

Ultra PCS UltraLYNX-C3 providing command & control on the move

The British Army has established a Capability Spotlight to focus on the question 'how can the Army exploit developments in the Agile Command, Control and Communication space?' The 2020 Army Warfighting Experiment (AWE20) seeks to leverage emerging technologies to combat enemies that want to deny the use of normal channels of communication.

Open to all of industry, from SME's to large defence primes, a simple quad chart and white paper submission process allows the Army to quickly select candidate technologies to take part in AWE20. Running over a twelve month period and divided into 3 phases, a "dragons den", a feasibility demonstration and finally a live field experiment, the selected technology will be used by soldiers in a realistic operational scenario to provide evidence of the potential utility that it might have within the Land domain. There are over 100 entries in AWE20 and whilst the experiment itself does not formally provide procurement contracts, the Army works hard to ensure that there are multiple routes for exploitation, including a visitor day where several hundred senior officials (including international delegates) will attend and are briefed on each technology taking part.

Ultra PCS has successfully submitted its UltraLYNX-C3 concept into AWE20.

Based upon its UltraLYNX smart hub, UltraLYNX-C3 aims to provide an "on the move" Command, Control and Communications solution, all mounted in a daysack, supporting the notion of moving command further forward, in a light, agile manner.

UltraLYNX is than more than just a conventional power and data hub or "junction box"; the embedded processor provides a compact rugged computing solution that can function at the tactical edge. UltraLYNX can be imagined as a tactical router, managing the data flows between all of the devices connected to it, and it is this feature, which is at the core of UltraLYNX-C3.

UltraLYNX-C3 connects the "on the move" Commander to the local troops on the ground, as well as connecting to a mobile command post and even providing reach back to a remote HQ via satellite. Using the routing features of the UltraLYNX hub, mission data can be shared between all three of the command echelons, as well as being viewed

and updated by the Commander on the ground. This gives a Common Operating Picture (COP) in near real time, whilst maintaining the agility to "pick up and go" should the Commanders location be compromised.

A MANET radio (provided by Trellisware) provides the Commander with a data link to the troops on the ground, where their situational awareness is reported using the US developed ATAK application. At the mobile Command Post, a second BMA (in this instance the Ronin platform, provided by Coolfire Solutions) connects to the UltraLYNX C3 over a second radio link (provided by Domo Tactical Communications). Finally, UltraLynx-C3 connects to the remote HQ using Spectra's Slingshot system to link with an Inmarsat satellite. Mission data at the HQ is presented on a third BMA (provided by Elbit UK).

UltraLYNX-C3 seamlessly transfers the information between the three different Battlefield Management Applications (BMA) connected on three different radio nets.

A 3D Augmented Reality headset provides a novel way of viewing the Common Operating Picture for the "on the move" Commander. Using a Hololens headset, a 3D desktop can be created, allowing the Commander to see the COP application whilst maintaining his "eyes-on" the immediate environment. This approach is similar to the work being done on the US Army's IVAS programme and is intended to show the art of the possible to the soldiers participating in AWE 20. A more conventional rugged tablet is also provided, so that the COP can be seen by others in Commanders team.

UltraLYNX-C3 allows the immediate exchange of critical information to be carried out further forward, enabling the army to make faster and better-informed decisions. Given its relatively light weight, UltraLYNX-C3 also allows a dispersed HQ to be realised, potentially reducing the HQ footprint down to the individual as they move forward.

Additional encryption and even a wearable cross-domain security solution is also possible, making UltraLYNX-C3 a truly portable Command, Control and Communications solution.

As well as UltraLYNX-C3, the Army Warfighting Experiment also provides the opportunity for the wider Ultra Group to demonstrate the capabilities of its full C3 System.

Combining Ultra's communication technologies from across the USA, Canada and the UK, the full C3 System



is designed to deliver an integrated, Common Operating Picture information in Near Real Time, across multiple echelons of the British Army's hierarchy.

With the ability to correlate and fuse different data types and disseminate the information across multiple bearers (including local cellular infrastructures where available), the

C3 System is able to deliver increased Situational Awareness to the tactical edge that will provide friendly forces with the information advantage during operations. ■

For more information, please visit:
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Ultra C3 Solution – AWE 20



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