When it comes to police officers, the better trained they are, the safer and more effective they are. When it comes to training for police officers, the more realistic it is, the better it is.

Drawing on actual officer experiences and sound police tactics, the National Institute of Justice (NIJ) and the Naval Air Warfare Center in Orlando, Florida, found a way to give law enforcement officers as realistic training as possible with a high-tech simulation system called the Weapons Team Engagement Trainer (WTET).

Originally designed by engineers at the Naval Air Warfare Center Training Systems Division (NAWCTSD), this simulation concept was based on a U.S. Marine Corps request for a close combat/hostage rescue trainer that allowed freedom of movement, adversary shoot-back capability, and the ability to track trainee movements. Navy engineers soon recognized the system’s potential application to law enforcement training and began to look at making the system available to the law enforcement market.

Incorporating the simulation technology developed by the U.S. Navy with new scenarios specific to law enforcement, the prototype evolved into WTET.

While simulation is not an entirely new technology to law enforcement, the combination of several key features makes WTET unique. Scenarios include a gang fight in a school, a noisy party complaint, a domestic violence/hostage encounter, and a drug bust. Built into each scenario is the potential for the use of force, ranging from batons and pepper spray to handguns, shotguns, and MP-5s. Plus, trainees can move about without being tethered to a computer, allowing complete freedom of movement and the opportunity to experience a wider variety of tactics training, including room entry. The cords and wires that could interfere with training or pose a safety hazard have been eliminated. The system also employs continuous aim-point tracking to record precisely where each trainee’s weapon is pointed at all times and where their shots impact.

In addition, onscreen adversaries shoot back, reacting to the trainee’s actions and position within the room. For example, a trainee who is fully exposed without the weapon’s aim-point on the screen is very likely to encounter a “fatal shot.” Trainees know whether they have been wounded or killed by the different sounds and vibrations of a device worn on their shoulder. Instructors also can influence the likelihood of a trainee being hit by a simple change to the system.

Following each scenario, summary statistics are presented on-screen in easy-to-read, color-coded tables. Instructors and trainees can readily see the total number of rounds fired by each trainee (identified by vest number); a breakdown of rounds in terms of misses, hits, and wounds; significant interaction events (who shot whom); timing of significant interaction events; and total scenario time.

An Attraction for Weapons

Thanks to the earth’s magnetic field, the Bannock County Courthouse in Pocatello, Idaho, may well be one of the safest in the country.

With the installation of a new type of weapons detector that uses the earth’s magnetic field to sense the presence of guns and knives, security personnel have detected everything from pistols to hatchets to a concealed 10-foot section of chain wrapped around a man’s waist.

This new walk-through detector is based on a technology developed by the Idaho National Engineering Environmental Laboratory (INEEL) that uses extremely sensitive instruments called fluxgate magnetometers to sense, measure, and define any aberrations or anomalies in the magnetic field for locating and characterizing underground structures. With funding from the National Institute of Justice (NIJ), INEEL scientists have taken the technology a step further and adapted it for use in detecting concealed weapons.

Measuring changes in the earth’s magnetic field that may be caused by objects such as guns and knives, the walk-through portal looks much like an airport security system. But that’s where similarities end. The INEEL portal produces a top-to-bottom image of the person passing through it. The image is sent to a control room where a security guard views it on a computer screen.
Following a review of the statistics, the instructor replays the scenario with the ability to pause at any point or change the speed from real-time to slow motion. This allows the instructor to review the trainee’s performance in detail and offer feedback on individual and team skills. Feedback can vary, depending on the objectives of the specific exercise, and can include items such as:

- Situation awareness.
- Planning and followthrough.
- Proper approach.
- Proper entry.
- Proper use of cover.
- Communication with team members, headquarters, suspects/adversaries.
- Intelligence gathering.
- Ability to recognize threats.
- Engagement of threats.
- Weapon handling.
- Fields of fire.
- Cover of threat after firing.

The completed WTET system is the result of a joint effort between the Office of the Secretary of Defense, the Office of Naval Research, NAWCTSD, the National Institute of Justice, the Los Angeles County Sheriff’s Department (LASD), and Florida’s Orlando Police Department and Orange County Sheriff’s Office.

WTET was commercialized through Firearms Training Systems (FATS) and installed at the LASD training academy’s Laser Village. Navy engineers, psychologists, and instructional systems specialists worked closely with FATS during the commercialization process, as did personnel from LASD, to plan and develop appropriate scenarios. Additionally, officers from the Orlando Police Department and Orange County Sheriff’s Office assisted with testing and evaluation.

Feedback from the more than 2,000 officers who tested the system sparked the addition of several enhancements that were not a part of the Navy’s prototype. For example, air canisters were added to the backpack to provide a realistic feel to the weapons when they were fired. With the prototype, students were limited to one weapon. With the newer version, trainees can carry a handgun, an MP-5, and pepper spray, while the instructor can simulate weapon jamming as well as escalate or de-escalate the situation while the scenarios are running. The commercialized version also includes an authoring system so instructors can create new scenarios or tailor existing ones.

“WTET has helped us realize specific deficiencies in training... and enables the trainer to focus on those deficiencies in order to correct them,” notes one Florida officer. Another adds, “...the daily activities of a seasoned law enforcement officer can become routine. It is here that complacency can creep in and cause an officer to be unprepared. WTET scenarios can start off as routine and quickly change to create a realistic deadly force encounter.”

The commercialized WTET system is being incorporated into the regular training regimen of LASD, with beta testing and evaluations expected to take about 1 year. FATS also will deliver a second system to NAWCTSD in Orlando for continued research and development. Each system will be available to other law enforcement agencies for demonstrations and training when schedules permit.

split screen. On half of the screen the person inside the portal while the other half divides the body image into grids to show exactly where a concealed object is located.

There are no conveyor belts for purses or briefcases, no security officers handling out plastic buckets for keys, pocket change, papers, and cell phones. Instead, when the system indicates the presence of certain materials, a security officer uses an intercom to ask that the person remove the object. If the object is in a purse or a briefcase, the person is asked to either remove the object or put the bag on a table and open it up so an overhead camera can view the contents. Access to the courthouse is denied by use of a remote-controlled entry door until the officer is satisfied that the individual possesses no weapons.

Thus far, the detector has been extremely effective, says Scott Wight, concealed weapons detection supervisor at the Bannock County Courthouse. Since its installation in March 1998, security personnel have stopped 7 handguns, more than 400 knives, 200 box cutters, 180 utility knives, 50 full clips of ammunition, assorted shot-gun shells, and such odd weapons as nunchucks, throwing stars, daggers, switchblades, and butterfly knives.

“Almost everyone denies they’ve got anything on them,” Wight says. “But the machine doesn’t lie. We know exactly where the object is. We’ll tell them they have something on the left-hand side at pocket level, or on their right side at ankle level,” Wight says.

Another advantage of the system, according to its developers, is that it is completely nonconfrontational. Individuals who will not give up their suspicious object are simply asked to return the object to their vehicle. If they refuse, they are not admitted to the courthouse.

In one incident, Wight says, the system showed a man had a suspicious object on his right side. He claimed it was a set of keys and placed them on an adjacent table. Because the system does not register keys, he was asked to re-enter the portal. The system alerted security personnel again. He was asked again to remove the object and reluctantly laid a gun on the table with his hand on the grip. When asked to remove his hand, the man grabbed the weapon and ran out of the building.

The development of the INEEL portal is only one part of NJ’s Concealed Weapons Detection (CWD) program. Begun in 1995 in partnership with the Office of Community Oriented Policing Services, and later in partnership with the U.S. Department of Defense, the CWD program is exploring the potential use of a variety of technologies.

The INEEL portal, however, is the first to be commercialized. It is currently in the process of being commercialized by IES Technologies, which has named it Secure Scan 2000. IES President Liem Nguyen says he has several pending contracts for the portal, including an order for four to be delivered to NJ’s National Law Enforcement and Corrections Technology Center (NLECTC)—Northeast in Rome, New York.

According to Dave Ferris, technical program manager for the CWD program, NLECTC—Northeast is considering placing one or two portals in a school system in New York City for better detection of knives and small blades in an effort to reduce slashing incidents. “We have no plans for the others yet,” Ferris says. “But we have had several courts call and they might like to use them for high visibility trials, though.”

Glenn Shell, the INEEL program manager for the portal project, says the Idaho laboratory plans to continue its research and development on the portals. “We’d like to incorporate the ability to detect explosives and drugs using ion mobility spectrometry, and the ability to do a secondary check for plastic and porcelain weapons. There is also some interest in developing a walk-through portal up to 10 feet long that would be able to detect drugs, explosives, and weapons, and show exactly where they’re located.”

For more information on the INEEL portal or the National Institute of Justice’s Concealed Weapons Detection Program, contact Pete Nacci, Joint Program Steering Group, 703–351–8821, or Dave Ferris, National Law Enforcement and Corrections Technology Center—Northeast, 888–338–0584.

Photo by Corbis Images.
The Future Alert Contact Network, or FALCON, is the latest component in this department’s sophisticated information system. What it offers is the technology to sort through records and reports to establish crime patterns and trends.

"FALCON is a triggering system that acts as a kind of early warning system," says CMPD’s Maj. Piper Charles, head of the Police Master Information System program. “I can set the triggers for whatever kind of information I need. If I set the system to alert me when three burglaries have occurred on my beat, then I get an early warning that somebody may be working my neighborhood. I don’t have to wait until the end of the month and comb through a report to find out there were 15 burglaries in my area.”

According to Charles, FALCON’s success is based on the program’s ability to “mine” existing data in CMPD’s information system. Incoming reports are filtered through FALCON, which can determine if the data meet an officer’s parameters. It is important to note, Charles says, that FALCON is not actually integrated into CMPD’s information system. Rather, it “sits on top” of several databases that house information from dispatch, property and evidence, and incident reports. Eventually, she says, FALCON may also hook into other databases, such as internal affairs, to alert investigators when an officer has too many complaints.

“We see FALCON as having a lot of utility for the officer,” Charles states. “It will help them take a proactive approach to solving crimes. It will help task force members get down to the level of detail they need to tie elements of a case together, especially when they’re tracking habitual offenders or when a series of crimes are scattered around the county. If Joe Smith is arrested on the midnight shift, he could be in court by 9 a.m. and out on the street 2 hours later. If one of our officers is looking for Joe Smith, the FALCON system will notify the officer, who can hustle down and perhaps initiate an interview with the suspect before he gets out of jail. We feel like the uses of FALCON are limited only by our imagination.”

But FALCON is just one of the components in an information system intended to alleviate what CMPD ascertained in 1994 was its officers’ biggest complaint: lack of information about the community, the department, and crime in general. Agency administrators noted this complaint when then-CMPD Chief Dennis Nowicki decided his department needed a state-of-the-art network that could serve the department’s 1,800 potential users.

“We approached the whole project as a systems analyst would,” Charles says. “We asked ourselves, what our deficits were, and what the needs of the officers were. The chief wanted us to develop a system that would support community policing and the officers in the field. He didn’t care about management reports, because he believed that a system that supports the officers in the field would also give us the reports we needed.”

CMPD did its homework. Twenty focus groups later, the department had a clear picture of the officers’ needs. 75 percent wanted more information about felons in their neighborhoods; 55 percent said they did not know what the residents in their area felt was their most pressing problem; 90 percent got little feedback on case status; 60 percent said data collected by the department was not relevant to their needs; 80 percent said they could not easily access offense reports; and 50 percent said they could improve their performance if they were just better informed.

“Problemsolving was hard because the officers didn’t know what was going on in their neighborhoods. They said the primary source of crime information was the morning newspaper,” Charles says. “That makes you want to scratch your head and say, ‘Is this any way to run an organization?’”

To validate its findings, CMPD did a nationwide survey that duplicated its inhouse study. Ten departments that were known to be solid community policing agencies were asked identical questions. The results were the same, showing that CMPD’s deficits were not an isolated problem.

A needs analysis from the city’s information technology department would have cost several hundred thousand dollars. Instead, Nowicki formed a partnership with the local university, agreeing to pay half the salary of a professor with the required expertise in exchange for half of that professor’s time.

The department then went looking for vendors, but found “the best of the best could only meet about 60 percent of our needs,” Charles says. “So we decided on custom development. It was not our first choice, but at that point it was the only choice we had.”

The result is an information system that links all workstations within the headquarters building and at 18 remote facilities. A Mobile Data Communications system lets officers receive dispatches; perform queries of local, State, and Federal databases; transfer and query offense reports and field interview records; access mug shots; and use e-mail to communicate with investigators and administrators. KB-COPS (Knowledge-Based Community Oriented Policing System) features a custom-developed database that provides advanced reporting detail and querying capabilities. An enhanced computer-aided dispatch system provides address histories and background information and interfaces directly with the KB-COPS records management system.

FALCON was developed through an NIJ grant funded by COPS (Office of Community Oriented Policing Services). It was developed by CMPD and Maureen Brown, Ph.D., an assistant professor of information technology at the University of North Carolina at Charlotte. COPS MORE (Making Officer Redevelopment Effective) grants were used for the majority of the department’s information system. Brown says that NIJ supported the FALCON component because of its strong focus on research and the eventual ability to turn it into a marketable product that could be used by other departments.

The National Institute of Justice (NIJ), responding to recommendations by the law enforcement and corrections community, created its Technology Assessment Program Information Management System (TAPIC) to provide law enforcement and corrections practitioners with access to national standards, user guides, and advisory reports. To address the need for crime laboratories to analyze arson and explosion evidence, NIJ created the Office of Law Enforcement Standards (OLES) in 1971. OLES develops minimum performance standards for equipment and technology that are used by law enforcement and corrections practitioners.

NIJ's National Center for Forensic Science provides the support to develop standard protocols for analyzing arson and explosion evidence. OLES also helps to develop minimum performance standards for equipment and technology that are used by law enforcement and corrections practitioners. The National Institute of Justice (NIJ), responding to recommendations by the law enforcement and corrections community, created its Technology Assessment Program Information Management System (TAPIC) to provide law enforcement and corrections practitioners with access to national standards, user guides, and advisory reports.

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 manages the voluntary equipment standards and testing program that tests and verifies 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 JUSET (Justice Technology Information Network), an Internet World Wide Web site 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
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NLECTC–Northeast is located at the Air Force Research Laboratory, Rome Research Site (formerly Griffiss Business and Technology Park). The center sponsors research and development efforts into technologies that address command, control, communications, computers, and intelligence. This center focuses 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 equipment for use in buildings and handheld devices for field and patrol officers. Other areas of research and development include biometric facial recognition and data processing.

Two of the focus areas of NLECTC–Southeast are corrections technologies and surplus property acquisition and distribution for law enforcement and corrections. The center facilitates the acquisition and redistribution of Federal surplus/excess property to State and local law enforcement and corrections agencies. The equipment must be used for law enforcement purposes only. Utilizing the JUSTINET World Wide Web site, the center educates law enforcement and corrections professionals about Federal surplus and purchasing programs. The efforts of NLECTC–Southeast have resulted in agencies receiving equipment that would not ordinarily have access to or might not have been able to afford due to budgetary constraints. This facility also supports the needs of corrections agencies. It is guided in this mission by a committee of criminal justice, law enforcement, and corrections practitioners that identifies requirements and sets priorities for research and development. NLECTC–Southeast is allied with the South Carolina Research Authority (SCRA) and the Naval Command, Control and Ocean Surveillance Center In-Service Engineering, East Coast Division (NISE East). NECTC–Southeast’s other areas of focus include information management and technologies, simulation training, and designated special projects.

NLECTC–Rocky Mountain
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Located at the University of Denver, NLECTC–Rocky Mountain focuses on communications interoperability and the difficulties that often occur when different agencies and jurisdictions try to communicate with one another. This facility works with law enforcement agencies and private industrial organizations to implement projects that will identify and test new technologies to help solve the problem of interoperability.

NLECTC–West
570 Research Center Drive • San Diego, CA 92121
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NLECTC–West is housed on the grounds of The Aerospace Corporation, a nonprofit corporation that provides technical oversight and engineering expertise to the Air Force and the U.S. Government on space technology and space security systems. NLECTC–West draws on The Aerospace Corporation’s depth of knowledge and scientific expertise to offer law enforcement and corrections the ability to analyze and enhance audio, video, and photographic evidence. In cooperation with The Aerospace Corporation, this NLECTC facility also has available an extensive array of analytic instrumentation to aid in criminal investigations, such as a scanning electron microscope, an x-ray microscope, and a mass spectrometer, all of which are used to process trace evidence.

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 National Drug Control Policy, and the U.S. Attorney for the Southern District of California to develop strategies and technologies that will facilitate control of the Southwest border. One of its major accomplishments has been the implementation of SENTRI (Secure Electronic Network for Travelers’ Rapid Inspection). SENTRI also works on joint ventures to identify new technologies that will stop fleeing criminals in the current participating in a project to detect the heartbeats of people concealed in vehicles or other containers.

Office of Law Enforcement Standards (OLES)
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Supported by NJ, the Office of Law Enforcement Standards applies science and technology to the needs of law enforcement and corrections. Its major objective is to develop minimum performance standards for equipment and technology that NIJ promulgates as voluntary national standards. OLES also undertakes studies leading to the development of technical standards and user guides. Its areas of research include clothing, communications systems, emergency equipment, investigative aids, protective equipment, security systems, vehicles, and weapons. It also develops measurement requirements for analytical equipment. OLES also works with the National Institute of Justice (NIJ) and the National Institute of Corrections (NIC) to develop arson and explosives research.

The Office of Law Enforcement Technology Commercialization (OLECT) office of NIJ, located at Wheathering Jesuit University, OLECT’s mission is to work with industry, manufacturers, and laboratories to facilitate the commercialization of technologies for the law enforcement and corrections marketplace. OLECT provides special services and assistance to innovators, entrepreneurs, universities, Federal and other user agencies, and U.S. manufacturers nationwide in commercializing technologies that will enhance the effectiveness of law enforcement and corrections practitioners. A national partnership is being developed to provide a continual pipeline of promising products, concepts, and substandard services that will expedite the commercialization of new products and services needed for State and local law enforcement and corrections communities.

National Center for Forensic Science
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The National Center for Forensic Science, housed in the University of Central Florida and initially will focus on arson and explosives research. Its mission is to conduct fundamental research into the basic nature of fire and explosion phenomena, provide the support to develop standard protocols for analyzing arson and explosion debris, promote the use of electronic media to access and exchange information about the forensic sciences, and provide educational opportunities to practicing professionals and full-time students. This new facility will draw on the experience and expertise of the university, which houses a forensic science program with an active research program, as well as the Institute of Simulation and Training, which is currently exploring ways to simulate explosive reactions to study various chemical processes.
From the Street... to the Street...

The National Institute of Justice (NIJ) has long believed that one of the most vital aspects of its program is the solicitation of ideas and suggestions from criminal justice practitioners. It is this information that helps form the framework of NIJ’s work. NIJ’s Office of Science and Technology and its National Law Enforcement and Corrections Technology Center (NLECTC) system acquire this information through conferences, regional workshops, and most especially through a series of advisory groups. These groups are composed of representatives from all areas of law enforcement, corrections, and the forensic sciences, and focus on everything from operational technological needs to liability issues and public acceptance of these new technologies.

One such group, the Law Enforcement and Corrections Technology Advisory Council (LECTAC), is composed of law enforcement, corrections, and forensics practitioners who serve as advisers to the NLECTC system and recommend technology program priorities. Because LECTAC’s members are also the end users of new technologies, they bring the day-to-day needs of police and corrections officers to the forefront. As a result of their recommendations, NIJ is able to bring in researchers, scientists, and engineers to address the emerging needs of the law enforcement and corrections communities.

LECTAC’s current research priorities include the development of technologies and research in the areas of concealed weapons and contraband detection, vehicle stopping, enhanced DNA testing, officer protection, less-than-lethal technology, information management, counterterrorism, location and tracking, secure communications, and noninvasive drug detection. Following are updates on several sample projects that fall under these headings, many having both law enforcement and corrections applications.

Budget Help. Through a grant to the Police Executive Research Forum (PERF), the National Institute of Justice is helping law enforcement administrators find ways to fund new priority programs, including technology acquisitions. PERF is completing a major study to identify those factors involved with budgetary decision-making and innovative or effective approaches to the budget process. The National Assessment of Police Chief Experience in the Budgetary Arena has surveyed nearly 300 departments serving jurisdictions with a population of 50,000 or more. The survey sought to illuminate police budget practices and examine how police departments—under varying local conditions—acquire resources to meet agency needs and strategic objectives. Researchers discovered that law enforcement budgets are essentially driven by personnel costs. (Agencies reported spending 61 to 98 percent of their operating budgets on salaries and related costs.) Agency administrators also were asked about their success in securing local funding for strategic priorities; what local constraints hampered their ability to secure funding; how much control over budget decisions they really had; the level of community involvement in the budget process; the media’s role in the budget process; and how outside funding sources fit into the overall budgetary picture. The final report will be a prescriptive guide for chiefs and local administrators on how to optimize funding for policy objectives, which include capital investments, investments in technology, and expanded operating budgets. For more information on this project, contact Sandy Newett, National Institute of Justice, 202–616–1471, or Cliff Karchmer, Police Executive Research Forum, 202–466–7820.

Radar Flashlight. The Georgia Technical Research Institute (GTRI) is developing an inexpensive, handheld, low-power radar that will enable law enforcement officers to detect people through interior building walls. The device works by sensing the motion of an individual’s chest when he or she breathes. GTRI is currently designing and refining the first prototype unit. A laboratory test area has been constructed consisting of a section of home siding and drywall, a wooden front door, and a section of brick and mortar. The laboratory model was able to detect individuals through each of these materials. It detected a person through the laboratory’s cinderblock walls. GTRI is working to combine the two parts of the device into a single unit, to create a radar flashlight that can easily be carried by officers. For more information, contact Chris Tillery, Joint Program Steering Group, 703–351–8474.

Mug Match System. A project partnering the National Institute of Justice, the Santa Ana, California, Police Department, and two private corporations—InfoTech Pacer in Maryland and Zentrum Fur Neuroinformatik (ZN) in Germany—has created a program that treats mug shots and composites like the Automated Fingerprint Identification System (AFIS) treats fingerprints. The project involves bridging software programs from InfoTech Pacer and ZN, which will allow a person’s image to be compared to other images in a database. Like AFIS, it responds with a number of possible hits, each with a corresponding level of probability. Working at a comparison rate of 50,000 images per minute, the new software program, called Mug Match, allows investigators to run mug shots, photos of unknown subjects taken at crime scenes, and even video footage from surveillance cameras. Funded in 1997, the project took off-the-shelf software programs and built a bridge between them, says Capt. Dan McCoy of the Santa Ana Police Department. The next development step will be to take pictures that show only a profile or a segment of a face and use the program to construct a full facial view. For more information, contact Tom Coty, National Institute of Justice, 202–514–7683.

CATCH Program. A new program currently being tested by the Washington State attorney general’s office may become one of law enforcement’s newest detectives. CATCH, short for Computer-Aided Tracking and Characterization of Homicides, uses mathematical algorithms to analyze enormous volumes of data and ferret out links between crimes that investigators might have missed. CATCH mimics the human brain’s capacity to process complex patterns using a neural network. It can compare several thousand cases, using hundreds of variables particular to each crime. It can help investigators determine whether two similar crimes or a series of crimes were committed by the same offender. It is currently being evaluated at the Washington State attorney general’s office, sorting through the State’s computerized murder investigation records. For more information, contact Tom Coty, National Institute of Justice, 202–514–7683.

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About TechBeat

TechBeat is the award-winning flagship publication of the National Law Enforcement and Corrections Technology Center (NLECTC) system. Our goal is to keep you up to date on technologies currently being developed by the NLECTC system, as well as other research and development efforts within the Federal Government and private industry. TechBeat is published four times a year.

Contributing Editor/Writer, Lois Pilant.
Caught in the Act

The use of a videotaping system in police vehicles has become one of the newest and most effective ways of protecting law enforcement agencies, their officers, and the public they serve. It has been cited as a powerful tool for reducing civil liability and complaints against officers, and has been used to protect the public against unscrupulous officers. It has even become an effective means of gathering additional evidence in investigations.

The Newport Beach Police Department (NBPD) in California implemented in-car video in 1996 after being on the losing end of Federal charges of civil rights violation. “That ruling was devastating for the officers,” recalls Capt. Tim Riley, the original project manager of the in-car video initiative and now the head of NBPD’s Support Services Division. “Had there been videotape of the incident, the court would have sided with the officers. After that we took a look at our civil liability over several years and decided we were paying out way too much. A lot of these cases get down to their word against ours. We wanted to end that.”

While his department was in the process of researching and testing video equipment, an officer was killed by a suspect who then killed himself, Riley says. Ironically, the officer had a test unit in his car, but did not turn it on prior to approaching the suspect. He was killed 100 feet from his patrol car.

The department subsequently tested 10 systems, chose one, and installed it in 29 patrol cars at a total cost of about $230,000.

“Results are hard to quantify,” Riley says, “but my gut feeling is that our cases are stronger now. We go to court because we have video. Our com-plaints against officers have probably been reduced, although it’s hard to say—it’s hard to quantify the things that don’t happen.”

But a number of serious complaints against NBPD officers, he says, have been shown by the video to be unfounded. In one such case, a woman accused an officer of sexually assaulting her. The video showed no such incident. Fact was that the woman had been out late, drinking with an old boyfriend.

Instead of telling her current boyfriend the truth, she told him she was attacked by a police officer.

According to Riley, his department’s policy dictates that officers activate the system every time they initiate any activity from their vehicle. The system also automatically begins operation whenever the vehicle’s emergency lights are turned on.

“It has also been a great evidence-gathering tool that can enhance a case,” he says.

The system includes a wireless, belt-worn microphone that transmits audio up to 1,000 feet from the car. But even though the video equipment automatically activates whenever the emergency equipment is turned on, the audio does not, states Mike Epstein, senior project engineer for the National Law Enforcement and Corrections Technology Center (NLECTC)–West in El Segundo, California, which is offering support to NBPD by trying to make their system entirely hands free.

“In an emergency, an officer may forget to turn on the system’s microphone,” Epstein says. To prevent what could be a tragic oversight, NLECTC–West is working on a solution posited by one of NBPD’s own people: when an officer moves away from the radio, the system simply senses it and turns itself on.

“It’s a radio proximity thing that keys off the squelch on the radio,” Epstein says. “It’s a very clever idea. We have people here who are building the design, which will fit within the existing box.”

Riley says that both officer and public support of in-car video has been enthusiastic. “We started eliciting internal support and acceptance before we even implemented it,” Riley says. “We involved our employees and employee association in developing policy and procedures. We made sure they knew it was a tool for their protection, and would not be used for supervision or as a disciplinary tool. Anybody is going to be concerned if their daily activities are videotaped, but it’s almost a requirement in today’s society to protect officers from bogus claims. In the vast majority of cases, our officers do the right thing. Our intent was to give them added protection and to protect the city from unnecessary claims and lawsuits.

“When we presented the idea to the city council, we got a lot of support. People have told us that it’s a sad state of affairs if this is what we have to do, but they support us as well.”

Interestingly, one critical aspect of in-car video really has nothing at all to do with the actual videotaping system. It has to do with the storage of videotapes. Riley notes that in 1998, the California legislature mandated that all departments maintain videotapes for a minimum of 1 year, whether or not they contain evidence. This new law presented a significant challenge for his department. NBPD responded by implementing a barcoding and tracking system that allows a “custodian” to manage the department’s 18,000 videotapes, which are kept in a secure evidence locker, in only 20 minutes per day. This tracking system, Riley says, requires only 3 to 4 seconds per videotape to maintain chain-of-custody and captures a videotape’s every movement during the total mandated retention period. Managing the department’s videotapes, according to Riley, would be a full-time job without such a tracking system.

A Newport Beach, California, police officer who was standing on the side of the road after stopping a traffic violator was hit by another driver who had drifted onto the shoulder. The driver, not realizing he had hit anyone, continued driving on. The officer, however, was taken to the hospital with an injured back. When the emergency room doctor discovered the accident had been recorded by the videotaping system in the officer’s patrol car, he went to the patrol car to view the video. After seeing how the injury occurred, the doctor knew exactly how to treat his patient. The video also convinced the driver that he had caused an accident.

For more information about the Newport Beach Police Department’s in-car videotaping and video barcoding/tracking systems, contact Capt. Tim Riley, 949-644-3650. For more information about audio modification efforts being conducted by the National Law Enforcement and Corrections Technology Center–West, contact Mike Epstein, 888-548-1614.

Photo courtesy Kustom Signals, Inc.
**New Publications/Videos**

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

**1999 Mock Prison Riot Video.** This videotape features technologies used to quell a mock prison riot staged by the National Institute of Justice's Office of Law Enforcement Technology Commercialization. Emerging technologies were incorporated into training scenarios to demonstrate the latest crimefighting technologies.

**Michigan State Police Tests 2000 Police Vehicles.** This bulletin summarizes the test results from the Michigan State Police's annual evaluation of “police-package” and “special service” patrol vehicles.

**A Comprehensive Evaluation of 1999 Patrol Vehicle Tires.** This bulletin summarizes results of the National Institute of Justice’s comprehensive evaluation of patrol vehicle tires, conducted in April 1999.

**Equipment Performance Report: 1999 Patrol Vehicle Tires.** This report presents the complete results of the National Institute of Justice's 1999 comprehensive evaluation of patrol vehicle tires. The report contains a large amount of data generated by the evaluation, which was conducted under a variety of test conditions.

**Autoloading Pistols for Police Officers: NIJ Standard: 0112.03.** This standard establishes performance requirements and test methods for pistols to be used by law enforcement officers. It is a general revision of and supersedes NIJ Standard-0112.02, dated January 1995, and addresses new pistol designs, calibers, revised procedures for verifying head space, and general revision of the testing procedures.

**TechBeat, Summer 1999.** Articles in this issue of TechBeat discuss innovative ways to detect contraband and Law Enforcement Online (LEO), an intranet that allows law enforcement personnel to communicate securely with one another.

**TechBeat, Spring 1999.** This TechBeat features the use of surveillance cameras to combat crime, plans to convert an old prison into a training facility for public safety personnel, and preparing computer systems for Year 2000 compliance.


**AutoBid 2000.** AutoBid software is designed to help police fleet administrators select the patrol vehicle that is best suited to the needs of their department. The system is based on vehicle performance data for police patrol package models published annually by the Michigan State Police.

**Keeping Track of Electronic Monitoring.** This bulletin will give an indepth look at current and upcoming home monitoring devices, system components, buy/lease factors and options, and recommendations for establishing an electronic monitoring program.

**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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**Sign Up To Receive Free Reports From the National Criminal Justice Reference Service**

In addition to funding the National Law Enforcement and Corrections Technology Center, NIJ also supports the National Criminal Justice Reference Service (NCJRS), an international clearinghouse on crime and justice information. NCJRS staff respond to reference questions, provide referrals to other resources, distribute NIJ and other Office of Justice Programs (OJP) documents, and maintain a mailing list of more than 45,000 registered users. In addition, NCJRS sponsors the NJ Criminal Justice Conference Calendar at http://www.ncjrs.org/calendar, which lists conferences and meetings of interest to the criminal justice community. If you are interested in signing up for the NCJRS mailing list, you may request a registration form using any of the following methods:

**Fax-on-Demand.** Send an e-mail to askncjrs@ncjrs.org and request a registration form. It will be sent to you in the mail.

**E-mail.** You may fax your request for a registration form to 410–792–4358. You will receive a form promptly in the mail.

**Call.** You may call an NCJRS information specialist and request a registration form. The number is 800–851–3420.

**Write.** Send a written request to NCJRS, Box 6000, Rockville, MD 20849–6000.

As a registered user, you will receive the bimonthly NCJRS Catalog, the quarterly NIJ Journal, and selected reports based on your criminal justice interests. For more information about NIJ and NCJRS, visit their Web sites: http://www.ojp.usdoj.gov/ncj and http://www.ncjrs.org.
Biometrics in Criminal Justice

Date: December 2–3, 1999
Place: University of Denver, Denver, Colorado

Sponsored by the National Law Enforcement and Corrections Technology Center–Rocky Mountain, this conference focuses on “biometrics,” the use of biological characteristics or behavioral traits for the automatic identification or the identity verification of individuals. The conference will center around current and upcoming technologies, practical applications for the criminal justice community, and demonstrations by developers and vendors.

Conference size is limited and is on a first-come, first-served basis. For additional information and a registration packet, call Mike McGee or Joe Russo, 800–416–8086.

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.

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Surf 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 national newspapers, magazines, and periodicals and on national and international wire services and Web sites.
- Publications from NIJ and NLECTC that you can view or download to your system.
- Interactive Topic Boards that allow you to post questions and exchange information with hundreds of professionals in their specialty areas.
- 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 Web sites.

www.nlectc.org
With the assistance of experts from across the country, the National Institute of Justice (NIJ) has begun production of what is proving to be a very much in demand series of guides on everything from death investigation to arson. In fact, the first of the publications, *Death Investigation: A Guide for the Scene Investigator*, published in 1997 under the title *National Guidelines for Death Investigation*, has been so well received that some States are requesting hundreds of copies, according to NIJ program manager Richard Rau, Ph.D.

Next on the publications agenda, Rau says, are *Eyewitness Evidence: A Guide for Law Enforcement*, and *Crime Scene Investigation: A Guide for Law Enforcement*. These guides will be followed by publications on fire/arson scene investigation and bombing scene investigation.

The series of guides are the result of the effort of various groups of experts representing police, prosecutors, defense lawyers, forensic scientists, and researchers from the United States and Canada. Many of the participants were brought on to the guide project through NIJ’s National Law Enforcement and Corrections Technology Center system, which identified participants from agencies large and small, rural and urban.

“These people were all volunteers,” Rau says. “They weren’t paid anything, but there wasn’t one in there who wasn’t dedicated, who wasn’t speaking up and talking about what they felt was important. After all, it is their livelihood we’re talking about.”

NIJ also has Attorney General Janet Reno to thank. Her support and commitment to the improvement of the criminal justice system made this work possible.

Rau says that the guides project, which is part of the Investigative and Forensic Sciences Program at NIJ’s Office of Science and Technology, is aimed at “raising the bar of the quality of evidence for law enforcement in the future.” In addition the guides will be used as a foundation for training programs in death investigation, eyewitness evidence collection and preservation, crime scene investigation, and arson and bombing scene investigation.

For more information or to receive a copy of the first publication, *Death Investigation: A Guide for the Scene Investigator* (formerly titled *National Guidelines for Death Investigation*), contact the National Criminal Justice Reference Service at 800–851–3420.