

flexibility to the panel's material and allow it to conform to a Soldier's gear. Under bright sunlight conditions, with the PV panel facing the sun, the backpack panel is capable of delivering 10 watts while the helmet cover panels provides seven watts of electrical power.

At MFIX, NSRDEC researchers collected power-management data and assessed user feedback from the Soldiers wearing the technologies. Once the energy-harvesting technologies themselves are validated, the next step will be to sync with the Integrated Soldier Power Data System as a way to distribute the energy to a Soldier's electronic devices.

Additionally, "MFIx is looking at new concepts with energy-harvesting devices and how they fit in a tactical environment," said Noel Soto, project engineer for the Power and Data Management Team of the NSRDEC Warfighter Directorate.

"MFIx is an important opportunity that allows us to quantify the energy-harvesting technologies that generate Soldier power on the move," said Henry Girolamo, lead, Emerging Concepts and Technologies, Warfighter Directorate, who has been involved with the effort since 2011. "The MFIx data collected in the experiment will inform us of the power harvester efficiency by comparing energy harvester-equipped Soldiers and non-energy harvester-equipped Soldiers and states of charge from the energy harvesters versus discharge from non-energy harvester-equipped Soldiers."

(Jeff Sisto writes for the NSRDEC Public Affairs Office.)



A helmet cover equipped with MC-10's photovoltaic Solar Panel Harvester material was used at an energy-harvesting technology demonstration held at Fort Devens by NSRDEC.



Photo by Noelle Wiehe

Art Petit, training and services manager for InstantEye, launches the system during a hands-on demonstration for students of the Maneuver Captains Career Course.

SOLDIERS HELP DEVELOP NEW UNMANNED AIRCRAFT

NOELLE WIEHE

Students of the Maneuver Captains Career Course at Fort Benning, Ga., evaluated an InstantEye unmanned aerial system (UAS) to aid in the advancement of a new generation.

InstantEye Mk-2 Gen 3, by Physical Science Inc., is a small UAS able to be launched by hand with vertical takeoff and landing, said Art Petit, training and services manager for InstantEye. The system demonstrates integrated squad-level airborne intelligence, surveillance, and reconnaissance with the ability to provide a cursor on target and battle damage assessment, according to a release on Army Expeditionary Warrior Experiments of 2015.

InstantEye Mk-2 Gen 3 was designed directly from feedback from Soldiers, Petit said. Most in attendance had already been exposed to the system and gave positive feedback, but with their feedback PSI Technology is constantly developing new and improved versions of the system.

"Bottom line behind the aircraft's design is it wasn't designed in a vacuum by a bunch of engineers; it was designed by the guys that get their boots dusty on the ground every day" Petit said.

Being prior Infantry, Petit emphasized the advantage of having a third-eye perspective as a ground Soldier where it may not have existed before because of priorities not going to ground Soldiers.

"That's really important for the safety and force protection of the Soldiers" Petit said.

CPT Brett Matzenbacher, small group leader of the MCCC, compared the system to the Raven, a rucksack-portable UAS currently used in combat overseas.

"I like the Raven because it is something I own," Matzenbacher said. "Pretty much every aspect of performance I can think of (makes InstantEye) superior to what we currently have at the company level"

Read more about the InstantEye at http://www.army.mil/article/139281/Aerial_system_could_enhance_capabilities.

(Noelle Wiehe writes for Fort Benning's Bayonet & Saber newspaper.)