The Logistics Reduction (LR) project within the Advanced Exploration Systems (AES) program is tasked with reducing logistical mass and repurposing logistical items. Multipurpose Cargo Transfer Bags (MCTB) have been designed such that they can serve the same purpose as a Cargo Transfer Bag, the suitcase-shaped common logistics carrying bag for Shuttle and the International Space Station. After use as a cargo carrier, a regular CTB becomes trash, whereas the MCTB can be unzipped, unsnapped, and unfolded to be reused. Reuse ideas that have been investigated include partitions, crew quarters, solar radiation storm shelters, acoustic blankets, and forward osmosis water processing.

INNOVATION PERSPECTIVE
The MCTB project can greatly reduce the amount of trash for Exploration missions.

PARTNERSHIPS/HIGHLIGHTS
The MCTB team has worked with the Acoustic Office to determine the optimal material layup of an acoustic MCTB to absorb the sound of the ISS T2 treadmill. In addition, the team has collaborated with the RadWorks Storm Shelter team at NASA-Langley to infuse their storm shelter designs with MCTBs.

INFUSION POTENTIAL
This technology may be used on any vehicles including ISS, Orion, and future deep space vehicles to repurpose logistics items, reduce overall logistics mass and volume, and reduce trash.