

COMBATING TERRORISM TECHNOLOGY SUPPORT OFFICE 2006 REVIEW

Featured Project Updates

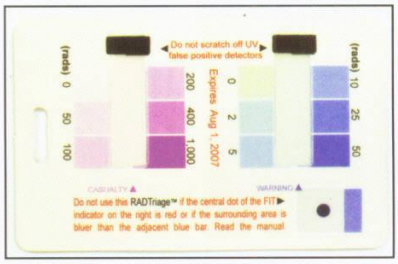
This new section of the CTTSO program review book provides significant updates to past CTTSO projects that have previously been reported on as completed projects. The projects featured in this section have had significant operational improvements, have enjoyed particular commercial success, or have had other developments of note.

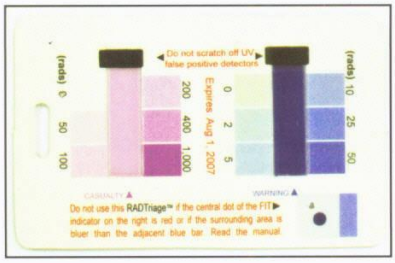
Wireless Phone and PDA Forensic Tool Kit (ISF Subgroup)



The Logicube CellDEK®, a cell phone forensics toolkit, was recently featured on an episode of *CSI: New York*. In the episode, a terrorist used a cell phone to detonate an explosive device, and despite most of the cell phone being destroyed, the forensics specialists were able to retrieve data from the phone using its SIM card. The rugged briefcase device enables investigators to extract data from 220 various cell phones and PDAs using an easy-to-navigate touch-screen computer. The display on CellDEK® allows investigators to identify communication devices by name or photo and then suggests the best way to connect the communication device to extract data. CellDEK® displays the downloaded records within five minutes and can retrieve data such as incoming and outgoing calls, text messages, voicemail, photos, and video, allowing forensics investigators to gather intelligence more efficiently than traditional practices. End users include several Federal agencies. Additional information is available at http://www.logicubeforensics.com/products/hd_duplication/celldek.asp.

Smart Radiation Dosimeter (CBRNC Subgroup)



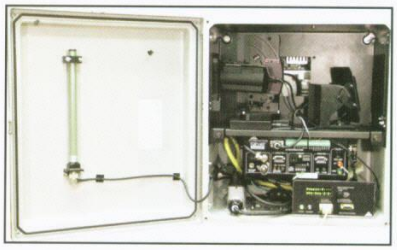


JP Laboratories, Inc. is producing the RADTriage™, a dual-sensor personal smart dosimeter that reliably monitors exposure to radiation from an accidental or intentional radiological event. RADTriage™ has two sensors to monitor radiation exposure, each developing color in proportion to the dose. The "Warning" sensor turns blue and monitors lower doses of radiation (up to 50 rads) that may not require medical treatment. The "Casualty" sensor turns purple and monitors higher doses (50 to 1000 rads) that may require immediate medical treatment. Together these sensors will help first responders to triage potential victims. The FIT™ Indicator simultaneously monitors false positives/negatives, overexposure to heat, and shelf life and provides reassurance that radiation exposure is being reliably monitored. Black bars at the top of each sensor provide an additional method to detect false positives. The FIT™ Indicator enables RADTriage™ to be stockpiled, for years if kept frozen, for future distribution to users in emergencies, since shelf life is constantly monitored. The user-friendly RADTriage™ was designed to be carried at all times, for example in a wallet, handbag, or with an ID badge. These affordable and always-on credit-card-sized badges require no batteries, calibration, or maintenance. Users match the

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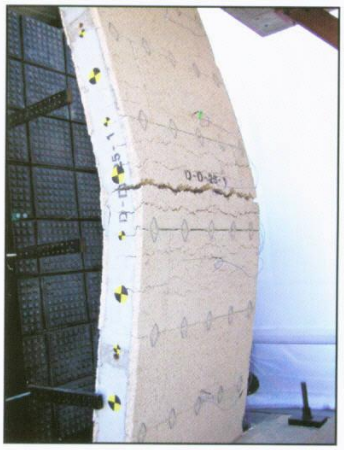
colors of the sensing strips with the adjacent color key to instantly determine their dose. The SIRAD family of dosimeters received a 2005 R&D 100 Award as one of the 100 most technologically significant new products of the year. Additional details and ordering information are available at http://www.jplabs.com.

Long-Range Non-Line-of-Sight Video Transmission System (ISF Subgroup)



The Long-Range Non-Line-of-Sight Video Transmission system, developed by DTC Communications, is a wireless video transmission system that is frequency-independent and uses an advanced digital technology to transmit surreptitious video surveillance signals. The new technology dramatically increases the range over other present technologies. DTC has also successfully fitted similar equipment onto EOD robots used to disarm explosive devices. The system has increased the range in which the robots can operate from their controllers, making bomb neutralization safer and more efficient. Since March 2005, DTC has sold 250 systems for sales of $10 million. End users include several Federal agencies. Additional information is available at http://www.dtccom.com/cofdm-digital-video.html.

Explosive Loading Laboratory Testing (BX Subgroup)



Obtaining quality data from blast tests typically requires expensive live field tests. The University of California at San Diego (UCSD) developed a hydraulic-based blast simulator to simulate full-scale, live explosive events up to 3000 psi/ms without the use of explosive materials and without a fireball. Energy deposition, which takes place in time intervals of 1 to 2 ms, is accomplished via an array of ultra-fast, computer-controlled hydraulic actuators with a combined hydraulic/high pressure nitrogen energy source. The blast simulator generates high fidelity data on the response and failure processes associated with critical infrastructure components subject to explosive loads. UCSD is working to improve and validate computational blast physics models and codes using blast simulator and field test data. UCSD also uses the simulator to evolve effective blast hardening/protective methodologies for existing and new structures that can be distributed to the appropriate agencies for the protection of people and infrastructure at home and overseas. The simulator is performing fully repeatable blast load simulations on structural elements such as columns, beams, girders, and walls; on nonstructural elements such as windows and masonry walls; and on bridge components such as piers, and towers. Requests for additional information should be sent to bxsubgroup@tswg.gov.