UltraTEM-V and UltraTEM-XC Pathway to DAGCAP Validation.

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Abstract

The UltraTEM system is a well-established geophysical technology utilized in the UXO remediation industries across Australia, Europe, and America. The UltraTEM-V will expand the range of applications for this technology while enhancing the quality of EMI data collection and improving UXO classification capabilities. Since 2015, the UltraTEM-II, III, and IV have maintained a consistent electrical component design, with incremental enhancements made to specific components, firmware, and mechanical deployment. The insights gained from past developments, combined with ambitions for the technology’s future, are driving the evolution of this next generation.

The UltraTEM-XC (Cross Country) is a portable sensor platform designed for single-person operation in challenging environments where larger UltraTEM Portable and Towed Array Classifiers are impractical. The UltraTEM-XC features a compact design that allows for effective use and manoeuvrability by one operator. It supports dynamic one-pass, dynamic cued, and static cued data collection, and can be integrated with DGPS or SLAM systems.

In this presentation, we will outline the objectives for enhancing UltraTEM hardware and the challenges of creating a robust, portable system for single-person use. We will also discuss the validation process for the UltraTEM-V technology and the UltraTEM-XC sensor platform at Aberdeen Proving Grounds undertaken in 2024.