Technology Out of the Blue

One place to find technologies being brought out of the blue and down to earth for use by law enforcement and corrections is also Rome, New York, at the National Law Enforcement and Corrections Technology Center (NLECTC)’s Northeast’s Law Enforcement Analysis Facility (LEAF).

LEAF was established in 1996 to evaluate, test, and demonstrate technologies developed by the U.S. Air Force Research Laboratory Information Directorate (AFRL/IF). At LEAF, engineers are using real-world investigative and criminal data to demonstrate how these Air Force technologies can be modified to benefit law enforcement and corrections.

Roy Ratley, LEAF senior program manager, says that law enforcement and corrections agencies submit audiotapes and videotapes to the facility for audio/video enhancement, noise reduction, and speaker identification. In addition, LEAF personnel analyze electronic databases using information extraction technologies for data mining, and database populations and timeline analysis to visualize and recognize event patterns. Ratley says to date, LEAF has completed more than 50 demonstrations to local, state, and federal agencies.

Speech Enhancement. Developed by the Air Force to clarify pilot communications, the Speech Enhancement Unit (SEU) can automatically identify and eliminate audio interference due to impulse and tonal corruption and wideband random noise. Input signals are processed in real-time, with a maximum system delay of 300 milliseconds. Originally using “black box” hardware, the SEU is now software driven and resides on a desktop or laptop computer. John Sargent, LEAF program manager, says the SEU is being used to make law enforcement patrol communications, body wire and other monitored surveillance recordings, and suspect interview and interrogation recordings more intelligible. The enhanced audio signal also reduces listener fatigue and communication errors.

LEAF provided an analysis demonstration to the Middletown (Connecticut) Police Department regarding a homicide investigation. An audiostage that contained information about the homicide had been damaged and the voices made incomprehensible. On reviewing the tape, LEAF engineers determined that the tape had been incorrectly rethreaded during a previous repair attempt. As a result, the audio played back backwards and at high speed. The audio was reversed and slowed, restoring normal speech.

LEAF also provided an analysis demonstration to the Iowa Division of Narcotics Enforcement in Denison, Iowa, regarding a narcotics investigation. A noise-corrupted audiotape that contained information about the case was submitted for enhancement. Noise was reduced and the data amplified to improve its intelligibility. The conversation of interest was recovered and the tape became a deciding factor for the jury in convicting the defendant.

Speaker Recognition. Automatic speech recognition technology identifies a speaker from a segment of his or her speech. Given a speech sample from an unknown speaker and a database of speech samples for which each speaker is known, the software compares the unknown speaker against the database to find the closest match. This capability is independent of the speaker’s language or choice of words.

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NYC Probation on Track

For many years, the New York City Department of Probation (NYCDOP) measured success using the “contact model” of probation. Under this model, a success would occur when the offender “contacted” his or her probation officer the required number of times during a specified period.

If the contact numbers were met, everybody was happy,” says Frank Domurad, NYCDOP director of Staff and Organizational Development. “The only problem was we had no idea what was happening in those contacts or if they had any impact on offender behavior. We counted the contacts but had no way to measure the outcome. We saw that we were not producing any real, tangible results that were important to anybody except ourselves.”

“In other words,” says Jerrold Alpern, assistant commissioner of the agency’s Manhattan Adult Services, “NYCDOP had plenty of data, but no real knowledge of how its programs were affecting probationers or the community.”

In 1992, however, NYCDOP, with the support of city officials and funding from the local Office of Management and Budget, set out to change how it managed its probation services. The result is the Adult Supervision Restructuring (ASR), a program designed to meet the needs of various levels of nonviolent and violence-prone probationers through the use of a redesigned classification system and technology.

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LEAF provided an analysis demonstration to the Minnesota Department of Corrections (DOC) in an official misconduct investigation. The DOC wished to compare voice samples from an unknown speaker and a known suspect to confirm that both speakers were the same person. LEAF engineers used the speaker identification technology to analyze the data provided by the DOC. The analysis gave administrators additional confidence in their evidence, and the individual charged was administratively removed from State service.

**Timeline Analysis.** Timeline analysis (TAS) renders events as graphic icons to show event patterns. In this technology area, AFRL/IF created WEBTAS (Web-based timeline analysis system) to analyze sensor intelligence regarding enemy aircraft and ground troops, according to James Hensley, lead TAS analyst. When utilized by civilian law enforcement, WEBTAS allows a user to plot and analyze criminal events along a timeline. Behavior patterns can be modeled from past events to show future probabilities of occurrence. Because WEBTAS can display data in graphs, maps, tables, and timelines, it is being evaluated as a courtroom presentation tool.

LEAF provided an analysis demonstration to the Oneida County (New York) District Attorney’s Office for a homicide investigation. The district attorney’s office wanted to construct a timeline depicting the critical events in the death of a 4-year-old child. Prosecutors wanted to show the jury that the pattern of physical abuse correlated with dates and times from statements made by the defendants. Timeline analysis enabled the district attorney to display to the jury the complex events relating to the homicide. The jury found the defendants guilty of criminally negligent homicide and endangering the welfare of a child.

**Information Extraction.** Converting paper documents to an electronic form, automatically extracting information, and then presenting the information in meaningful ways that capture patterns is the idea behind information extraction technology. Sargent says this process is called "named entity extraction." It involves identifying words and word sequences in a document that form names and then categorizing them by their meanings. These words and word sequences are called "named entities."

In the sentence, “Michael has worked for XYZ since 1987,” Michael would be identified as a named entity and categorized as a person. XYZ would be identified as a named entity and categorized as an organization. Although nouns are not usually used to refer to times, dates, and monetary amounts, these can be spotted as well. Therefore, “1987” would be a named entity and categorized as a date.

In conjunction with an Arizona law enforcement agency, LEAF demonstrated that information extraction was technically feasible even when applied to 6,000 seized documents related to a money laundering investigation. LEAF is now demonstrating and evaluating how to apply information extraction technology to meet other law enforcement and corrections requirements.

Also under research and development at LEAF for use by law enforcement and corrections:

- **Automatic Gisting.** Automatic "gisting" is the capability of a computer to monitor speech for keywords that indicate certain activities. Gisting produces a “gist” or synopsis of the information in the communications. AFRL/IF has developed a realtime prototype gisting system which, in monitoring communications between pilots and air traffic controllers, can maintain a list of aircraft flight activities in which the aircraft are engaged (takeoff, landing, ground control). Sargent says automatic gisting of conversations may someday be useful for law enforcement and corrections personnel. Because the gist of conversations can be acquired by a computer without a human listener, conversations could be monitored for indications of illegal activities with little manpower and without interfering with the basic rights of privacy.

- **Automatic Spoken Language Translation.** Automatic spoken language translation is the translation of human speech by computer. A user speaks into a device that translates the speech into another language, and then outputs (speaks) the translation.

Originally used by the AFRL/IF in military field interrogations, this device allows civilian law enforcement and corrections personnel to communicate with non-English speakers in their own languages, eliminating the need to locate an interpreter. It also makes the collection of critical information at crime scenes more efficient and makes interrogation easier and less costly. "ELSIE," a computer laptop program available for demonstration at LEAF, recognizes speaker-independent, continuous speech input within limited military and law enforcement domains. This device is unique in that it uses speech rather than typewritten words as input to the translator. Sargent says: Future initiatives call for developing multilingual, multiapplication capabilities as well as handheld models.

For more information about technology initiatives and assistance for law enforcement and corrections offered through the National Law Enforcement and Corrections Technology Center–Northeast, a program of the National Institute of Justice, and the Law Enforcement Analysis Facility, call 888-338-0584 or log on to JUSTNET at www.justnet.org, the website for the National Law Enforcement and Corrections Technology Center system.
One of the first things the department did was evaluate its probationers’ needs to develop a proba-
 tioner classification instrument that would better predict violent reoffenders. The department’s previous system focused solely on general recidivism. Now, offenders deemed to be at high risk for violent reoffense are placed in the Enforcement Track, where cognitive-behavioral methodologies are used in both individual case management and in group settings. Probationers whose attitudes and conduct improve can then move to a relapse prevention unit to receive supervi-
sion and support.

The Special Conditions Track is for probationers not considered to be violence prone, but rather who received court-ordered special conditions. This track is also for those deemed violence prone who have completed relapse prevention but have not com-
pleted court-ordered special conditions.

The use of technology is most apparent in the Reporting Track—through the use of automated reporting kiosks. The Reporting Track is designed for probationers who present minimal risk for vio-
 lent recidivism along with violence-prone offenders who have graduated from the Enforcement Track. After an initial face-to-face meeting with a probation officer, the probationer in the Reporting Track main-
tains contact with the agency through the kiosks.

“One thing we recognized was that it was important for us to work with other agencies as well as with the clients. The development of a kiosk user interface was a nonovernight task, so we had to work closely with them. We also used a technology audit, agencywide, to determine the needs of each client group. These audits were involved in the development process, and agency administrators and staff were deeply involved in the whole process,” says Doe Domurad, ASR Program Director.

The kiosk system allows us to free up resources, according to Domurad. “We used automated record keeping to reduce the number of proba-
 tioners we have to work with. This means the system is serving our needs. If we were not using the system, we would have had to hire more staff to do the work. The system saves us money, and it allows us to focus on high-risk cases.”

“Information is just a bunch of data,” Domurad notes. “We had to change it into knowledge, which information is that is useful to produce something. This new database produces knowledge. The proba-
 tion officers can open up a case file and get a lot of information that will allow them to work on behavioral changes. It saves them time and provides them with the things they need to prevent relapse and determine whether the offender is suc-
ceeding or not.”

Although the jury is still out on whether the ASR program will lower recidivism rates, some things have become apparent already:

- Before ASR, low- and high-risk cases were usually mixed together in each caseeload, sometimes with an offender-to-officer ratio of more than 200 to 1. Now, low-risk cases are isolated, and with the aid of kiosks and other changes, probationers are super-
vised effectively, even with a ratio of 50 to 1. This enables the agency to supervise the high-risk cases at ratios as low as 25 to 1.

- Each kiosk logs about 1,000 visits per month, which has reduced failure-to-appear rates from 50 percent per month to 10 to 15 percent per month.

According to Domurad, the foundation for ASR is a new database designed to organize and analyze information. The prior system was little more than papers filled with “pedigree” data on each probationer. With the new system, officers can now access more than 100 data fields. Data can be accessed in a number of ways and used to tailor and prioritize each probationer’s case.

For more information concerning the New York City Department of Probation’s Adult Supervision Restructuring Program, contact Joe Basso at the National Law Enforcement and Corrections Technology Center, 800–416–8988. Or log on to www.clnw.ny.us/html/prob/html/us.html.
The technological revolution that has swept society as a whole in recent years has also affected the criminal justice system. Some technologies that not long ago seemed advanced—such as those that can stop bullets and electronic monitoring of probationers—today seem commonplace. But the revolution continues apace, with ever more spectacular advances now being made, or in the testing stages, or on the drawing board.

As the research arm of the U.S. Department of Justice, the National Institute of Justice (NIJ) has, since its founding 30 years ago, been in the forefront in sponsoring the development, testing, and demonstration of technology to improve the justice system. The development of DNA testing standards, soft body armor, and improved fingerprint evidence collection are some of the many areas in which NIJ has played a leading role.

More recently, with strong support from the Administration and the Congress, NIJ has accelerated the pace of its efforts. Less-than-lethal technologies to minimize the use of force, computerized mapping to pinpoint and analyze crime patterns, concealed weapons detectors to prevent violence, methods of stopping fleeing vehicles to apprehend suspects, and improvements in DNA laboratories to aid in evidence testing—all these capabilities, and others, are now being explored by NIJ. Their application can mean even greater transformation in law enforcement operations.

TechBeat plays an important role as an essential link communicating the latest information about these developing technologies from the National Law Enforcement and Corrections Technology Center at 800–248–2742, or log on to JUSTNET at www.nlectc.org.

From the Director, Office of Science and Technology
Law enforcement, courts, and corrections officials and officers working in the field know how crucial technology is to their day-to-day operations. In some circumstances, having the right tool can mean the difference between life and death.

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Visit Our Site
Information on new technologies, equipment, and other products and services available to law enforcement, corrections, and the criminal justice communities, including access to a database of more than 4,000 available products and technologies.

Online News Summary 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.

Publications from NIJ and NLECTC that you can view or download to your system.

Frequently Asked Questions that offer detailed information based on thousands of calls to our information specialists.

Calendar of Events that lists the latest upcoming meetings, seminars, and training.

Links to other important law enforcement and corrections websites.

Interactive Topic Boards that allow you to post questions and exchange information with hundreds of professionals in their specialty areas.

For help in establishing an Internet connection, linking to JUSTNET, or finding needed technology and product information, call the NLECTC Information Hotline at 800–248–2742.
Offered through JUSTNET, the website of NLECTC, this weekly news summary provides synopses of recent articles relating to the forensic sciences and corrections. The summaries are also available through an electronic e-mail list, JNETNews. Each week, subscribers to JNETNews receive the summary directly via e-mail.

UV Light To Lock TB Out of Jail; Shelby First County To Get System That Kills Bacteria in Air

Memphis Light, Gas & Water Division, the Shelby County government, and the Electric Power Research Institute.

$2M Grant Fights Rural Crime

Fresno Bee

A Federal Bureau of Justice Assistance grant is to be awarded to the Fresno County Sheriff’s Office to help fund crime prevention programs. The money will be used to hire an additional deputy, purchase equipment, and fund crime prevention programs.

Computer Technology Aids Criminal Justice System

Detroit News

Officials in Michigan’s Oakland County are hoping that a new computer system known as Probation Automated Management (PAM) will help them manage suspects awaiting trial. PAM is currently being used to keep track of criminals on probation and parole. Using the PAM system, a person awaiting trial will be assessed and assigned a case number. The system will then generate a case file for the individual.

Use of DNA Evidence Expands; State Lab Testing on Envelope

Milwaukee Journal Sentinel

DNA testing is being used more often in routine investigations, according to Mike Camp, director of the State Crime Laboratory in Milwaukee, Wisconsin.

A Tattoo Is a Mark That Police Will Recall

Minneapolis Star Tribune

Law enforcement agencies are filling their databases with digital images of tattoos. Officials at the Wright County, Minnesota, Sheriff’s Office believe that the database can help solve crimes.

Nobody’s Watching Your Every Move

Business Week

The growing field of video surveillance security is making human surveillance of monitors obsolete. One of the first significant commercial tests of electronic monitoring began last summer in Denver, Colorado. The city has installed four surveillance cameras in one of its high-crime neighborhoods. The system, which replaces much mindless monitor watching, can detect fires and any “detectable activities” in the area.

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Nob...
Where does an idea for an invention come from?

For one individual, it had its beginnings during an incident in which almost three dozen inmates freed themselves from restraints in a darkened holding area. For another, it just popped into his head while thinking about roller coasters as he lay in bed one night. For another, it came from being surprised and confronted in close quarters by a flesh-writhing—fiercely wrenched—20-gauge shotgun. And for another, it arose from a chain of events that involved land mines, an earthquake in Turkey, and Archbishop Desmond Tutu.

We at 3M have worked in several areas. Dahl has been involved with a Special Operations Response Team. In their careers, Dahl and Kimber have had plenty of experience working with inmates from one area to another. They understand and appreciate the problem that can arise when trying to handle a dozen or 20 pairs of handcuffs while at the same time managing a dozen or so inmates. What really drove the problem home for the Hendricksons was an incident involving Dahl in which almost three dozen inmates freed themselves from their restraints.

Hendrickson says that what was needed was something that allowed quick and easy access to a number of sets of handcuffs. In addition, it should afford the officer greater protection by removing the chance that a prisoner could gain access to unsecured handcuffs.

Herman Hendrickson came upon a disarmingly simple idea—CUFF-CLIP™, a handcuff carrying device. Resembling a large, heavy plastic spring clip, CUFF-CLIP™ can be quickly attached to an officer's duty belt. Removable for use on either the right or left side, the clip can hold up to 12 pairs of metal handcuffs. Attached by a single strap or in a variety of ways, the device can be attached to a number of locations in the uniform or with velcro.

“Anyone is mad,” Dahl says, “you select the first set of cuffs on the CUFF-CLIP™, slip them to the opening of the clip, pull the handle forward, and in a few seconds you have a single pair ready while the other ones stay in place. We believe the device will be of all law enforcement—prisoner movement and transport, mass evacuations, disturbance control situations, and prisoner processing.”

A PRISONER’S PLACE

The CUFF-CLIP™ can be self-secured using the inmate’s belt or wristband so that the cuffs are secured around the hand with the thumbs sticking out instead of being reversed in the clip’s slot. This makes it easy for some of them to slip them (the rest are off). Fortunately, the inmates were in a secure area.

One of the “Shige” Pinney created an outboard applied to the upper lip, designed to fit under the nose, to block the receptors that about the uncomfortable, repugnant smell of decomposing...
Bringing research and private industry together to put affordable, market-driven technologies into hands of law enforcement, corrections, and the forensic sciences is the major focus of the National Institute of Justice’s Office of Law Enforcement Technology Commercialization (OLETC).

“OLETC’s job is to identify new technologies and product concepts and then to work with innovators and industry to develop, manufacture, and distribute new, innovative products,” says Bill Patsche, a former police chief now involved with OLETC’s law enforcement technology commercialization initiatives. “Facilitating these partnerships is so critical to making technology commercialization happen that this is what we are all about. Our staff includes law enforcement and corrections professionals, project and commercialization managers, plus engineers and technical and market research specialists.”

At no cost to the inventor or innovator, Patsche says, OLETC can assist with:

- Market assessments and commercialization plans.
- Location of manufacturing and distribution partners.
- Issues relating to liability, intellectual property, and licensing.
- Elimination of barriers to market entry.

In addition, OLETC offers commercialization planning workshops that target technology innovators. These workshops, conducted three or four times a year, are designed to provide participants with the tools and knowledge necessary to assist OLETC in the commercialization of their technologies and concepts.

Each year OLETC also conducts the National Commercialization Conference. This conference brings law enforcement and corrections personnel together with national technology innovators and manufacturers to stimulate new product commercialization. In addition to technology exhibitors, the conference offers workshops on commercialization skills.

OLETC, the Moundsville (West Virginia) Economic Development Council, and the West Virginia Division of Corrections sponsored a mock prison riot once a year in the former State penitentiary in Moundsville. The “riot” showcases emerging corrections and law enforcement technologies and provides corrections officers and tactical teams from across the country with an opportunity to use and evaluate emerging technologies in riot training scenarios. Ultimately, the event helps determine the effectiveness of the technologies by incorporating them into realistic situations and allows for suggestions for modification and improvement.

To learn more about the commercialization assistance services and special events offered through the Office of Law Enforcement Technology Commercialization, contact Bill Patsche at 888-206-5382 or log on to JUSTNET, the website of the National Law Enforcement and Corrections Technology Center, at www.nlectc.org.
Although the Federal Rules of Evidence gave judges more discretion in determining admissibility, there were those who questioned whether the rules would make the Frye standard obsolete. In 1993, the U.S. Supreme Court answered in Daubert. The Court held that Rule 702 did in fact supersede the Frye standard, giving judges new guidance in their role as judicial “gatekeepers.” This approach had judges analyzing the reliability and relevance of potential testimony. In determining reliability, judges were instructed to do a “ . . . preliminary assessment of whether the reasoning or methodology underlying the testimony is scientifically valid and of whether that reasoning or methodology properly can be applied to the facts at issue.”

In determining admissibility, judges were to consider four things:

- Whether the information in question could be or had been tested.
- Whether the theory or technique was subject to peer review and publication.
- The known or potential rate of error.
- Whether the theory or technique had gained general acceptance in the relevant scientific discipline.

Although making room for only a handful of guidelines that can be used when ruling on admissibility, the Frye standard, the Federal Rules of Evidence, and the Court’s ruling in Daubert together created a more precise test for scientific testimony.

**Qualification of Experts**

As has been obvious in a number of high-profile trials, the courts are putting increased emphasis on the importance of an “expert’s” credentials. Says Falk, “Courts are now focused on the next generation of how you qualify an expert. Every time you look at new technology, the focus is not so much on the technology as it is the qualification and scientific background of the individual presenting it. It is an expert’s expertise issue probably much more than a technological issue. If there is someone who has a list of credentials from, say, the Society for Professional Optical Engineers and who’s got 20 years of experience with electron microscopes, you’ll probably be okay. If it’s the local crime lab guy, you may not.”

The U.S. Supreme Court in 1999 reaffirmed in Kumho Tire Co., Ltd. v. Carmichael et al, 526 U.S. 137 (1999), the trial judge’s role as a gatekeeper of the admissibility of evidence and the elimination of experts whose work is not truly scientific, peer reviewed, published, tested, or subjected to normal scientific scrutiny.

In Kumho, the plaintiff argued that the tire on his vehicle blew out, resulting in one death and a number of injuries. The plaintiff intended to use a tire failure specialist, who would testify that the problem with the tire was the fault of the manufacturer, Kumho Tire Co. As the case wound its way toward the U.S. Supreme Court, it focused on the use of Daubert as a guide to the admissibility of scientific evidence and the specialist’s credentials and experience in determining the cause of the tire’s failure. The Supreme Court ultimately ruled that Federal Rule of Evidence 702 does not differentiate between expert testimony that is “scientific” versus “technical.”

The Court also held that Daubert should be applied flexibly; that its factors of testing, peer review, error rates, and acceptability were simply illustrative; and that other factors could argue in favor of admissibility. Daubert’s gatekeepng obligation applies not only to “scientific” testimony, but to all expert testimony, the Court said. The Court did not, however, find the tire failure expert’s testimony reliable given those same guidelines. Although the testimony was characterized by the Court as skill or experienced based, the expert did not use a methodology that was widely accepted. According to the Court, the expert’s methodology did not have a scientific foundation, nor had it been tested, published, or peer reviewed.

**Court Preparation**

“First, education is an important part of the [court preparation] process,” Falk says. “Get with your prosecutors. Show them the technology during its testing stages. Make sure they understand the science that runs it . . . the methodology. Get your scientific and technical experts in to work with you. This will give the prosecutors the knowledge they need to lay the proper foundation for admissibility. Expertise is not an abstract concept. It is a quantifiable commodity that is part of the team effort required to take a technology-based case to court—a team that consists of police, prosecutor, and expert witnesses.”

“Second,” Falk says, “be sure your expert witness is qualified. Is the person a true expert or someone who has only peripheral experience but lots of opinions? Has he or she done a scientific analysis of the evidence? Is there a solid scientific or technical foundation for the technology in question and for the expert’s conclusions? Has your expert formulated opinions in this kind of case before?”

“Third,” Falk adds, “having a well-qualified expert is an important and often crucial matter, but the expert and the prosecutors must work together. Everyone needs to be involved so that the judge can readily grasp the why and how of the technology and so that the expert witness will be able to convince the court he or she has the ability and knowledge to testify. Although the underlying methodology must be sound and convincing, it often comes down to the qualitative aspects of the expert testifying to that methodology.”

“With new and increasingly complex methodologies, the expert must be qualified not only in the eyes of the law, but a true expert in his or her field, credible to all of the people in the courtroom.”

[Editor’s Note: When it comes to the admissibility of evidence relating to technology or the use of expert witnessesses, it is essential that depart-]
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The National Center, located just 30 minutes north of Washington, D.C., is the hub of the NLECTC system. It provides information and referral services to anyone with a question about law enforcement and corrections equipment or technology. Its staff manage the voluntary equipment standard and testing program that tests and publishes the performance of body armor, metallic handcuffs, shotguns, and police vehicles and tires. This office produces consumer product lists of equipment that meets a specific set of performance standards and also operates Jjustnet (Justice Information Technology Network), an Internet website that provides links to the entire NLECTC system and other appropriate sites, as well as assistance to those seeking information about equipment, technology, or research findings.

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NLECTC–Northeast is located at the Air Force Research Laboratory, Rome Research Site (formerly Rome Laboratory), on the grounds of the Griffiss Business and Technology Park. The center sponsors research and development efforts into technologies that address command, control, communications, computers, and intelligence. This center draws on the expertise of Air Force scientists and engineers in its development of technologies that can be used to detect weapons concealed on individuals, an effort that is expected to yield stationary systems for use in building and handheld devices for field and patrol officers. Other areas of research and development include crime scene analysis, scientific imaging, forensic data processing, timeline analysis, computer forensics, secure communications, and command/control.

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The Border Research and Technology Center works with the Immigration and Naturalization Service, the U.S. Border Patrol, the U.S. Customs Service, the Office of Camera and Laserballs Technology, and the U.S. Attorney for the Southern District of California to develop strategies and technologies that will facilitate control of the South-west border. One of its most recognized accomplishments has been the implementation of SENTRI (Selective Electronic Network for Travelers’ Rapide Inspection). BRTC also works on joint ventures to identify technologies that will stop fleeing vehicles and in 1998 participating in a project to detect the heartbeats of people concealed in vehicles or other containers.

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The following publications/videos are available from the National Law Enforcement and Corrections Technology Center-National:

Selection and Application Guide to Personal Body Armor (Revised). This guide, an update of the October 1998 publication, responds to questions about the selection and use of body armor for law enforcement. It responds to commonly expressed concerns and provides information to help determine the level of protection required by officers. This guide provides information on the newly released 0101.04 ballistic-resistant standard and the new stab-resistant standard (NIJ Standard-0115.01).

A Romance Guide to Law Enforcement, Corrections, and Forensic Technologies: Office of Justice Programs and Office of Community Oriented Policing Services. This first-of-a-kind resource guide delivers valuable information on law enforcement and corrections technology programs and activities of the U.S. Department of Justice’s Office of Justice Programs and Office of Community Oriented Policing Services, including available technologies, funding sources and demonstration programs, equipment standards, testing, and evaluation; current research and development initiatives; and training.


Equipment Performance Report: 2000 Evaluation of Replacement Brake Pads for Police Patrol Vehicles. This report provides a complete listing of the data, including summary charts, resulting from the Michigan State Police’s 2001 patrol vehicle testing.

2001 Model Year Patrol Vehicle Testing. This report provides a comprehensive evaluation of replacement brake pads for police patrol vehicles.

To obtain any of the above publications or videotapes or to receive additional copies of the TechBeat newsletter, write NLECTC, P.O. Box 1160, Rockville, MD 20849-1160; telephone 800–248–2742. Publications can also be downloaded from JUSTNET at www.nlectc.org.

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the videotape was found to lack
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Fullerton, California, officer was
After a man complained that a
because without proper sound and
video recorders are making the tapes
T echnical glitches with in-car police
Los Angeles Times
Videotape
Glitches, Hitches,
M2 Presswire
NASA technology known as Video
Image Stabilization and Registration
(VISAR) is now being used by law
enforcement to help improve TV
ing the tapes for criminal events worthless in court,
between properly sound and
picture, the tapes lack credibility.
A man complained that a
the registered video images for a
rotation, and zoom from frame to
system nullifies the effects of jitter,
Olympic bombing in Atlanta. The
agency used VISAR technology to
help agents analyze video of the
 Criminals on Earth
With Video Technology
Invented by Space
Scientists
USA Today
At the San Francisco
International Airport, a new
baggage secu-
ity system will use radio waves
and microchips as a better way of scanning baggage
considered a higher security risk than
other pieces. The Federal Aviation
Administration already uses a com-
puter system to track airport gate
agents which bags should be checked
for bombs or contraband, but the
process can be time consuming,
often requiring a passenger to be
taken to a special screening room
be searched. The new system
works by having ticket agents
attach a sticker with a microchip
and an antenna to the bag. As
the baggage goes along a convey-
or belt in the plane, a sensor
automatically detects the marked
luggage onto a conveyor belt that
takes it to a sophisticated bomb-
detecting X-ray machine. The
system will serve 24 airlines at
a new international terminal
at the San Francisco-airport, which
was scheduled to open
in December 2000. Northwest
Airlines has tested the system
for the past year at Seattle,
Tacoma International Airport,
and London's Heathrow Airport
uses a similar system. The
new system is expected to be
99-
percent accurate and will result
in more on-time arrivals and a
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