

Battle Lab systems evolving to meet warfighters' needs

By Debra Valine

COLORADO SPRINGS, Colo. — The Space and Missile Defense Battle Lab is using advanced technology and lessons learned to upgrade a Space support system that has proven its value to warfighters during OPERATION ENDURING FREEDOM AND OPERATION IRAQI FREEDOM.

Twenty-five Soldiers from across the command trained on the Army Space Support Team—Tactical Set (Dismounted) (ARSST-TS (D)), in June during the 2nd Space Company ARSST-TS (D) new equipment training. The company is part of 1st Space Battalion, 1st Space Brigade. At the completion of training, the ARSST-TS (D) became the property of the 2nd Space Company and will become part of their Modified Table of Organization and Equipment.

The ARSST-TS (D) is the upgraded version of the Space Support Element Toolset-Light (SSET-L). The SSET-L evolved as a portable version of the Space Support Element Toolset that was validated during the Army Transformation Experiment, MILLENNIUM CHALLENGE in July 2002. It was subsequently deployed on short notice to support warfighters in OEF/OIF. The system improved battlespace awareness, Space analysis and commercial satellite communications capabilities for forward deployed Space operations officers and their teams. Its capabilities aided in timely and relevant Space products (e.g. commercial and spectral imagery) and services (e.g., analysis, estimates, intelligence preparation for the battlespace, etc.) at operational and tactical levels.

“The first version was a huge success,” said MAJ Philip Speth, chief, Army Space Exploitation Demonstration Program. “The capabilities of the SSET-L were so great that it was used differently in almost every situation. It was very versatile.”

Because the ARSSTs deployed on short notice with different customers, each team developed a way to use the SSET-L that best fit the mission at the time. Lessons captured from those first missions shaped this newest version.

“We learned it was too big,” Speth said. “And it was too slow. We did some testing and made the upgrades.”

The ARSST-TS (D) is made up of two Space Operation System (SOS) workstations, one Space Operations System Imagery (SOS-I) workstation, and one Space Application Technology User Reachback Node (SATURN) communication suite.

“The SOS is a portable computer system designed for Space analysis and situational awareness and limited imagery analysis,” said LTC David Hotop, chief, Experiments Division. “It runs a Windows-Intel operating system for ease of use and training, and is accredited to operate in unclassified and classified environments. Additionally, it is compatible with Global Command and Control System and allows Space operators to conduct Space analysis and develop products and services for supported units.”

“The SOS box is now 78 percent faster than the first version,” Speth said. “We have doubled the internal storage with hard drives and we have upgraded the video card. We have taken away the redundant software, and by having three SOS boxes, we have streamlined the system. They all operate off the same operating system and the repair parts are interchangeable.”

SATURN version two is a triple redundant Space-based communications suite. It provides improved cabling for ease of use, added a firewall and switches for communications security, and was redesigned for better cooling, Hotop said.

“It is a more portable and deployable system composed of two transit cases: one for classified and one for unclassified transmissions,” Speth said. “The SATURN is now equipped to operate globally from any power source rated between 90-250 Volts and 50-60 Hertz.”

“SATURN allows the ARSST to reach back to their home station and get imagery products, Internet access and telephone communications without having to rely on the host unit,” said Dave Stockton, a contractor with SY Coleman.

“Normally, ARSSTs do not go out on their own; they go out to support a division or corps,” Stockton said. “They provide Space and spectral imagery products. These product files are very big. File transmission will overload a tactical network — essentially, they kill the network. This way, they do not interfere with their host’s communications system.”

“It is a selling point. Not only to they have their own comms, they can share because there is enough bandwidth,” Stockton said. “Traditionally, the ARSST would show up with the image processors and ask to work in. Now they do not have to.”



Above: SPC Eric Tollefson, SSG Jay Stephenson and SPC Scott Duke, 1st Space Battalion, 2nd Space Detachment, Peterson Air Force Base, Colo., set up the base for a satellite antenna. Below: SPC Scott Duke at the terminal. Photos by Debra Valine

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