerely believe that being aware and prepared is the best way to minimise the risks of nations taking actions that are not peaceful.