CRFS: EMSO Awareness Must Become More ‘Mainstream’

By Andrew White

Awareness of the critical nature of Electromagnetic Spectrum Operations (EMSO) must become more “mainstream” to senior leaders across His Majesty’s Government (HMG) in the United Kingdom.

This was the main message emerging from the ‘**CRFS (Cambridge Radio Frequency Systems)** Connect’ event held on 10 June, which brought together senior leaders from multiple government agencies including the Ministry of Defence (MOD) as well as NATO partners and industry.

According to a CRFS spokesperson, the “big takeaway” from the event, held at Imperial War Museum in Duxford, England, was making the electromagnetic spectrum understandable to everyone – to understand capture, monitoring, detection and real-time intelligence”.

But the spokesperson warned: “We are all acting in an echo chamber and care about the EMS. But do government [agencies] understand it as a well as the primes? CRFS Connect’s mission is to get out of this bubble so people understand the importance and role of EMS. We need to get this out into the mainstream.”

Featuring subject matter experts in RF sensing, spectrum intelligence, electronic warfare and autonomous systems, the closed-door event featured input from high ranking officers from the British Armed Forces, who suggested the some branches of the military have forgotten about the importance of emission control (EMCON).

A keynote speech from a senior defence official called for every soldier to become a sensor, with “non-exquisite, battle proven” technologies capable of being scaled up to uncrewed air, ground and surface vehicles and vessels to support the critical flow of real-time information across the wider kill chain.

Discussions at CRFS Connect also considered EMSO across contemporary operations in the Middle East with a senior civil servant stating:

“US bombing missions had flown thousands of kilometres and delivered payloads in the Middle East. They did that by managing spectrum in grey zones, and over allied countries as well as jammed areas over the target.

“Managing and countering every aspect of that mission, deception-to-detection, they got back cleanly. And that’s the task UK government has as they develop an electromagnetic and cyber defence strategy to protect and defend the UK,” the civil servant continued.

Delegates at CRFS Connect also heard from an Armed Forces of Ukraine delegation who briefed on changes in EMSO in the land battle. This included emphasis on the use of the EMS to enable “very accurate detection of land-based threats in real-time.”

“Ukraine has demonstrated the vital contribution RF intelligence makes in modern conflicts in both overcoming hostile neighbours and managing the land battle,” a government official said, referencing ongoing support from the UK, particularly in terms of EW systems.

Ukraine reports the primary drone threats it faces involve a combination of long-range strategic strikes, relentless frontline first-person-view (FPV) tactics and AI-guided systems to evade traditional electronic warfare. However, “threats are now being detected in the spectrum and providing our forces with early warning,” a senior member of the Armed Forces of Ukraine added.

Finally, a CRFS spokesperson explained how CRFS Connect also looked to the future to consider how the UK and other European nations could “cope” with future military demands.

“All the playbooks have changed,” they warned, before suggesting some of the most effective, battle-proven EW technology in the world is designed and manufactured in the UK. And that the UK could capitalise on its unique advantage to protect itself and its neighbours through the rapid role out of EW sensing across all NATO countries”.