

TECHBeat

Dedicated to Reporting Developments in Technology for Law Enforcement, Corrections and Forensic Sciences

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TechBeat is the monthly newsmagazine of the National Law Enforcement and Corrections Technology Center System. Our goal is to keep you up to date on technologies for the public safety community and research efforts in government and private industry.

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Publisher/Federal Program Manager:

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JTIC is part of the realignment of the NLECTC System, which includes the Justice Innovation Center for Small, Rural, Tribal, and Border Criminal Justice Agencies, which focuses on the unique law enforcement challenges faced by those types of agencies; the National Criminal Justice Technology Research, Test and Evaluation Center, which provides technology-related research and testing and operational evaluations of technologies; and the Forensic Technology Center of Excellence, which supports technology research, development, testing and evaluation efforts in forensic science. In addition, a Priority Criminal Justice Needs Initiative exists to assess and prioritize technology needs across the criminal justice community.

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VIDEO ENCOURAGES *Parents to Teach* "DIGITAL CITIZENSHIP"

By Becky Lewis



The headlines seem to repeat themselves, day after day: Sexting Scandal Hits Local High School. Dangerous Challenge Trending on Social Media. Teens Face Criticism for Insensitive Video Gone Viral.

To many parents, it might seem the answer is to take away the smartphones and the tablets and ban access to the family computer.

Digital Safety in the Wireless World (<https://www.youtube.com/watch?v=8xhf5LhBQfw>), produced by the Paulding County (Ga.) Sheriff's Office, lets them know there's another way.

The 12-minute video, written and narrated by Det. Lenny Carr, uses a two-part approach to facing social media challenges: First, educate your children about online dangers, then teach them digital citizenship.



“There was a time when kids went to certain places to hang out, to be with their friends and to be cool. Now the hangouts are virtual, and if you ban your kids completely, they’ll be left out,” Carr says. “And they’ll find a way to get online anyway.”

Instead, Carr advocates letting children and teens earn trust by proving they can responsibly use social media in a limited fashion, then increasing their privileges in incremental steps, similar to first letting them walk alone on their home street, then later allowing them to leave the immediate area on their own. Along the way, parents

should monitor their behavior, and they might even consider entering into a “contract” outlining both parties’ social media responsibilities.

That’s the message Carr had been presenting throughout Paulding County, located in suburban Atlanta, in parent education seminars for several years. His presentation first explains to parents many of the ways in which their children have access to the entire world from their bedrooms, then talks about how they can guide their children to responsible social media use.

In early 2015, his supervisor in the Crimes Against Children Unit, Lt. Starry Kilgore, tasked him with creating a video to help spread that message even further. Carr worked with the Board of Commissioners government access station, Paulding County Today and Jody Martin, media production coordinator for PCTv, and subcontracted with local videographer Jeffrey Harkins, then spent several months researching, writing and refining his message.

The resulting script for *Digital Safety in the Wireless World* addresses issues such as:

- * Parents need to realize that granting their children unsupervised online access means that they are figuratively letting their children lock their bedroom doors and leave their homes without telling their parents where they're going.
- * Taking and posting selfies can be problematic, even if they aren't explicit. Geocoding gives an individual's exact location, and the posts often tell who else is with someone. Selfies may even give away information that could lead to home burglaries.
- * There are myriad social media apps available, and the ones youth prefer change constantly. However, there are excellent apps that parents can use to monitor and control online behavior, and they should be alert for potential problems such as cyberbullying and gang recruitment.

The video resulting from these efforts went up on YouTube in early December, and although it's too soon to tell, Carr hopes it results in a reduction in the number of calls he gets from concerned parents.

"Parents call me and say 'Here's what is going on with my kids and their smartphones,' and they ask what they should do. I'd much rather get that kind of call than 'I found naked pictures on my kid's phone,' but if they have found photos like that, taking everything away is not the answer. They need to set ground rules and work to re-establish trust and



“There are ways they can protect themselves and their children, and when I point out these filters can also help protect them from identity theft and even burglaries, that really gets their attention.”

*—Det. Lenny Carr,
Paulding County Sheriff’s Office*

responsible behavior,” he says. “I’ve studied the tools that are out there, especially the free tools that help you put filters on smartphones and Wi-Fi. A lot of parents don’t understand how easy that is and that they don’t need to pay for professional help. There are ways they can protect themselves and their children, and when I point out these filters can also help protect them from identity theft and even burglaries, that really gets their attention.”

Although Carr now asks his parent callers/visitors if they’ve seen the video, he’s also going to do more than wait for them to find it online: “I see this as a nice tool to have for in-person presentations too. When I go to upcoming events in the schools in March and April, my plan is to play the video, then expand on it in my presentation.”

Also, Sgt. Ashley Henson, Paulding County’s public information officer, reached out to the local school system, which first reviewed the video and then contacted parents via robo-call and an email with a link to encourage them to watch it. And the project doesn’t end here: Carr plans to develop a second video targeting “tweens and teens,” once again calling on informative resources that include an informal focus group of local youth, Kilgore, Sheriff Gary Gullede and the Georgia Bureau of Investigation. (GBI recognized Carr for “his exemplary service in keeping our children safe from online predators” in December 2015.)

For more information on the project, contact Sgt. Ashley Henson, public information officer, Paulding County Sheriff’s Office, at (770) 505-5535 or ashley.henson@paulding.gov.



METHAMPHETAMINE

Testing Moves to the Field,

SAVING TIME AND MONEY

By Becky Lewis

The police officer looks at the young family shivering on the sidewalk, unsure of where to go after being forced to leave their home because a previous tenant may have manufactured methamphetamine in the house. The officer winces at the thought of the call he needs to make to a contractor in a larger neighboring city to begin the cleanup process. A week, maybe 10 days before the contractor can come do a test, then several more weeks waiting for results, then possibly several more weeks if cleanup is needed. That's if the former tenant, arrested earlier in the day for dealing drugs, is telling the truth about making methamphetamine in the house.

And in the meantime, the parents that rented the home in good faith not only need to find somewhere else to live, they're worrying about their children's welfare after possible exposure to materials used to make the drug.

Law enforcement and other agencies routinely face a “lab lag” when waiting for meth contamination test results, delaying not only the start of the clean-up process, but also the subsequent confirmation that the cleanup has been successful. However, some agencies have begun using a portable reader that performs semi-quantitative lateral flow immunoassay testing in the field and provides on-the-spot results, cutting out weeks of lab lag and greatly reducing costs as well.

The Upper Sioux Police Department in Granite Falls, Minn., recently began using this technology, and Chief Christopher Lee says his department already has realized tremendous savings in time and money.

“It’s just a quick, easy way to verify that everything is complete. It’s very simple to use and it’s economically priced,” Lee says.

The portable technology could be likened to a pregnancy test in its simplicity of use. Anyone can learn to collect samples with minimal training, and the collection process itself requires no HAZMAT gear and samples can be discarded in ordinary garbage. The swab samples are placed into a lateral flow cassette where they come into contact with a liquid buffering agent, reacting with its antibodies. Just like a pregnancy test, it produces a control line and a reaction line, and in addition, the shade of the reaction line indicates the intensity of the concentration. A law enforcement agency may initially only want to know whether the test indicates that meth is present, but for contractors, homeowners and housing authorities, a second field test after cleanup can indicate whether the effort succeeded or if more cleanup is needed.

“We’ve used it in a house, we’ve used it in vehicles,” Lee says.

“Meth is one of the more common drugs we have in our area.

We wanted to try the field testing out because of the drug’s prevalence and the inherent danger of its use, and we also have a housing area with which we’ve had issues. Testing alone can run thousands of dollars, so it’s cost-beneficial for us to use it for pre- and post-inspections. It’s just a quick, easy way to verify that everything is complete.”





Rebekah Sutch, housing program manager for a tribal housing authority in a different part of the country, agrees with Lee about the ease and relatively low cost of using the field test technology.

“It’s changed things a lot. The kits are cheaper, and we get the results right there on site,” Sutch says. “I can go in, do a test, pull it and get the results right there. It allows us to make faster turnaround decisions; we can say it’s safe or it’s over and it needs cleanup. To know the exact level of contamination when we’re looking for cleanup bids makes a huge difference and saves money in the long run.”

The technology produces results that have also been statistically proven to be more accurate than conventional laboratory testing. Lee says his agency can use these results in criminal courts, and that family services can use them to immediately address environmental concerns and begin mitigation.

For more information on the Upper Sioux Police Department’s use of the portable meth testing technology, email Chief Christopher Lee at chrisl@uppersiouxcommunity-nsn.gov.



vision
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TECHNOLOGY**

solution
**DEVELOPMENT
for**

motivation

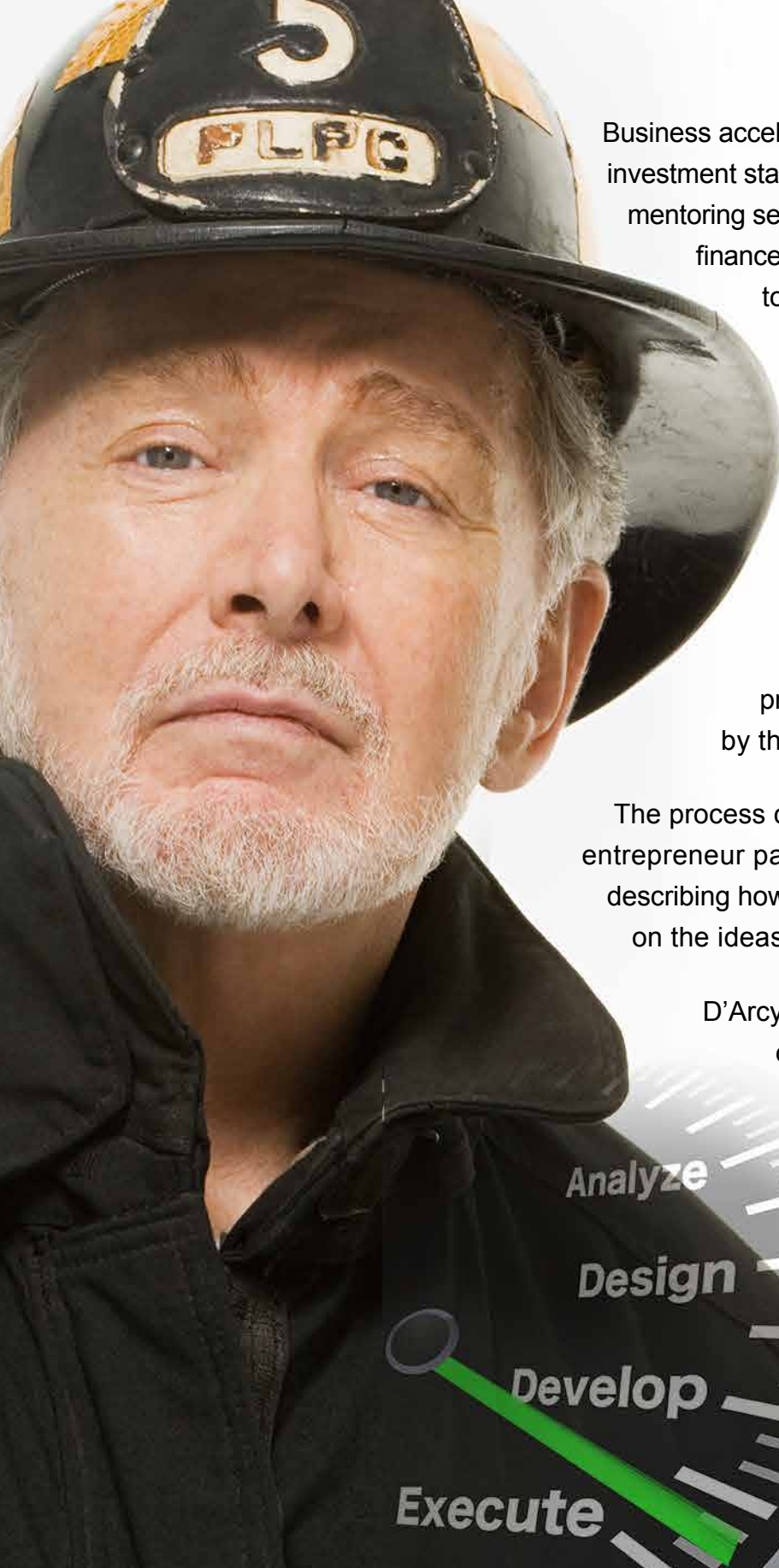
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FIRST RESPONDERS

By Michele Coppola

Seeking to reach more entrepreneurs and hasten the process of bringing innovative first responder technologies to market, the U.S. Department of Homeland Security Science and Technology Directorate (DHS/S&T) set up a pilot project using a business accelerator process.

The agency's EMERGE Accelerator Program for Wearable Technology for First Responders is the first time DHS used an accelerator approach, which sought emerging wearable technology that could be adapted for first responder operations.



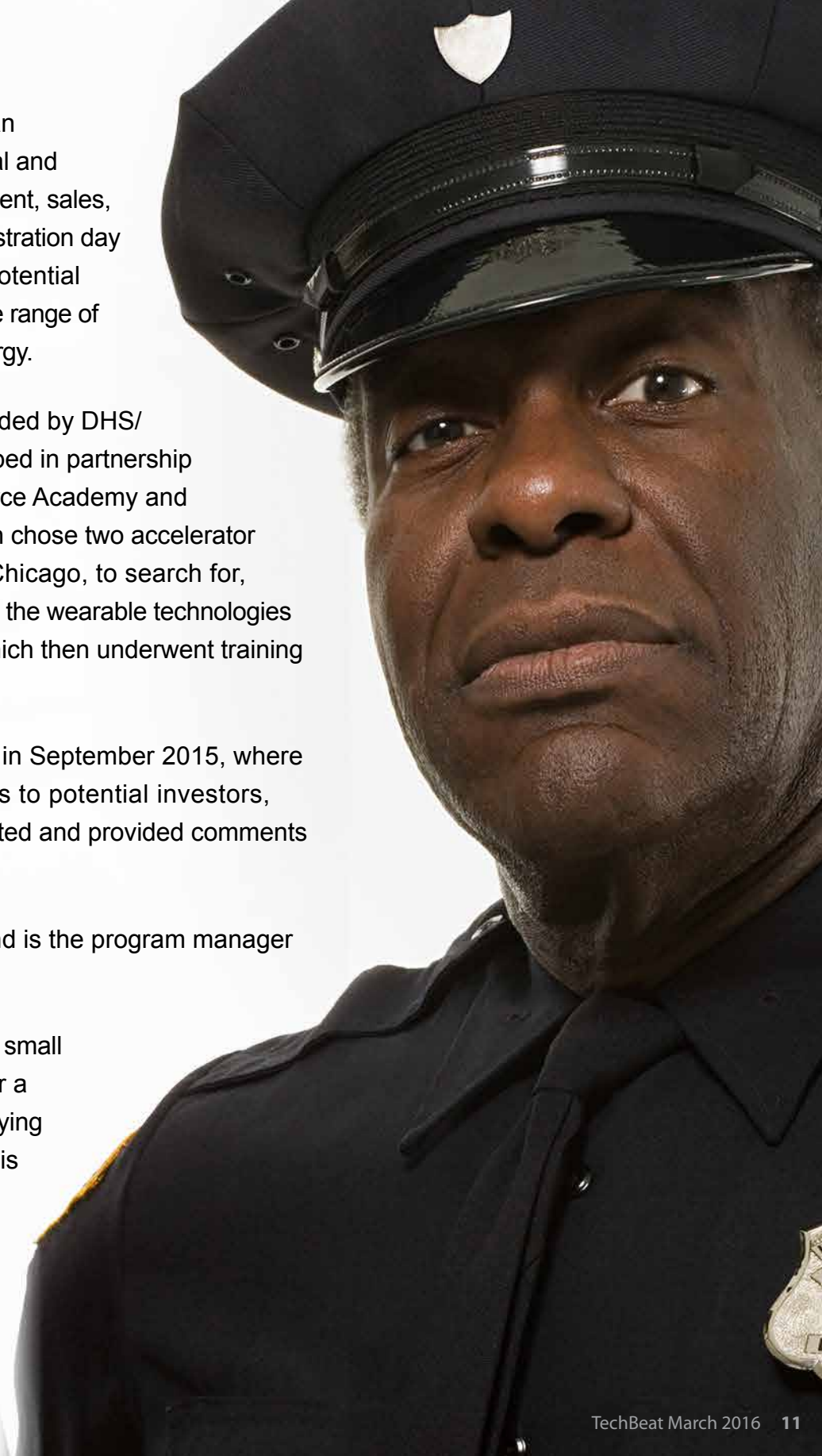
Business accelerator organizations provide seed capital in exchange for an investment stake, and offer access to potential customers and educational and mentoring services, providing advice in such areas as product development, sales, finance and operations. Often, the process culminates in a demonstration day to provide the participating entrepreneurs with access to potential investors. The accelerator process can be applied to a wide range of disciplines such as athletics, healthcare services and energy.

An idea conceived in 2014 and funded and shepherded by DHS/S&T, the EMERGE accelerator program was developed in partnership with the DHS Center of Innovation at the U.S. Air Force Academy and the Center for Innovative Technology in Virginia, which chose two accelerator organizations, one based in Dallas and the other in Chicago, to search for, screen and identify early-stage companies to participate in the wearable technologies program. Nearly 20 companies were ultimately selected, which then underwent training by the accelerator organizations.

The process culminated in a demonstration day held in San Francisco in September 2015, where entrepreneur participants pitched their concepts and prototype products to potential investors, describing how they could assist public safety. First responders participated and provided comments on the ideas presented.

D'Arcy Morgan is with the DHS/S&T First Responders Group and is the program manager overseeing the EMERGE accelerator program.

“What makes this attractive is that some of these small businesses may be working on technologies for a different purpose and never thought about applying them for the first responder community until this came along,” Morgan says. “Things like this accelerator program helps companies to apply these great ideas for an end user that they may not have considered originally.”





Examples of technologies showcased last fall include:

- ❖ Technology embedded in a glove that allows the user to remotely control devices. The technology can be used by first responders to control phones, tablets and other electronic devices without taking their hands off what they are doing.
- ❖ A voice controlled wearable device designed for those who are sight or hearing impaired that could help first responders operate in dark, smoky or loud environments where it is hard to see or hear.
- ❖ An automatic injury detection system, which has sensors to detect a penetration to a person's body such as being shot or stabbed and automatically sends information on the person's location and injuries to the commander.
- ❖ Bone conduction technology in mouthguards that allows athletes to listen to music and receive radio communication, which can be adapted to help first responders use a two-way communication system and hear in loud environments where headphones or radios will not work well.

DHS/S&T is in the process of deciding which technologies will undergo an operational assessment in the field with first responder agencies, which is anticipated to begin in spring or early summer of this year. The agency funded the accelerator wearable technologies pilot project with \$700,000.

“What was exciting is that there are a number of small companies across the country that have very promising technologies, but don’t have a clue how to tackle the first responder market. They have the vision but don’t know how to get to the agencies,” Morgan says. “The accelerator program is designed to increase the odds of commercial success. It facilitates interaction with the customer, in this case first responders, and connects entrepreneurs with potential investors. We wanted to pick the best performers who could align into the first responder marketplace.”

He said some of the companies that attended the demo day event have done well and have had investors come on board.

“This was driven by the private sector. We educated the innovators and accelerators on the first responder market and brought in first responders, and obtained good feedback at the September event. Our first EMERGE program was a good stepping stone. Based on our success, we are looking at other ways to use accelerator programs in other science and technology research areas.”

The EMERGE accelerator program is part of, and can inform, an overarching effort within DHS/S&T to examine future first responder needs and long-term, innovative, integrated solutions.

For more information on the EMERGE accelerator program, visit <http://www.dhs.gov/science-and-technology/accelerator> or send an email to TITAN@hq.dhs.gov.

TECHshorts is a sampling of the technology projects, programs and initiatives being conducted by the Office of Justice Programs' National Institute of Justice (NIJ) and the National Law Enforcement and Corrections Technology Center (NLECTC) System, as well as other agencies. If you would like additional information concerning any of the following TECHshorts, please refer to the specific point-of-contact information that is included at the end of each entry.

In addition to TECHshorts, *JUSTNET News*, an online, weekly technology news summary containing articles relating to technology developments in public safety that have appeared in newspapers, newsmagazines and trade and professional journals, is available through the NLECTC System's website, www.justnet.org. Subscribers to *JUSTNET News* receive the news summary directly via email. To subscribe to *JUSTNET News*, go to <https://www.justnet.org/app/puborder/subscribe/subscribe.aspx>, email your request to asknlectc@justnet.org or call (800) 248-2742.

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Phase II Report on Recovering Erased Firearms Serial Numbers Released

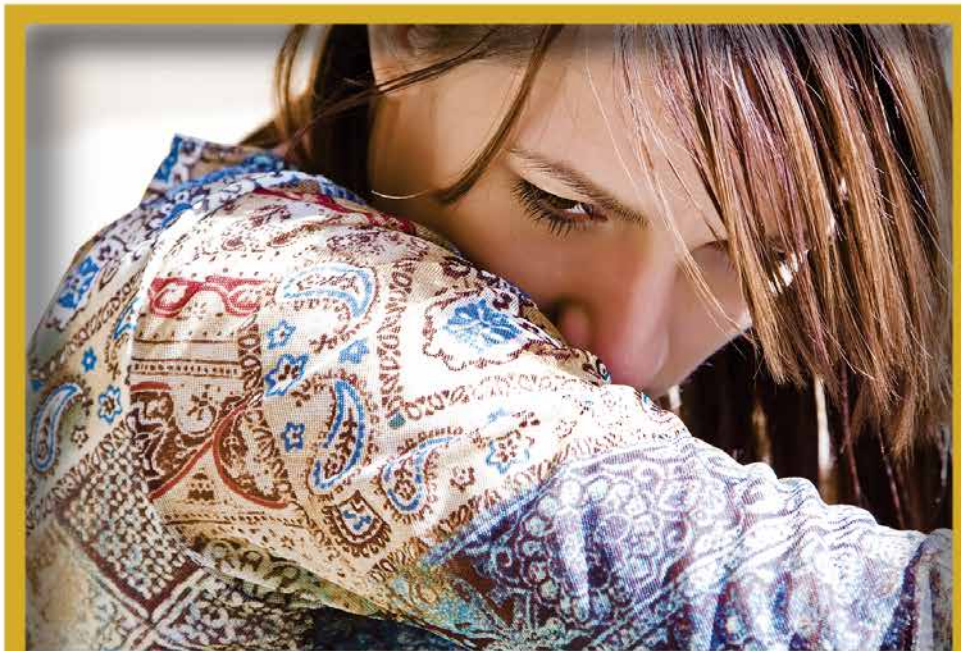
Forensic Technology Center of Excellence

Validation and Evaluation of Magneto-Optical Imaging Technology for Recovering Obliterated Serial Numbers in Firearms: Final Report details the results of Phase II of a Forensic Technology Center of Excellence (FTCoE) evaluation of a new technology for recovering obliterated firearm serial numbers (<https://rti.connectsolutions.com/p2w1z9xo4e7/>).

According to the report's conclusion, "Magneto-optical (MO) sensor technology is a nondestructive testing technique with excellent sensitivity and imaging capability.

The technology is suitable for use by firearm examiners interested in detecting and imaging obliterated serial numbers in real time. It is fast, easy to learn and use, and requires little to no sample preparation. The technology has been successfully applied in serial number restoration casework and, in some cases, was the only successful method. The method can be used as a standalone technique, although more often than not the method is used in combination with other serial number recovery methods. In cases where the MO sensor is used in combination with a destructive method, the MO sensor technology should be used first. The technology is very similar to magnetic





particle inspection (MPI), yields comparable performance results, but requires little to no sample preparation, needs no supplies, is less messy, and is safe to use in the presence of electronic devices. The value added of MO sensor technology is its potential application in other forensic disciplines besides firearm examination.” (p. 23).

For information on Phase I of the project, see “Magneto-Optical Technology Shows Promise in ‘Unerasing’ Serial Numbers,” *TechBeat*, September/October 2014 (https://justnet.org/InteractiveTechBeat/eTECHBEAT/eTechbeat_SepOct_2014/content/pdf/eTechbeat_SepOct_2014.pdf). Download the Phase I report, *Performance Evaluation and Utility Assessment of Magneto-Optical Sensor Technology for Detecting and Visualizing Obliterated Serial Numbers in Firearms* (<https://rti.connectsolutions.com/p937t0wcn2/>).

For more information, contact project leader Rudi Luyendijk of the Midwest Forensics Resource Center, a partner in the FTCoE, at rluyendi@ameslab.gov.

Notifying Sexual Assault Victims After Testing Evidence

National Institute of Justice and Office for Victims of Crime

Using grants from the National Institute of Justice, the Wayne County (Detroit), Michigan Prosecutor’s Office and the Houston Police Department developed protocols for notifying victims in cases where sexual assault kits (SAK) not previously tested for DNA were now being tested.

To create the protocols, both jurisdictions created multidisciplinary teams including police investigators, crime lab analysts, prosecutors and victim service providers. The protocols may help other jurisdictions consider how best to notify victims of the results of SAK testing. Using a victim-centered approach for notifying victims about the status of their sexual assault cases may help minimize the trauma a victim experiences when receiving this type of information.

Notifying Sexual Assault Victims After Testing Evidence is derived from lessons learned in the projects. To read the document, go to <https://www.ncjrs.gov/pdffiles1/nij/249153.pdf>. For additional information, contact Bethany Backes, NIJ social science analyst, at Bethany.backes@usdoj.gov.

PUBLIC SAFETY TECHNOLOGY

JUSTNET

In The News

Following are abstracts on public safety-related articles that have appeared in newspapers, magazines and websites.

Tenn. Correctional Facilities to Offer State IDs and Licenses

The Commercial Appeal, (02/24/2016), David Royer

In an effort to ease offenders' re-entry into the community, the Tennessee Department of Corrections will allow them to obtain valid state identification and driver's licenses before their release. The department and the Tennessee Department of Safety and Homeland Security have entered into an agreement to buy and install license issuance equipment in the state's correctional facilities. Lack of a valid, government-issued ID can make it difficult for ex-offenders to find employment or housing.

<http://www.commercialappeal.com/news/government/state/tenn-correctional-facilities-to-offer-state-ids-and-licenses-2c8c6c9b-1dd4-6d44-e053-0100007f2901-370035391.html>

State Police Launch Body Camera Pilot Program

The News Journal, (02/25/2016), Brittany Horn

The Delaware State Police has launched a body-worn camera pilot program. Twenty-five of the state's 712 troopers will wear the cameras during a 60-day trial. The program will focus on different body cameras, mounting styles and data storage.

<http://www.delawareonline.com/story/news/crime/2016/02/25/state-police-launch-body-camera-pilot-program/80940820/>

Local, Federal, State Agencies Join to Fight Crime in New Real-Time Crime Lab in Hartford

FOX61, (02/24/2016), Samantha Schoenfeld and Matt Scott

Police in Hartford, Conn., have a new real-time crime and data intelligence center. The center will serve as a database for information on crimes committed in Hartford and surrounding towns. The center will have numerous screens with information from city cameras, shotspotter and images of wanted criminals, and can send images to officers on the street. State and federal data will also be available in the system.

<http://fox61.com/2016/02/24/local-federal-state-agencies-join-to-fight-crime-in-new-real-time-crime-lab-in-hartford/>

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We are actively seeking ideas to help us identify technology needs and requirements as part of the National Institute of Justice's Research, Development, Testing, and Evaluation process.

Click here for recent public safety-related articles from the news media.



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JUSTNET News. Includes article abstracts on law enforcement, corrections and forensics technologies that have appeared in major newspapers, magazines and periodicals and on national and international wire services and websites.

Testing Results. Up-to-date listing of public safety equipment evaluated through NIJ's testing program. Includes ballistic- and stab-resistant armor, patrol vehicles and tires, protective gloves and more.

Calendar of Events. Lists upcoming meetings, seminars and training.

Social Media. Access our Facebook, Twitter and YouTube feeds for the latest news and updates.

Do More With Less. Highlights creative programs and resources to help agencies meet challenges as budgets shrink and demands on departments grow.

Tech Topics. Browse for information on law enforcement, corrections and courts technologies.



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The National Institute of Justice is a component of the Office of Justice Programs, which also includes the Bureau of Justice Assistance; the Bureau of Justice Statistics; the Office for Victims of Crime; the Office of Juvenile Justice and Delinquency Prevention; and the Office of Sex Offender Sentencing, Monitoring, Apprehending, Registering, and Tracking.