



National Spectrum Consortium: Delivering Innovation

Solicitation: Spectrum Integration System Sensor Edge (SIS Sensor Edge)

Project Title: SIS Sensor Edge

Performer: *Prime* – Chesapeake Technology International (CTI); *Significant Nontraditional Contractors* – Distributed Spectrum Inc. and Statheros LLC.

The Spectrum Integration System (SIS) Sensor Edge project will prototype a modern, intelligent, and cost-effective distributed sensing network to provide an environmentally informed data stream of the electromagnetic environment (EME) into a common operating picture (COP). The visibility of electromagnetic spectrum operations (EMSO) will allow range operators and users to effectively plan, manage, deconflict, and troubleshoot issues in the EME at timescales that are orders of magnitude quicker than the status quo. This will increase the utility of the electromagnetic spectrum (EMS) to operations on DoD ranges.

The complementary SIS Core sister project will develop the planning, optimizing, automation and COP, leverage the data provided by SIS Sensor Edge, and provide sensor tasking instructions to SIS Sensor Edge. The SIS Sensor Edge project will demonstrate a distributed, dynamic, sensor-agnostic system – enhanced with edge computing at sensor nodes to judiciously pre-process spectrum data products – and provide the spectrum situational awareness to the COP. The effort will include sensor architecture development, EMS data protocol development, the integration of sensor systems with sensor orchestration functions, development of range-ready physical prototypes, development of software interfaces, integration of signal processing model management framework, and support prototype deployment and demonstration as leave-behind capability on select DoD ranges.