



Defense Wide

Manufacturing Science & Technology

DoD ManTech Reduces the Cost, Weight and Number of Batteries for the Army's LRAS3

The Challenge:

The current energy storage system for the Long Range Advanced Scout Surveillance System (LRAS3) uses two lead acid and twelve other rechargeable batteries. During a silent watch mission, these batteries cannot be directly charged by the vehicle and must be changed multiple times during the mission. Therefore, the Warfighter must carry multiple sets of replacement batteries in which the battery power source system weighs more than 200 pounds.



ManTech Response:

- “ DMS&T, the Army, and DLA formed a production team to integrate newly developed, proven cell technology and battery electronics into the production design of an advanced lithium-ion power source for the LRAS3
- “ Modified the tooling and processes from another power source design to leverage manufacturing capability and achieve economic viability
- “ Coordinated with the U.S Army PM Ground Sensors office, the requiring activity for the LRAS3, to demonstrate low rate initial production of the Li-Ion power source
- “ Total ManTech investment of \$1.2M

Impact:

- “ New auxiliary charging capability supports handheld devices and eliminates the need for additional charging equipment
- “ Reduced number of LRAS3 system batteries from 14 to 1
- “ Reduced total system battery weight by more than 150 pounds
- “ Extended system run time and silent watch mission capability by a factor of three
- “ Flexible power source serves the needs of other systems that require tactical energy storage
- “ Life cycle and logistics cost savings of \$12.5M

75% Reduction in Battery System Weight and \$12.5M cost savings