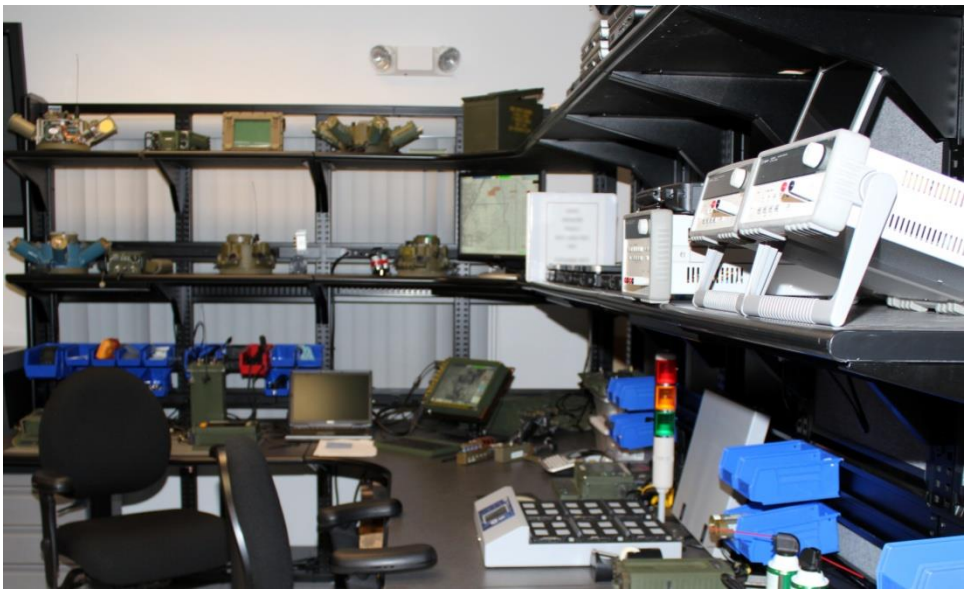
Spider Software Engineering Support Laboratory

The Spider Software Engineering Support Laboratory (SESL), part of the Network Munitions Software Engineering Facilities, provides Program Manager Close Combat Systems (PM CCS) together with the Armament Software Engineering Center (Armament SEC), the capability to organically support the system software for the M7 Spider Networked Munition System (NMS) and M7E1 Spider Increment 1A.

The M7 Spider NMS preserves essential military capabilities to providing force protection and shaping the land battlefield, while all but eliminating the risk associated with persistent anti-personnel landmines. Spider consists of three subsystems: (1) Remote Control Station (RCS) which consists of the Remote Control Unit (RCU) and the RCU Transceiver (RCUT) providing a computer interface for operator control and alerts the operator of intrusions; (2) Repeater for extended communications; and (3) Munition Control Units (MCUs) each of which can contain up to six individual Miniature Grenade Launchers (MGLs) or Munition Adapter Modules (MAMs). The deployed MCUs can send alerts to and receive commands from the RCS.

The M7E1 Spider Increment 1A is an updated ruggedized control station providing updated computer hardware, a partitioned operating system, updated graphical user interface (GUI), map background capabilities, and with the use of the Rifleman Radio (RR), the option for seamless interoperability.

The Spider SESL is comprised of both commercial and tactical assets. The lab includes various workstations and ruggedized, all of which are used for running compilers, interoperability emulators, Spider component emulators, and/or control station prototypes. The lab contains Spider Tactical equipment each configured with various software baselines. This allows for capability to test/diagnose issues that result during development, training, and fielding. In addition, the lab has tactical configurations of systems that Spider interoperates with in order to verify and maintain Spider's interoperability requirements. The lab also has indoor GPS capability and the equipment necessary to run over-the-air tests through hardwire cables, in order to isolate components and prevent radio frequency interference/saturation.



The Spider SESL supports various lifecycle acquisition tests, including Army Interoperable Certification (AIC) risk reducing testing activities, Risk Management Framework (RMF) Certification and Accreditation (C&A), and Operational Test (OT) support and troubleshooting. The lab also provides the capability to perform various RCU code inspections, troubleshooting, testing prototype devices and concepts, and code work specifically with the Spider interoperability interface as well as supporting the Spider 1A control station development efforts.

The Spider SESL's main function is to support the Spider and Spider 1A programs during the Post Production Software Support (PPSS) phase of the lifecycle by providing organic capability to conduct software maintenance, maintain interoperability, and maintain the software knowledge base. The Armament SEC will be PM CCS's configuration managers of the Spider and Spider 1A Software Engineering Data Package (SEDP) when the system transitions to the PPSS phase of the lifecycle.

As Network Munitions evolve and new programs/capabilities are added, the Network Munitions Software Engineering Facilities will continue to provide PM CCS and ARDEC with software acquisition, software engineering, and software maintenance support throughout the acquisition lifecycle.

Point of Contact

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