



In the News

Joint Program Executive Office, Joint Tactical Radio System
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Joint Tactical Radio Systems (JTRS) Bowman Waveform (JBW) and Cryptographic Equipment Application (CEA) Demonstration

SAN DIEGO - On June 13, 2007, senior decision-makers from the Department of Defense and the U.K. Ministry of Defense attended a successful real-time demonstration of the Very High Frequency Joint Tactical Radio System Bowman Waveform (JBW) and a United Kingdom sovereign Cryptographic Equipment Application (CEA) at the ITT Corporation facility in Clifton, N.J. This was an important step in realizing U.S./U.K. tactical command and control interoperability, demonstrating direct interoperability of the U.K. Bowman Advanced Digital Radio (ADR+) with an ITT software defined radio test bed via the exchange of voice and data information over multiple Bowman VHF networks. The information exchange included clear and encrypted voice and data communications in both fixed and frequency hopping modes. Performance of the embedded CEA implemented on the Harris reprogrammable device (a software version of the U.K. sovereign Cryptographic Equipment Application) was also demonstrated as it seamlessly exchanged peer-to-peer voice communications.

The United Kingdom and the United States are currently in the planning phase for the next project arrangement with plans to demonstrate information exchange between operational U.K. ADR+ and production of the JTRS Single Channel Handheld sets by 2010. In consonance with these efforts, the two nations are also planning to conduct a large-scale interoperability demonstration at the conclusion of this project with DoD's Future Combat System. Under the new arrangement, the United Kingdom and the United States will collaborate on a minimum of three interrelated work packages to attain maximum use of background technical information attained from current and prior development. They are (1) a mission management demonstration to include network planning and crypto key handling, (2) JTRS Bowman Waveform porting to production JTRS, and (3) investigation into the operational benefits achievable through development of the Bowman high frequency and ultra high frequency waveforms. As warranted, the two nations will take full advantage of technology innovations throughout the duration of the project arrangement to achieve enhanced tactical interoperability, subject to cost and schedule limitations.

JTRS mission and goal is to develop and produce a family of interoperable, affordable software defined radios at moderate risk which provide secure, wireless networking communications capabilities for mobile and fixed Joint forces. These goals extend to U.S. allies, coalition partners and homeland disaster response personnel. JTRS seeks to develop and produce JTRS capabilities while meeting costs, schedule and performance deadlines. The Bowman waveform is significant in achieving organizational goals by aligning U.S. ally efforts and capabilities in meeting the needs of the Joint warfighter.

BACKGROUND

United Kingdom – United States tactical command and control interoperability is of critical importance to both nations in support of the global war on terrorism and Operations Enduring

Freedom and Iraqi Freedom. To further this objective, both nations implemented an international project arrangement in September 2002 to enhance tactical interoperability via the U.K.'s Bowman communications system. In parallel with this international project arrangement, the Joint Program Executive Office for JTRS contracted with ITT Corporation in Clifton, N.J. to develop the JTRS Bowman Waveform implementation for JTRS software defined radios. Additionally, this project arrangement involved the sharing of the U.K. - developed sovereign cryptographic algorithm – an unprecedented level of technical data sharing that demonstrated the high level of trust and importance placed on this effort by both countries. JPEO JTRS contracted with Harris Corporation in Melbourne, Florida to deliver a Cryptographic Equipment Application; implementing this algorithm for Harris' reprogrammable device for JTRS software defined radios.