Highly mobile and loosely organized, gangs in this country are notoriously hard to track. Their leadership structure changes constantly. Their use of street names makes members extremely difficult to identify. And their involvement in everything from drug trafficking and prostitution to carjacking and murder place them under a myriad of criminal activity categories.

It was for these reasons that the Northeast Gang Information System (NEGIS) was created—to give law enforcement officers in five northeastern States the ability to track gang members within and across State lines.

NEGIS had its beginnings as a gang-tracking computer program that was initially the design of two Massachusetts State Police (MSP) investigators, a spin-off of a similar program created by the Boston Police Department.

Developed in Lotus® Notes™, the computer program had modules that let officers send messages, track leads, identify officers and other experts with special skills, access a library of gang-focused articles, and input or retrieve information from an intelligence database.

“About 5 years ago we were given a mandate to pursue funding to find a statewide solution to gangs,” says Lt. Thomas Kerle, a commander in MSP’s Division of Investigative Services. “We used Boston’s prototype and built NEGIS, which is really more than a gang-tracking system. We wanted to address bigger issues, like communication, which is by far the biggest problem. So we built modules that address communication between people, as well as the storage, organization, and exchange of information.”

The NEGIS Project started in 1996 at the request of President Clinton, who saw a demonstration of the software and asked the National Institute of Justice (NIJ) to fund its development. In fiscal year 1997, $425,000 in NIJ funding was awarded to the Police Executive Research Forum to provide the equipment and training to make the system operational. NEGIS became operational in April 1998 and almost immediately began to show results. In one Massachusetts drive-by shooting, a witness knew only the suspect’s moniker, or street name. The investigating officer posted an account of the incident along with the suspect’s moniker on the NEGIS bulletin board. An officer from another agency recognized the name and identified the suspect, who was later arrested.

According to Kerle, today NEGIS is a series of five separate databases that serve law enforcement agencies in Massachusetts, Vermont, Rhode Island, Connecticut, and New York. The first database is for e-mail, which facilitates officer-to-officer communication, as well as officer-to-prosecutor communication. The second is a resource database that stores information about officers’ special skills. The third is a database to monitor individuals in the community. Thus, electronic monitoring (EM) systems developed. Since then, the electronic monitoring industry has grown at an exponential rate.

The Bureau of Justice Statistics reports that at the beginning of this decade, there were approximately 400 EM programs and 12,000 people involved in them. In January 1998, there were approximately 1,500 programs and 95,000 electronic monitoring units in use, including those in use by individuals on pretrial status, home detention, probation, parole, and in juvenile detention.

“Electronic monitoring is a realistic alternative to incarceration for individuals on regular probation, on pretrial status, parole, or nearing the end of a minor drug, alcohol, or misdemeanor sentence,” says Garry Pate,
abilities or areas of expertise. The third database is an online discussion, or listserv, with a bulletin board for posting queries and images, such as shots of unfamiliar tattoos, hand signals, gang members, or vehicles. The fourth database is a public domain reference library with full text-search capabilities. It houses everything from scholarly articles and research findings to ongoing studies and newspaper stories.

The fifth is an intelligence database for gang tracking. Each of the five States maintains its own intelligence database to comply with Federal and State privacy laws. The files contained in the other four databases, however, are shared.

“NEGIS is another tool to help the investigator solve crimes. Although it’s not the silver bullet that’s going to end gang violence, it complements the other efforts we make,” Kerle says. “At this time, it’s hard to measure the impact NEGIS has had. We do know it’s been a force multiplier. Before NEGIS, if you had a photo of a hand signal, you might have sent 40 copies to other police departments and detective units, and hoped somebody called you back. Or you might have had to sit there and make 40 phone calls. With NEGIS, we can do in a few hours what might take hundreds or thousands of hours. It eases communications, and saves people time. NEGIS showed that an off-the-shelf product could be customized to create a usable, affordable, criminal justice tool. It also partnered officers from five States on a single project.”

The NEGIS system, Kerle says, is compliant with Federal regulations governing the sharing of intelligence information (28 CFR 23). Each participating State has adopted a multipart, highly detailed set of operational policies and procedures. To assist in the supervision of NEGIS, the five States have formed an advisory council that periodically meets to establish policy and address problems.

“It’s a coordinated, State-based system that allows interaction between the States, but leaves control at the State level,” Kerle says. “One agency in each State is charged with filtering new information through its State’s respective NEGIS server. The beauty of this system is that almost everyone has a PC [personal computer] and a modem, so the cost to hook up a new user is only $50 for the Lotus® Notes™ license.”


In a 1993 study, the U.S. Department of Justice estimated that nationally there were 4,881 gangs with 249,324 members. In a more recent survey, the Federal Bureau of Investigation estimated that there were more than 400,000 members in approximately 700 cities. However, other recent studies conclude that in Chicago alone there are more than 100,000 gang members, and that California’s gang membership is more than 175,000. A further update by the Los Angeles District Attorney’s office indicates that more than 125,000 gang members are documented in Los Angeles County, and that this represents a 240-percent increase from 11 years ago, when gang membership was estimated at 52,400.
Making Guns Smart: The Next Step

The National Institute of Justice's (NIJ) “smart gun” project is off the drawing board and headed for field evaluations.

Colt’s Manufacturing Company, Inc., will be delivering to NIJ two prototypes of a weapon that can be fired only by a recognized user. According to NIJ Program Manager Wendy Howe, NIJ plans to purchase 20 of Colt’s smart guns and use them in a controlled field testing program at two U.S. police academies. The goal is to evaluate the technology, the weapon, and its effectiveness.

“It’s similar to what NIJ did with body armor, except in that case we put 5,000 of the bullet-resistant vests on the street for field evaluation,” Howe says. “But with the smart gun, we’re only purchasing a limited number into a controlled study to further evaluate the technology in the hands of the police—in situations where lives are not at stake.”

According to Howe, NIJ began studying smart gun technologies several years ago. With the identified needs and requirements of law enforcement in mind, a group of engineers, researchers, and scientists at the U.S. Department of Energy’s Sandia National Laboratories in Albuquerque, New Mexico, investigated, evaluated, prioritized, and demonstrated a variety of “smart gun” technologies that included radio frequency, voice recognition, biometrics, and touch memory. The most promising, Howe says, was the use of radio frequency to verify the identity of the user.

At the same time, Colt’s Manufacturing was looking into similar technology that involved verification by radio frequency. After spending $1 million in development, the company applied to NIJ for an additional $500,000 to take the idea of a radio frequency smart gun to the next level. NIJ funded the grant, and by early 1998, Colt’s had a proof-of-concept device that it demonstrated to a group of its toughest critics—the end users. This meeting convened law enforcement and corrections officials and solicited their ideas about what worked and what didn’t. With their feedback, Colt’s then developed and tested a second-generation device, which it delivered to NIJ late last year.

When energized, this second-generation prototype emits a radio signal. A small, wrist transponder is worn by the user. The wrist transmitter receives the information and emits a coded radio signal. The return signal prompts the removal of a blocking pin within the gun’s trigger mechanism, enabling the gun to fire.

“The receiver is small enough to fit on the back of a watch, in a bracelet, or be made a permanent part of the uniform,” Howe says. “The rest of the components are inserted in the grip. This technology is one of the most basic things it’s the kind of technology used in garage door openers, which means there won’t be any interoperability or radio spectrum problems.”

Howe points out that the full-sized handgun addresses the concerns and incorporates the suggestions that NIJ and Colt’s received during their separate studies and development of a smart gun technology—that it be easy to operate, reliable, and affordable. The smart gun also incorporates a number of other safety factors, most of which came from law enforcement feedback:

◆ The user verification process occurs within the time required to draw and aim a gun.

◆ The transponder is within an 8-inch range of the gun to activate the trigger.

◆ A directional antenna built into the gun ensures that transponder signals are received only from behind the weapon.

◆ An indicator that is obvious only to the user displays the enabled or disabled status.

◆ A fail-safe override automatically arms the weapon if the electronics fail.

◆ The gun will support multiple users on the same frequency, enabling an entire squad or a small department to use the same band.

Howe says that smart gun development has been prompted by the fact that over the past 15 years, 16 percent of law enforcement officers who were killed in the line of duty were by an adversary armed with the officer’s weapon.

According to a 1997 study conducted by the Johns Hopkins School of Public Health in Baltimore, Maryland, 71 percent of the public and 59 percent of gun owners supported the idea of a “personalized” weapon that could be fired only by the owner.

“Radio frequency is certainly not the only technology available,” Howe says. “It is the one that Colt’s developed. The smart gun concept is simply the next evolution in firearms technology. We’ve gone from black powder to the revolver to the semiautomatic, and now we’re going to a weapon that can recognize—or not recognize—the person intent on firing it.”

NIJ plans to conduct its field evaluations this year. Howe says, “First, however, the smart gun will undergo several levels of testing within the National Law Enforcement and Corrections Technology Center system prior to being assigned to a police academy.

For more information about the National Institute of Justice’s smart gun initiatives, contact Program Manager Wendy Howe, 202-616-5794.
I t was perhaps one of Detective Bill Henebry’s best Christmas gifts. It arrived December 26, 1996, neatly packaged in the guise of one of his former arrestees who was housed in the local jail. Henebry, a member of the Financial Crimes Division of the Los Angeles Police Department (LAPD), had arrested the man earlier that year. But today, the man was giving Henebry information about other related crimes and a number of his criminal counterparts. This informant’s “gift,” however, turned into one of California’s biggest and most widespread cases of financial crime.

During the next 2 years, Henebry and a host of LAPD detectives and Federal agents would effect more than 200 arrests and boast a 99-percent conviction rate in an investigation that involved almost every aspect of check fraud and forgery and the victimization of thousands of people and businesses.

The crimes were the work of a group of people who had several things in common, one of which turned out to be a shared history with drug dealing. “I linked up with Fred Davis, a narcotics detective in Hollywood. Together, he and I started on a crusade to rid the area of methamphetamine and check forgeries.”

According to Henebry, the plan was to use the moniker as a starting point. Identify the person using the moniker, link the individual to a location, and then set up surveillance. Probable cause and the subsequent search warrant usually focused on some type of drug involvement. With the suspect booked on drug charges, a forgery warrant generally would come later as a result of evidence seized from the perpetrator’s house. When the detectives recovered stolen mail, they called in U.S. Postal Inspector Sean Tiller, who then filed沿着调查的进行，一些举报者提供了关于同伙的信息。一位举报者在1992年到现在的500份报告中列出了受害者。和他一起工作的人，他告诉Henebry，他就是那个在邦克山的电话亭被发现的六位作案者。

Henebry says that the investigation, which is ongoing, has netted more than 200 arrests and cleared several hundred cases of fraud, some of which go as far back as 1993. He notes that the group of individuals under investigation began operations several years ago, the accidental creation of a number of people who lived in the same apartment complex. “Some got better at financial fraud than others, and thus moved into different aspects of it,” Henebry says. “One suspect cashed counterfeit business checks for as much as $40,000, while another limited his income to $5,000 a day or $25,000 a week. Others simply hired runaways and street kids to cash checks, taking 80 percent of the amount and giving 20 percent to their accomplices.”

In addition to the drug charges, which have gone hand-in-glove with forgery charges, Henebry says that there have been more serious crimes solved. As a direct result of this investigation, LAPD has arrested a serial rapist, a arsonist, a man charged with murder-for-hire, a couple involved in murder, and an individual who had in his possession full dossiers on several politicians and high-profile citizens. As a result of his work, Henebry was named LAPD’s first-ever Detective of the Quarter as well as Detective of the Year by the International Association of Financial Crimes Investigators in 1998. His work has also resulted in a heightened awareness of the need for computer and information systems expertise in police agencies.

Currently, NLECTC–West is helping LAPD put together its own computer crimes unit, as well as assisting the California Peace Officers Association to form a cybercrime consortium. “We’re finding that there needs to be this kind of expertise at the detective and sergeant level,” says Pentz. “Smaller agencies may not have the resources to devote to an endeavor of this kind, or to do it at all. They’re trying to help each other, but it’s just a very tough job.”

“The other problem is that when there is someone in house with computer expertise, that person is often the one the department calls on to set up its own information systems.” Pentz adds. “So these people are being worked from both sides. This case points out that law enforcement needs pretty sophisticated technical support, not just to help them buy new equipment and technologies, but to help them solve ongoing cases.”

For more information regarding cybercrime investigation resources, contact NLECTC–West, 888–548–1618. Information is also available from NLECTC–Northeast, 888–338–0584, which recently held a seminar on cybercrime investigations that included speakers with expertise in all aspects of computer crime.
The National Institute of Justice (NIJ), responding to recommendations by the law enforcement and corrections community, convenes its Technology Assessment Program Information Center (TAPIC) into the National Law Enforcement and Corrections Technology Center (NLECTC) system. Created in 1994 as a component of the Office of Science and Technology, NLECTC’s goal, like that of NIJ, is to offer support, research findings, and technological expertise to help State and local law enforcement and corrections personnel safely and more efficiently do their jobs.

NIJ’s NLECTC system consists of facilities located across the country that are colocated with an organization or agency that specializes in one or more specific areas of research and development. Although all of the NLECTC facilities manage a different technology focus, they work together to form a seamless web of support, technology development, and information to help the law enforcement and corrections communities do their jobs more safely and efficiently.

NLECTC–National
2727 Research Boulevard • Rockville, MD 20850
Phone: 301–249–8669 • Fax: 301–249–8770 • E-mail: nclcinfo@nttc.edu

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 hand cuffs, shotguns, and police vehicles and tires. This office produces consumer product lists of equipment meeting a specific set of performance standards and also operates JUSTNET (Justice Technology Information Network), an internet World Wide Web site that provides links to the entire NLECTC system of other appropriate sites, as well as assistance to those seeking information about equipment, technology, or research findings.

NLECTC–Northeast
5300 International Boulevard • North Charleston, SC 29418
Phone: 803–292–4385 • Fax: 843–740–4611 • E-mail: nlcet-n@nttc.org

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 JUSTNET 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 they would not ordinarily have access to or might not have been able to afford due to budgetary constraints. This facility also studies the needs of corrections practitioners. 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 affiliated with the South Carolina Research Authority (SCRA) and the Naval Command, Control and Ocean Surveillance Center In-Service Engineering, East Coast Division (NISE East). NLECTC–Southeast’s other areas of focus include information management and technologies, simulation, training, and designated special projects.

NLECTC–Southwest
5200 East Heff Avenue • Denver, CO 80208
Phone: 303–871–8608 • Fax: 303–871–2542 • E-mail: nlcets-w@nttc.org

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, private industry, and national organizations to implement projects that will identify and field test new technologies to help solve the problem of interoperability. NLECTC–Rocky Mountain also houses the newly created Crime Mapping Technology Center, the training and practical application arm of NIJ’s Crime Mapping Research Authority (SCRA) and the Naval Command, Control and Ocean Surveillance Center In-Service Engineering, East Coast Division (NISE East). NLECTC–Southeast’s other areas of focus include information management and technologies, simulation, training, and designated special projects.

We Got You Covered

The newest addition to the NLECTC system, this facility is housed in the University of Central Florida and initially will focus on arrears and explosives research. This mission is to conduct fundamental research into the basic nature of fire and explosion reactions, provide the support for developing 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 education 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.

NLECTC–West
c/o The Aerospace Corporation • 2350 East El Segundo Boulevard • El Segundo, CA 90245–4691
Phone: 888–540–1618 • Fax: 310–336–2227 • E-mail: nlcet@law-west.org

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. Its other areas of expertise include computer architecture, data processing, communications systems, and a recent effort to identify technologies to stop fleeing vehicles.

Border Research and Technology Center (BRTC)
235 South Broadway, Suite 740 • San Diego, CA 92101
Phone: 866–456–BRTC (2782) • Fax: 866–660–BRTC (2782) • E-mail: brtc@nttc.edu

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 most recognized accomplishments has been the implementation of SENTRY (Secure Electronic Network for Travelers’ Rapid eXchange). BRTC also works on joint ventures to identify technologies that will stop fleeing vehicles and is currently participating in a project to detect the heat deemed of people concealed in vehicles or other containers.

Office of Law Enforcement Standards (OLES)
National Institute of Standards and Technology, Building 225, Room A333 • Gaithersburg, MD 20899
Phone: 301–975–2757 • Fax: 301–948–9078 • E-mail: oles@nist.gov

Supported by NIJ, the Office of Law Enforcement Standards applies science and technology to the needs of the criminal justice community. While its major objective is to develop minimum performance standards for equipment and technology, which NIJ promulgates as voluntary national standards, OLES also undertakes studies leading to the publication of technical reports 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 methods for analytical techniques and standard reference materials for forensic scientists and crime labs. Since the program began in 1971, OLES has coordinated the development of nearly 200 standards, user guides, and advisory reports. Housed at the National Institute of Standards and Technology, OLES works closely with NLECTC-National to conduct tests and to guarantee the performance and quality of equipment used by police and corrections.

Office of Law Enforcement Technology Commercialization (OLETC)
Wheeler Jesuit University • 316 Washington Avenue • Wheeling, WV 26003
Phone: 800–306–5382 • Fax: 304–243–2131 • E-mail: oletc@btrtc.edu

Housed at Wheeling Jesuit University, the Office of Law Enforcement Technology Commercialization provides one of the NLECTC system’s most important services, that of bringing research and private industry together to put new technologies into the hands of law enforcement and corrections. OLETC actively solicits manufacturers to commercialize technologies funded on requirements identified by law enforcement and corrections practitioners. For example, it is currently seeking companies interested in commercializing technologies already developed by the U.S. Department of Energy’s Los Alamos National Laboratory, such as a device that lets police officers detect crack houses from a distance, microwave and acoustic sensors that detect the motion of people behind walls or doors, and a non-detectable, non-scanable transmitter for use in undercover situations. OLETC works with private industry to support its efforts and help companies streamline the commercialization process.

National Center for Forensic Science
University of Central Florida • P.O. Box 162367 • Orlando, FL 32816–2367
Phone: 407–823–6469 • Fax: 407–823–3162 • E-mail: nffs@pogus.ucf.edu

The newest addition to the NLECTC system, this facility is housed in the University of Central Florida and initially will focus on arrears and explosives research. This mission is to conduct fundamental research into the basic nature of fire and explosion reactions, provide the support for developing 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 education 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.
he 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.

**Spoken Language Translation.** Spoken Language Translation automatically translates words spoken in one language to computer-spoken words in another language. This technology will be valuable in the timely exchange of information with foreign-language speakers and assist with foreign-language training and proficiency. With this project, computerized spoken words are produced by text-to-speech or digital audio playback synthesis technologies. Current demonstration systems translate spoken English to computer-spoken Spanish, Korean, or Mandarin Chinese, and spoken Spanish or Mandarin Chinese to computer-spoken English. System capabilities have been tested by the California State Police. The applicability of spoken language translation to various law enforcement and corrections requirements is being evaluated.

**Electric Stun Projectile.** A less-than-lethal device employing stun gun technology to immediately and temporarily incapacitate a person at stand-off range, the Electric Stun Projectile is a low-impact, wireless projectile fired from compressed gas or powder launchers. Accurate to a range of 10 meters, it sticks to the target with a glue-like substance or with sharp, clothing attachment barbs. The projectile incorporates a battery pack and associated electronics that impart a short burst of high-voltage pulses capable of penetrating several layers of clothing. The pulse characteristics are similar to well-established nonlethal electrical shock devices and will temporarily disable individuals or cause extreme discomfort. Applicable missions include any stand-off encounter where an individual needs to be temporarily incapacitated without exposing law enforcement or corrections officers to unnecessary risk. Prototype development is complete and has been successfully fired at nonhuman targets 10 meters away. A safety mechanism leading to field trials is under way.

**In-Vehicle Voice Verification System (IVVVS).** The objective of IVVVS is to provide a biometric identification capability using voice verification in a dedicated commuter lane, allowing registered users to cross the United States-Mexico border without normal inspection. This system, funded by the Immigration and Naturalization Service and being developed by a joint U.S. Air Force Research Laboratory-New York State Technology Enterprise Corporation team. A driver enrolled in the system is issued a handheld unit. When entering the dedicated commuter lane, the driver speaks into the unit, which then transmits the voice sample via an infrared link to a roadside receiver. The voice sample is then forwarded to voice verification software developed by the Air Force Research Laboratory, where the voice sample is compared to samples recorded when the driver registered to use the system and the driver’s identity was verified. The system is currently being tested by 20 users. Based on the initial results, current plans are to expand the field test to 120 users.

**Bomb Threat Training Simulator.** The University of Houston, utilizing a grant from the National Institute of Justice, has developed an alpha version of a bomb threat training simulator (BTTS) to help train law enforcement personnel and others in bomb threat assessment. BTTS is a computer-based, interactive, multimedia simulator on a CD-ROM that enables law enforcement or security officers to experience the on-the-scene bomb threat response skills and supplement conventional, classroom instruction. Because the training is simulated, officers can improve their skills in responding to bomb threats during downtime and without disrupting organizational operations. It offers realistic bomb threat response training that might not otherwise be possible due to time or cost considerations. The alpha version of BTTS has been reviewed and NIJ is funding additional scenarios and enhancements to make it user-friendly.

**Computer Forensics Tool Kit.** The project seeks to preserve the information contained at a computer site and its environment to ensure a valid audit trail for successful prosecution. The project’s main objective is to develop a computer forensics tool kit and a set of analytic techniques that can be used by a computer forensics investigator. Focusing on computer examination and analysis technology, the project addresses the reconstruction of evidence from computers where the data and files have been intentionally or maliciously destroyed or modified for the purpose of concealing evidence. The project to be developed includes tools for handling password-protected files, tools for decrypting encrypted files, tools for finding hidden data within other data (steganography), tools for filtering known files and reducing the search space for the forensics investigator, tools for maintaining the integrity of the forensic process, and tools for managing the forensics workflow. The project is a joint effort between the National Law Enforcement and Corrections Technology Center—Northeast and the Air Force Research Laboratory’s Information Directorate. The requirements of this effort are driven by computer crime experts from the New York State Police Computer Crime Division and the Connecticut State Crime Laboratory.

**Flying Plate Disrupters,** Explosive devices are one of the primary tools of terrorists and constitute a major threat to the general public. Large explosive devices, such as ammonium nitrate fuel mixtures in large containers such as 55-gallon drums, pose a particular challenge to those attempting to disrupt their explosive capacity. The National Institute of Justice, through the U.S. Department of Justice and the Defense Joint Program Office, is sponsoring the Indian Head Division, Naval Surface Warfare Center in Maryland, which is developing an approach to this problem using explosively formed slugs, or “flying plates.” Derived from military technology that was developed to destroy heavily armored vehicles and naval vessels, this technology consists of a plastic cylinder capped with a 3- to 5-inch copper plate and packed with a small explosive charge. When detonated, the explosion turns the plate into a molten mass of metal and accurately propels it with the force of a bullet into the explosive device. The velocity of this “slug” disperses the explosive material before the material has time to explode. Current research involves tailoring the technology to fit the individual target.

**InfoTech Program.** The goal of this project is to develop and demonstrate information technologies that allow information sharing among law enforcement agencies. A major problem resolved by InfoTech is the easy retrieval of information from different computer systems. InfoTech offers a user-friendly interface that can be tailored to the needs of a particular user, but will retrieve data regardless of the design of the information sources. Thus, information sharing between multiple law enforcement agencies is achieved without incurring the expense of replacing existing information systems with a new common system. The key concept in InfoTech demonstrations is that each agency decides what is to be shared, and with whom. The InfoTech Program is introducing new technologies and methods for ease of use, security, privacy, and information exchange—all while maintaining cost and allowing each agency to set its own policies regarding sharing and security. A prototype system is currently undergoing evaluation in Florida’s Monroe County and Brevard County sheriff’s offices. The program utilizes the existing Florida Department of Law Enforcement (FDLE) Criminal Justice Network (CJ-Net) as the backbone wired network for communications between more than 500 Florida criminal justice agencies. As part of InfoTech, FDLE and the Joint Program Steering Group are working together to provide Florida Department of Highway Safety and Motor Vehicles drivers license data and photos over CJ-Net; initial operational capability is expected this year.
You don't have to pull a gun out from under the seat. A ton-and-a-half of steel at 60 miles an hour in the hands of an angry driver is a weapon," states Maj. Stephen Leary of the Massachusetts State Police (MSP). "The media calls it 'road rage,'" he says, "but I call it 'retaliation.'"

"I do not believe that 99.9 percent of the time people get in their cars and decide they want to hurt someone," Leary says. "People retaliate. They look in their rear-view mirror and see a car so close behind them that they can't even see the grill. Their attention is distracted by this person, who they think is going to be in their backseat at any moment. The car finally goes by, and just as the rear bumper passes the front of their car, the driver cuts in front of them. At that point they get angry. They decide, 'I'll show you,' and start chasing the car. Now, we have road rage, precipitated by dangerous and aggressive driving. Your anger gets out of hand, and your vehicle becomes your weapon."

But instead of being in their highly visible marked cruisers, they simply patrolled in unmarked vehicles equipped with video cameras. Driving everything from older model Camaros and Mustangs to taxicabs and small school buses, the troopers worked as spotting platforms, videotaping moving violations and providing narration to the tape. Once the evidence was gathered, the trooper radioed a nearby marked unit, which stopped and ticketed the driver.

The goal of the program is to reduce crashes or reduce their severity, Leary says. Although MSP does not have complete data on accident reductions as yet, it has made some surprising discoveries. According to statistics collected in August and September 1998, three troopers stopped and cited 480 people. Those 480 drivers racked up 635 charges for driving violations, which supports MSP's belief that the most aggressive drivers commit more than one violation at a time. Of those 480, nine were cited for endangering, a criminal charge that can put those convicted in jail for 1 year. Of the 480 cited, 374 were also ticketed for speeding, 285 had prior accidents on record, 92 previously had their license suspended for dangerous driving, and 345 had been stopped previously for a similar offense. "These numbers show us that we're hitting our targeted audience . . . that people who drive like this, constantly drive like this," Leary says.

In addition, the 3D Program addresses prosecution, education, and prevention. Prior to the program's implementation, for example, Massachusetts only suspended the license of those who had multiple violations or had been in serious accidents. By putting to use a previously underutilized law that allows the State to suspend the license of a driver with three or more violations, MSP has taken a more proactive stance. At the initial contact, the troopers check the driver's history. Too many violations requires the driver to appear before the Registrar of Motor Vehicles, who has the authority to suspend their license.

"They go before the registrar before they ever go to court about the ticket, and the registrar doesn't need a conviction to take a license," Leary says. To date, the registrar has suspended the licenses of 100 percent of the drivers sent by MSP officers. Prosecution through the courts is swift and, in most cases, assured. According to Leary, "The majority of drivers plead guilty when they realize they've been videotaped, which means most cases never make it to court."

Education comes in the form of troopers meeting with community groups to tell them about the 3D Program and to offer advice for preventing road rage. The most important part of the presentation is MSP's plea to let dangerous drivers go by. Never try to teach them a lesson. "If you look at the national figures, there are more people dying in cars than by guns or knives," Leary says. "Your chances of being killed in a car are 2.5 times greater than they are by a gunshot or knife wound. You need to let these people go by, even if you have to pull off the road completely."

(See Dangerous Drivers, page 8)
Leary notes that although the 3D Program partners MSP with Mothers Against Drunk Drivers, fewer than 1 in 10 drivers stopped for dangerous driving are also ticketed for driving under the influence.

Another educational aspect of the 3D Program, Leary says, is an effort to expand drivers training courses. He notes that rarely is a driver education car seen on the highway. Young drivers are typically trained on back roads and quiet streets where there is little traffic. New drivers also are not trained to drive in bad weather, at night, or at highway speeds. “We recently pulled over a teenager who was driving her mother’s car at 128 miles per hour. She had two friends with her, and had her license 28 days. You just know this was a horrible accident looking for a place to happen,” Leary says.

MSP is asking State lawmakers to expand the current driver education requirements. That could mean more hours on the road, the addition of freeway driving courses, or a skill school that teaches bad weather driving and emergency tactics. Leary also hopes it will include in-class training about the new technologies available in today’s vehicles. “A lot of people get in a car and think they’re invulnerable. I’ve got side impact protection, 160 mph tires, ABS brakes, airbags, crash-resistant bumpers. Nothing can hurt me out here.” That’s obviously not true,” he says.

MSP’s 3D Program has garnered the unstricting support of the public, many of whom have written letters expressing their encouragement, enthusiasm, and gratitude. “In Massachusetts, driving is a privilege, not a right,” Leary says. “Our drivers have as much right to be safe on the highways as they do in their homes. Our goal is to provide that safety to them.”

According to Leary, the program can be duplicated for a relatively low cost. The 3D Program’s unmarked vehicles had been seized or impounded from drug dealers or were cast-offs from the State’s fleet of undercover cars. MSP installed new engines and then enlisted the help of students at a local technical high school to give the cars a much-needed facelift.

“These cars looked really rough—they had dents and bumps and rust on them. But when these kids got through with them, they looked like they’d rolled right off an assembly line,” Leary says. “We paid for all the parts and the paint, but these kids put the elbow grease and their hearts into it.”

For smaller departments, or those in rural areas, Leary says, the cost can be reduced even more by sharing the vehicles and moving them from town to town. At the same time, officers can meet with community groups to publicize the program. “We didn’t want anyone to think this was a clandestine program,” Leary notes. “We showed the cars on television, let reporters film the cars anytime they wanted, and had them on the front page of the newspaper. We wanted people to know we were doing this for their protection, and that this is not a game. This is life and death out there.”

For more information about the Massachusetts State Police 3D Program, contact Maj. Stephen Leary, 508-829-3236.

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

**TechBeat, Fall 1998.** This issue of TechBeat features the success of the Utica, New York, Arson Strike Force, the use of computer technology to streamline handling of domestic violence cases, and DNA computer analysis.

**TechBeat, Summer 1998.** This issue of TechBeat examines communications interoperability among law enforcement and other public safety agencies, smart card technology being used in corrections facilities, and vehicle-stopping technology.

**Selection and Application Guide to Police Body Armor.** While body armor is a household word in the law enforcement community, questions about its selection and use are frequently asked. This guide responds to commonly expressed concerns and provides information to help determine the level of protection required by officers.

**Pursuit Management Task Force Report.** In August 1996, the National Institute of Justice’s Office of Science and Technology created the Pursuit Management Task Force (PMTF) to conduct a multidisciplinary effort to define police practices and the role of technology in high-speed police pursuits. This report assesses current technologies and techniques related to pursuits, and provides recommendations on technology development and commercialization, an overview of legal issues related to pursuits and related technologies, and information obtained from surveys completed by agencies, line officers, and the public related to pursuits and technology.

**Michigan State Police Tests 1999 Patrol Vehicles.** Every year, the Michigan State Police tests new patrol vehicles as part of their procurement policy. This bulletin summarizes test results of the 1999 patrol vehicles.

**New Publications/Videos.**

*Why Can’t We Talk?* When Lives Are at Stake. This videotape examines the issues and problems surrounding interoperability and public safety radio communications. Learn why planning, designing, and funding public safety wireless communications systems are critical activities for ensuring the public welfare.

Survey of Commercially Available Explosives Detection Technologies and Equipment. This document provides a comprehensive overview of currently available explosives detection methods and technologies. It is intended to inform law enforcement agencies about relevant aspects of explosives detection and provide them with a basis for making procurement decisions.

Federal Property and Equipment Manual. In a time of tight budgets, State and local law enforcement agencies are sometimes hard pressed to outfit their personnel with the equipment they need to do their jobs safely and effectively. This manual describes Federal sources of personal property for law enforcement. Through these programs, agencies can obtain high-quality, high-value, excess property at little or no cost.

Office of Law Enforcement Technology Commercialization (OLETC) 1998 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.

The following publications/videos will be available soon:

**Equipment Performance Report: 1999 Model Year Patrol Vehicle Testing.** This report provides complete data on the 1999 Michigan State Police patrol vehicle testing.

To obtain any of the above publications or videotapes or to receive additional copies of the TechBeat newsletter, the TechBeat videotape, write NLECTC, P.O. Box 1160, Rockville, MD 20849-1160; telephone 800-248-2742. Publications can also be downloaded from JUSTNET at http://www.nlectc.org.
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**NLECTC Law Enforcement and Corrections Technology News Summary** is up and running.

This free, weekly news summary includes abstracts of articles focusing on law enforcement, corrections, and forensics technologies that have recently appeared in major national newspapers, magazines, and periodicals, as well as on national and international wire services and World Wide Web sites.

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The NLECTC Law Enforcement and Corrections Technology News Summary is also posted on the National Law Enforcement and Corrections Technology Center Web site, JUSTNET, at www.nlectc.org.

For more information about the NLECTC Law Enforcement and Corrections Technology News Summary, contact Donna Engler, systems support specialist, at 800–248–2742 or dengler@nlectc.org.

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Tiger Vision: Linking Invention With Industry

“`The concept came from my law enforcement experience serving warrants and working patrol,” states Mark Jones, a former San Antonio, Texas, police officer and inventor of Tiger Vision®, a night and day vision device for use in patrol cars. “There were many occasions when I needed to see into dark areas from the patrol car, without losing my peripheral vision.”

Jones says that Tiger Vision® is a small, lightweight, handheld device that can be plugged into a cigarette lighter and held out the window of a police car. It uses a CCD (charged coupled device) image sensor, instead of light-intensifier tubes or thermal technologies. It includes a powerful infrared light source that illuminates up to 100 yards and is about 10 feet wide. The image shows up on a 4-inch screen. In addition, the device will allow observation under changing light conditions, from full light through low light to very low light and can be attached to a video recorder for evidence collection.

Through the assistance of the National Institute of Justice’s Office of Law Enforcement Technology Commercialization (OLETC), the inventor was connected with a manufacturer of night vision equipment. According to Jerry Bortman, a project manager at OLETC, the ultimate goal is to bring an affordable device to market that costs under $900. If the partnership proves successful, he says, the result will be an affordable, commercially available night and day vision device for use in patrol cars.

Jones conceived the idea for Tiger Vision® in 1989. He and two engineers built several generations of prototypes in the early 1990s and demonstrated them at several Texas police agencies. With recommendations from the agencies, Jones knocked on the door of the National Law Enforcement and Corrections Technology Center—Rocky Mountain in Denver, Colorado. The center referred Jones to the Border Research and Technology Center in San Diego, California, which then arranged a demonstration with the U.S. Border Patrol’s office in Laredo, Texas.

“It was raining and very overcast that night, about 11 p.m.,” Jones recalls.

“A train was coming toward us, about 75 yards away, but it was down in a valley and we were up on a cliff. The Border Patrol’s infrared units mounted on their Broncos couldn’t see the train at that angle, so we aimed the Tiger Vision® at the train. We saw about 30 illegal aliens hanging between the boxcars and under the trucks that were being transported on the boxcars, and in spaces that were pitch black. We got it all on video. The agents stopped the train and arrested the illegals,” he says.

Jones then began working with OLETC’s commercialization specialists, who shared their expertise to facilitate the licensing agreement with ITT Night Vision™.

According to Bortman, Jones has signed a license agreement with ITT Night Vision™ to produce Jones’ invention. ITT will build Tiger Vision® prototypes and distribute them to police agencies for field evaluation. The results of the evaluations will enable ITT to decide whether it will put Tiger Vision® into full-scale production.

FPED II: Demonstrating Technologies

The Office of Law Enforcement Technology Commercialization is a program of the National Institute of Justice and is charged with locating and evaluating technologies for commercialization and offering programs that connect the criminal justice community with manufacturers and technology developers. For more information, call 888-306-5382.

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