

**Minimized Logistics Habitat Unit (MILHUT).** The Team Leader of the Fabric Structures Team within the Expeditionary Basing & Collective Protection Directorate at the Army Natick Soldier Research, Development and Engineering Center provided an overview of the MILHUT, a technology prototype that maximizes expeditionary base camp system interrelationships to minimize fuel and water demand while improving quality of life. On one side is a kitchenette for preparing locally sourced foods, heating foods, a fully functional sink with timed hot and cold water sources. There's also an ice and cold water dispenser and commercial grade washing machine that cleans and spin dries clothes to nearly dry. On the other side is a dual flush macerating toilet that uses concentrated grey water to reduce usable water consumed. Blackwater (outputs from the toilet and kitchen sink) is pumped into the incinerator where it is burned safely. The shower is programmed to use minimal water through a "navy style" cycle. In addition to these is a water treatment, storage and supply system. The water system stores and supplies specific classes of water where required which can operate independently or on a local water source. Water from the shower, laundry and bathroom sink is collected into the gray water tank to be treated and recycled. Permeate water from the reverse osmosis system meets non-potable requirement and is pumped into the non-potable tank. Concentrate water is pumped into the concentrate tank, which is used to flush the toilet. The MILHUT's power management system can take energy from solar panels, wind turbines and an on-board generator or grid (if available). It automatically stores excess energy for use when there is no renewable source available and switches on a generator if the battery state-of-charge gets low. This technology is energy efficient, incorporates renewable energy, gray water reuse system, smart energy management and control energy sharing between functions. PAO U14-502

