Sense-through-the-Wall Technology Detects Adversaries, Hidden Compartments

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Scientists and engineers from across the U.S. Army, academia and industry are presenting their research this week in Orlando, Fla. at the 2010 Army Science Conference. The conference seeks to enable Army and DoD leaders, Congress and the public to understand the scope of the Army’s science and technology efforts to rapidly develop technologies in support of the Army and the Nation.

About the author: Wilbur Chin is an electronics engineer with the U.S. Army Research, Development and Engineering Command's...
has managed the Suite of STTW Systems Army Technology Objective.

Military operations are becoming increasingly urban centric and our ability to conduct surveillance and reconnaissance on combatants is severely hindered as they retreat indoors. The Army is committed to providing the Soldier with the capability to locate potential hostile targets deep inside urban structures with sense-through-the-wall (STTW) technology.

The Suite of STTW Systems Army Technology Objective, managed by CERDEC I2WD during FY04-FY08, developed a capability for dismounted Soldiers to detect and locate personnel who are hidden behind various types of walls, doors and other obstructions. The successful demonstration of STTW technology has resulted in its transition to a Program of Record.

CERDEC I2WD is providing support to the Program of Record as well as continuing its research of detecting personnel, concealed weapons and explosives and other devices of interest in complex and urban terrain through partnerships with the Army Research Lab and the Defense Advanced Research Projects Agency.

STTW provides situational awareness information to the Soldier to assist in gaining footholds in buildings and for room-clearing operations. The Soldier-borne STTW sensors weigh less than six pounds and can be operated up to 20 meters away from the wall. Each unit has a display that provides range and azimuth information of detected targets to the operator.

These sensors will be able to provide information with regard to adversary numbers and locations behind walls. Troops equipped with the sensors may decide to utilize them during deliberate searches of rooms that may contain possible
hidden compartments.

The bottom line is that STTW technology provides Soldiers with a new Intelligence, Surveillance, and Reconnaissance capability to detect and locate moving and stationary personnel behind obstructions from a standoff distance.

In January 2010, STTW was a featured technology at the US Army All-American Bowl in San Antonio, TX. A hands-on STTW demonstration was given to attendees from the general public to the Secretary of the Army John McHugh.

Learn more about the Army’s advancements in C4ISR technologies and sensors & information processing during the 2010 Army Science Conference.

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Automicx • 4 years ago
It is great for the military but when this STTW technology becomes less top secret (whi...
I think this technology is awesome if it saves even one U.S. soldier's life, but what about the homeland applications? The STTW systems create whole new Constitutional quandaries toward illegal search: interior of your house from somewhere nearby is that grounds for a search warrant? It can't be too far away from police level if were reading about it on the web.

Davidfix Automicx 4 years ago
That is a good idea for patrols around the border with Mexico (homeland security use). They could find tunnels without digging.

Chris Harding 4 years ago
Share the knowledge with the FBI!

Nancy 4 years ago
Does this give u cancer too?

Mark Barron12 4 years ago
yes this is good news,!!!(i was watching a show the other night, outpost Restrepo, afg. did not have the perimeter hostile intrusion detection device(explosives), or any camera perimeter or surrounding area, form incoming hostiles, why is this, our heroes should have (camera's, area detection equipment for any unwanted surprises) equipment to keep them valuable, not to have the Best! Pinpoint the hostiles from a satellite and blow them out of

David Fix 4 years ago
Neat invention. Can it be taken another step further? Rather than the soldier being sniper bait in front of a building, can you put that on a remote control car that transmits the video to where the soldier has