AMIS Techport

The current medical inventory paradigm on the International Space Station (ISS) requires crew to report use of medications and supplies to be manually decremented by ground teams. This method is not only tedious and time consuming for both the crew and ground teams but also results in inaccuracies in location and availability of medical supplies over time. Fortunately, the ISS is frequently resupplied by cargo launches and crew expeditions, and an accurate inventory count is less critical. However, for exploration missions, resupply will be greatly limited or unavailable entirely, and increasing communication latency will impair crew-ground communications. On longer missions, with large medical systems and time constrained crew, NASA needs a method of accurately managing medical inventory without reliance on ground teams and with as little crew time and effort as possible.

The Exploration Medical Integrated Product Team (XMIPT) project called Medical Exploration Development and Implementation Scoping (MEDIScope) prepared a concept of operations and preliminary requirements for an Automated Medical Inventory System (AMIS) and completed a market survey and trade study of potential inventory management technologies in partnership with the market research firm, yet2. The products from the MEDIScope effort, including the market survey results, preliminary functional requirements and a concept of operations, have been handed off to a development team at Glenn Research Center (GRC) and ZIN Technologies for technology maturation. In the development phase, the AMIS team will finalize system requirements, down select technologies, integrate with a future exploration Crew Health and Performance Integrated Data Architecture, and conduct design reviews. The project will culminate in an ISS technical flight demonstration in FY27.