

# TR2 Terror Response Technology Report

Business Opportunities for Critical Infrastructure Protection

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## Briefing

► **The National Institute of Standards and Technology** has developed new software that can make biometric systems from different manufacturers interoperable as part of a multi-modal biometric solution. The Multimodal Biometric Application Resource Kit (MBARK) was first envisioned as a tool to develop a large database of face, fingerprint and iris images for performance testing of biometric systems but has evolved into a standardized, flexible middleware package that will enable organizations to plug in sensors from different manufacturers, says NIST. MBARK was funded by DHS.

► **Northrop Grumman [NOC]** has unveiled Skyguard, a next generation laser-based air defense system that could provide speed-of-light defense for deployed forces, military installations, critical civilian airports, harbors, or industry. A single Skyguard system can generate a protective shield of about 10 kilometers in diameter. It can detect, track and destroy--at the speed of light--single or multiple threats from short-range ballistic missiles, short-and long-range rockets, artillery shells, mortars, cruise missiles, unmanned aerial vehicles, anti-tank guided missiles and man-portable (MANPADs) threats. Skyguard has been proposed to DHS for Counter-MANPADs as an option or in addition to aircraft-borne systems.

## Canberra, Raytheon, Thermo Electron Nab \$1.2 Billion in ASP Contracts

Canberra Industries, Raytheon [RTN] and Thermo Electron [TMO] have been awarded a combined \$1.2 billion in contracts by the Department of Homeland Security (DHS) to further develop and test their respective Advanced Spectroscopic Portals (ASP), which are the next-generation of radiation portal monitors (RPM).

The awards offer each of the firms an expanded market presence in DHS, and for Raytheon the win opens a new market for it. Earlier this year Raytheon teamed with Canada's Bubble Technology Industries [BTI], which had been one of 10 companies that had provided DHS's Domestic Nuclear Detection Office (DNDO) with ASP prototypes for testing last fall (TR2, Feb. 22).

"This contract represents the opening of a significant new market for Raytheon and our partners," says Dan Smith, president of Raytheon's Integrated Defense Systems division. Raytheon will provide prime contract management, engineering development, manufacturing, field support and research and development for future systems improvements. Work on the portals will be done at Raytheon's SHINGO Integrated Air Defense Center in Andover, Mass.

Over the next five years DHS plans to buy 1,400 ASPs--in both fixed and mobile applications--under the contracts to be deployed at the nation's ports of entry. The ASPs are expected to reduce the false alarm rates given by the current generation of RPMs by distinguishing between special nuclear materials and naturally occurring radioactive materials. The high false alarm rates with the existing systems often hold up cargo shipments at ports until the alarms can be resolved. Through the ASP program DHS is hoping to improve radiation

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## Body Scanning Machines Getting First Look Over By DHS in Demo

The Department of Homeland Security (DHS) tomorrow wraps up a two week demonstration project using five different body scanning devices, including four that do whole body imaging, that are being used to screen passengers for explosives at a busy commuter rail station in New Jersey.

The two week pilot project is the second this year at the Exchange Place Station, which serves the New York and New Jersey Port Authority's PATH heavy rail trains that link Manhattan with neighboring New Jersey urban communities. The earlier pilot examined off-the-shelf equipment such as X-Ray machines and metal detectors used in airports but modified for the rail transportation environment to screen bags and passengers both deliberately and randomly.

For the PATH demonstration, which runs July 13 through July 17, DHS has been using imaging devices supplied by Brijot Imaging Systems, L-3 Communications [LLL], Sago Systems, and Britain's ThruVision Ltd.

Brijot is supplying two of its BIS-Weapons Detection System (WDS) passive millimeter wave cameras, which have been upgraded with new software to accommodate a throughput rate of 720 people per hour (TR2, July 12).

► *continued on p.2*



## ► DHS Demo [cont'd from page 2]

The BIS-WDS was introduced last year and the project is the first public use of the sensor system in an operational environment, a significant milestone in the company's efforts to penetrate the U.S. government market.

"This is what the entire Brijot team has worked for: a system where rail passengers can be screened for suicide bombs with minimal change to transit entry lanes or interruption of passenger flow," Brian Andrew, Brijot's CEO, said in a statement. "It operates just like a video camera does, without any effect on the person or persons standing in its view and without imaging any body details."

Brijot's two camera installation allows for simultaneous front and back views of people transiting through a turnstile.

In January of this year, Florida-based Brijot began production of its system and has delivered units internationally to distributors. The company hasn't disclosed its customers but has said its backlog is at least \$100 million.

L-3 is actually supplying two systems: ProVision, a non-ionizing, active millimeter wave imaging technology, which is a walk-through like portal; and VIPUR (Virtual Patdown Using Radar), a handheld device that can detect differences in reflected energy due to foreign objects located between clothing and skin.

Once inside the ProVision portal, a person stands still with their arms raised above their head while a scanner rotates around them. The system can detect concealed explosives or other contraband in as little as two seconds. ProVision has a throughput of 400-500 people an hour.

At Exchange Place Station peak rush hour sees over 4,000 passengers per hour compared to about 400 during slower times, all through two entrances.

ProVision was acquired through L-3's acquisition of SafeView in March. The system is used at some international airports, including Mexico City and Amsterdam's Schiphol. The system has also been used by the U.S. military in Iraq.

L-3's Frain says there are four markets ProVision has been selling into to one degree or another. They are: aviation, mass transit (including a Singapore ferry terminal); border crossings (with Israel and Mexico as customers); and the U.S. government.

VIPUR can also detect concealed weapons, explosives, drugs and currency. VIPUR came to L-3 via the company's acquisition of CyTerra earlier this year. DHS isn't permitting L-3 to say much about VIPUR, which is relatively new to the homeland security market as a product. The company is hoping that it will get approval from DHS soon to be able to bring the system to the commercial market, Bill Frain, senior vice president at L-3 Security and Detection Systems, tells TR2.

In the demo, passengers are being randomly screened during rush hour while the non-rush hour goal is 100 percent screening.

Other companies whose systems will be used later in the demonstration include Sago Systems, and Britain's ThruVision, Ltd.

Sago, a subsidiary of Trex Enterprises Corp., has developed the ST-150, a passive millimeter wave imaging device (See related story p. ). For the PATH pilot just one ST 150 is being used.

ThruVision is supplying an imaging system based on terahertz technology. The company didn't return phone calls. According to ThruVision's Web site, the company has developed prototypes of its system for customer field trials. Like Brijot's imager, ThruVision's system is a relatively compact sensor that can be mounted on a stand for viewing a checkpoint type of area.

DHS plans to have the analysis and results of the demonstration prepared for Congress this fall.

## Sago Systems Ready to Roll Out Several Millimeter Wave Products

Sago Systems, whose ST 150 passive millimeter wave imaging system is being used as part of a rail security homeland security demonstration in New Jersey, is preparing to launch several millimeter wave products into the homeland security market.

For the PATH demonstration at the Exchange Place Station, Sago is providing one ST 150, which can scan either a person's front or back in two seconds to reveal weapons or explosives. Sago unveiled the ST 150 last month and expects to begin generating revenues with it immediately, Thomas Fargo, Sago's chairman, tells TR2.

Early adopters are likely to be the military for checkpoint screening against suicide bombers and other government customers, says Fargo. In the commercial market, he believes cruise lines and large athletic venues are among the potential possibilities.

Sago, which is a subsidiary of Trex Enterprises Corp., has already gone through various rounds of testing with different government agencies, including the Transportation Security Lab, the Defense Threat Re-

duction Agency, the Navy and the Technical Support Working Group, says Fargo.

"We're trying to do is make sure we provide the right solution for either the military or the homeland security requirement," he says.

The ST 150 units tested by the military have been for Green Zone applications, where a subject enters through a checkpoint and is asked to stop for a front side image is taken. A person then turns to have their back side imaged.

For higher throughput applications, Sago is developing a video rate version of the ST 150 to allow it to take four frames per second, Dr. John Lovberg, Sago's CEO, tells TR2.

Each ST 150 unit weighs about 100 pounds and is designed to be wheeled into place by a single person and set up and operational in 15 minutes.

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 **Access Intelligence**

### **DHS, MDOT Test Cubic and GE's Ticket Vending Machine**

The Department of Homeland Security (DHS) and the Maryland Department of Transportation (MDOT) have completed a month-long test in a Baltimore subway station of an automatic public transit ticket vending machine integrated with explosives detection technology. The machine was jointly developed by Cubic Corp. [CUB] and General Electric [GE] (TR2, March 8). The pilot project focused on the machine's ability to identify the possible presence of explosives compounds on passengers as they purchased tickets prior to passing through the fare gates to board trains. "The pilot appears to have met expectations and we were able to collect all the data needed in a shorter than planned test period," says Earl Lewis, assistant secretary of MDOT. "While the formal results aren't in yet, the information gathered during this first of its kind pilot appeared to be good enough to take this potentially useful technology further along the commercialization testing path." Lewis tells TR2 that the integrated ticketing machine is a tool that would help improve mass transit security. "We're trying to have multiple layers of security and this could be one." Capt. Fred Damron of the MTA Police says there were no delays with passengers using the machines, adding that passengers gave positive feedback on the systems. He also believes the machines are a "useful" law enforcement tool. The machine incorporates GE's Itemiser FX fingertip trace detection analyzer and Cubic's automatic fare collection system.

### **DOR BioPharma Completes Manufacturing Process Milestone**

DOR BioPharma [DORB], a Miami, Fla.-based biopharmaceutical company, has completed its current Good Manufacturing Practices milestone for the production of RiVax, a vaccine against ricin toxin. DOR and its manufacturing partner, Cambrex Bio-Sciences Baltimore, Inc., have developed a reproducible manufacturing process for the large-scale production of RiVax. DOR is planning to test the vaccine in further clinical trials to examine the influence of an immunological adjuvant formulation and vaccination regimen on the human immune response. DOR says the trials will help provide safety and immunogenicity data needed for licensure of the vaccine by the Food and Drug Administration. Further animal testing is also planned.

### **FDA Grants Orphan Drug Designation to Anthrax Therapeutic**

Elusys Therapeutics' anthrax therapeutic Anthim has received Orphan Drug Designation from the Food and Drug Administration (FDA), giving the company financial and regulatory benefits during the course of orphan drug development, including tax credits related to clinical trial expenses and possible exemption from the FDA user fee. The designation is awarded to compounds that offer potential therapeutic value in the treatment of rare diseases. Earlier this year Elusys announced the successful completion of a Phase I human clinical study for Anthim to determine its safety and tolerability in healthy volunteers. "Anthim's low therapeutic dose allows for rapid intramuscular delivery, the most effective mode of delivery to first responders and civilian personnel in emergency situations," says Elusys CEO Elizabeth Posillico.

### **Cernium's Perceptrak Used in MLB All-Star Game**

Cernium's intelligent video analytics software system Perceptrak was used during Major League Baseball's All-Star Game festivities at PNC Park in Pittsburgh, Pa., earlier this month and discussions are ongoing about installing the system there permanently. Perceptrak was selected by InterTECH Security, LLC, PNC Park's security consultant.

### **RAE Acquires Video Surveillance Firm Aegison**

RAE Systems [RAE], which makes a range of sensor systems for stand alone and area wide detection of chemical and radiological threats, has purchased Aegison Corp., a supplier of video surveillance systems for \$2 million in cash. The two companies had partnered earlier this year but RAE decided to acquire Aegison to broaden its security offerings. RAE will be integrating Aegison's video analytics capability with its sensor systems, providing visual validation of what may have triggered a sensor alert, thereby alerting security officials who they might have to be looking for. "In addition to the product synergies, we will be able to leverage Aegison's complementary customer base," which includes law enforcement agencies, municipal transportation, the U.S. military and entertainment venues, says Robert Chen, CEO of RAE.

detection of cargo containers while speeding commerce.

"The ASP program provides significant improvement in the detection of special nuclear materials such as highly enriched uranium and weapons grade plutonium," Vayl Oxford, director of the DNDO, said in a statement. "The program is critical to implementing the Global Nuclear Detection Architecture."

Under the newly awarded contract, which includes a base year and four one-year options, the companies will build a combined 80 ASPs in the first year for further development and testing. Of those, about 30 will be deployed permanently at the Nevada Test Site where DNDO and the companies will be reviewing software upgrades and "fine tuning" for the final stages of development, Oxford tells TR2.

The software upgrades will allow DNDO to improve the detectors so that they can better discriminate between the special nuclear materials and natural radiation.

"Through more and more testing and better understanding of how the crystals perform against different threats we'll be able to upgrade the software and immediately download into the system," says Oxford. "I think that it's important to note that one of the things that we intend to do is have a government led team working with this new contractor team as well as the experts from the national laboratories to continue to improve the software. We allowed the vendors to offer certain intellectual property right proposals as part of ASP. The companies will be part of a software upgrade process over time where we can automatically download software into the deployed systems."

The other ASPs being purchased in the first batch will be deployed to the container terminal at the Port of New York, where they will become part of a permanent operational test and evaluation structure in a seaport environment, says Oxford. As software upgrade are identified they will be installed at those portals, he says.

The new portals will be used for secondary screening applications in New York. Based on the testing results, DHS expects to begin purchasing final production ASPs to be installed as primary screening units at ports beginning around the fourth quarter of 2007, says Oxford.

Raytheon and Thermo Electron's designs are based on sodium iodide crystal sensor technology and Canberra's is based on high-purity germanium crystal sensors.

While the germanium sensors are more accurate, they are more costly and difficult to support, than the sodium iodide sensors. However, DNDO wants to keep the germanium option alive in the hopes that industry and reduce the supportability costs, says Oxford.

"We're looking for both capability as well as cost-effectiveness, so that's why we want to keep both technologies going forward," he says.

More of the sodium iodide detectors are expected to be purchased than the germanium-based systems.

While there were 10 companies that had competed for ASP over the past 18 months, DHS has no plans for another down select.

For the base year, Canberra, which is a U.S. division of France's nuclear energy company AREVA Group, has been awarded \$11.7 million. Raytheon's Integrated Defense Systems division is getting \$18.2 million and Thermo Electron \$14.6 million. The 1,400 ASPs to be purchased by DHS will be in addition to about 1,300 current generation RPMs that are either deployed or still being purchased for deployment. So far about 800 RPMs have been deployed.

## Potential DoE Buys

Under the new DHS contracts, the number of ASPs purchased could grow. That's because the Department of Energy (DoE) is permitted to acquire the portals for its Megaports Initiative, which deploys radiation monitoring equipment to about 70 foreign ports. DoE has already provided money to DHS towards purchases of ASPs, Oxford says, adding that the longer-term deployment plans haven't been finalized.

The germanium sensors that Canberra will provide are more accurate than the sodium iodide detectors, but they are more costly and difficult to support. The sodium iodide detectors get between 80 to 90 percent of the nuclear spectra match of what the germanium sensors can do, says Oxford.

Compared to current RPMs, which are based on plastic scintillation technology, the sodium iodide-based ASPs will cost nearly twice as much, or about \$370,000 each, versus \$180,000 for the plastic, says Oxford. However, he says, the false alarm rates will come down drastically.

"We did do a cost-benefit analysis against the entire deployed architecture as planned and if we were to take the existing technology and set them at their highest sensitivity so that we would capture everything, we would have a secondary referral rate of about 831,000 containers per year," says Oxford. "And moving to this new joint deployment where we bring in ASPs in primary and secondary [inspection modes], our expectation is we will be down around 15,000 secondary referrals per year."

## Plans for Sodium Iodide Manufacture

The cost-benefit analysis has been delivered to congressional appropriators in the House and Senate, where there are concerns regarding the costs of the ASPs and the effectiveness of the sodium iodide detectors. Congress won't allow DNDO to move forward with awarding a separate contract for a sodium iodide manufacturing facility until it reviews the cost benefit analysis. Oxford says that there were concerns in that the costs would be five to eight times those of the current RPMs, but the analysis "clearly shows that our rationale is valid."

There is currently just one manufacturer of sodium iodide crystals in the U.S., that's Saint Gobain, a French company. DNDO hopes to either expand the competitive base or at least the production capacity, says Oxford. The agency is close to making a competitive selection here, he adds.

In addition to ASP, Raytheon was recently selected as one of 25 preferred bidders for DHS information technology services and is providing its Perimeter Intrusion Detection System to four airports managed by the Port Authority of New York and New Jersey. Raytheon has also been piloting a networked sensor and communications system in Narragansett Bay, R.I., called Project Athena. Raytheon is also bidding on the Secure Border Initiative technology program, has offered an airport-based missile defense system under the DHS Counter-Man Portable Air Defense Program, and is vying to offer private screening sources to the nation's airports that elect to do away with federal screeners.

Thermo's win also expands its market presence with DHS. The company is on the qualified vendor list for explosives trace detectors purchased by the Transportation Security Administration. Thermo said its contract could ultimately be worth \$200 million over five years but that number is admittedly conservative given the \$1.2 billion value

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## ▶ ASP [cont'd from page 4]

of the three awards, Greg Wortman, director of global marketing for Thermo's Radiation Measurements and Security Instruments business unit, tells TR2.

Thermo already supplies various DHS agencies its handheld radiation detector called identiFINDER, which distinguishes between man-made and natural isotopes. Thermo also supplies explosives trace detectors to the Transportation Security Administration for use at some of the nation's airports.

The ASP win "validates our technology," says Wortman, adding that Thermo began working on next-generation radiation monitors in 2003 through work with DoE. Moreover, he says, ASP represents the company's largest contract with DHS.

For Canberra the win is also a big deal, giving the company the opportunity to provide new radiation detection products in the homeland security market and helping to position it for greater growth.

The win is a chance to "establish market share in what will be

a growing global market," Stephen Mettler, Canberra's senior product application manager for security portal monitors, tells TR2. Canberra has 1,100 employees and does about \$200 million annually in sales. The company has begun hiring new employees due to the ASP win.

Canberra already supplies the homeland security market with products for first responders. These products include the MiniSentry quick set up people radiation screening portal, the UltraRadiac personal radiation monitor, and the handheld InSpector 1000 series of detectors, which can distinguish between naturally occurring, medical and industrial radioactive materials. The company is working with the Homeland Security Research Projects Agency on a next generation InSpector device.

Canberra has also participated in what Mettler says are "non-public deployments and interdictions" in other parts of the world.

Overall DHS is planning to have deployed about 2,700 radiation portal detectors, including 1,300 of the current generation RPMs, most of which are being supplied by Science Applications International Corp. So far about 800 RPMs have been installed.

## ▶ Sago [cont'd from page 2]

As the ST 150 rolls out, Sago is preparing to introduce another whole body imaging system called Pass...Port, which is also based on passive millimeter wave technology. Passport is the same size and shape as a walk through metal detector so it wouldn't require additional space if it were used instead of a metal detector.

Sago has a prototype of Pass...Port available for TSA to test and has responded with a white paper with the system to a recent solicitation from the agency for whole body imagers, says Lovberg.

Pass...Port has 16 millimeter wave modules—compared to one for the ST 150—for 360 degree imaging. Like a metal detector, a person walks through the portal without stopping. The imager alerts automatically and also provides images to a display screen. Pass...Port doesn't provide specificity about an explosive but Sago is looking at ways to "marry" other technologies for this purpose, says Lovberg.

Sago also has developed passive millimeter products for two other security screening niches. One, called AreaView, is for wider area surveillance. AreaView utilizes video rate capabilities to be able to screen large numbers of people as they enter an area, such as an airport terminal. This pushes detection further out from checkpoints.

"We have pretty good procedures to deal with people about to get on an airplane but large numbers of people walk into the front doors of these airports and they're standing in line at ticket counters or in line at inspection stations, and in fact there's no way to look at these people

quickly as they walk into the terminal," says Fargo.

Sago has already sold an Area View-like system to a government customer but Fargo says the system is too expensive currently to be able to market effectively. "The technology is there," he says. "What we need to do is figure out how to bring the price of this thing down."

The other screening niche Sago will be introducing a product for is a handheld system for non-invasive secondary screening. The aPat system provides an image of suspicious objects concealed beneath clothing and could be used after a person triggers an alarm during a primary screening procedure, says Fargo.

"What we're trying to get to here is something that precludes you having to do an invasive pat down search," he says.

aPat has already been prototyped and company officials last week demonstrated the system to various government agencies in Washington, D.C. Fargo expects the system to enter the market by the fourth quarter of this year.

Sago was formed last year as a Trex subsidiary with financial backing from the venture capital firm Digital Power Capital, LLC, which itself is part of the larger asset management firm Wexford Capital, LLC. Digital Power has provided financial backing for ICx Technologies, a year-old firm that has cobbled together 15 operating companies through acquisitions (TR2, May 31).

"We work very closely with Digital Power and ICx and there's certainly synergy there and of course that was part of the Digital Power investment strategy," says Fargo.

## National UAS Standards Several Years Away, FAA Official Says

The development of standards necessary for the widespread operation of Unmanned Aircraft Systems (UAS) in the nation's airspace are at least three to four years away, the head of safety at the Federal Aviation Administration (FAA) tells Congress.

"These standards will allow manufacturers to begin to build certifiable avionics for UAS and expect that they will take at least three to four years to develop," Nicholas Sabatini, associate administrator for aviation safety, tells the Senate Commerce, Science, and Transportation Committee. "Currently, there is no recognized technology solution that could make these aircraft capable of meeting regulatory requirements for see and avoid command and control!"

Sabatini says the FAA has tasked the Radio Technical Commission for Aeronautics (RTCA), which develops recommendations for communications, navigation, surveillance, and air traffic management system issues, to develop minimum operating performance standards for sense and avoid, and command, control and communication.

He also says that some UAS, because of their size, will likely never receive unrestricted access to the national air space, since they won't be able to carry the avionics needed to meet standards for unrestricted operations.

"Over the next few years when RTCA has provided recommended

▶ *continued on p. 7*

## TSA Broadening Competition for Whole Body Imagers

As it prepares to possibly initiate pilot programs of two backscatter X-Ray systems for whole body imaging later this year, the Transportation Security Administration (TSA) has decided to broaden its potential supplier base of companies and technologies for whole body imagers.

TSA earlier this month released a pre-solicitation notice seeking sources for whole body imager units for use in mass transit and aviation environments. White papers were due on July 20.

Last fall TSA awarded contracts to American Science & Engineering [ASEI] and OSI Systems' [OSIS] Rapiscan division to upgrade the software in their respective backscatter systems to address privacy concerns stemming from the clarity of the images presented by the technologies (TR2, Oct. 19, 2005). While that effort continues, TSA is looking to bring competition to the backscatter technologies, an agency spokeswoman tells TR2.

This is obviously good for companies that have whole body imaging systems that are not backscatter based, Bill Frain, senior vice president at L-3 Communications' [LLL] Security and Detection division, tells TR2. L-3 responded to the TSA notice with its ProVision millimeter wave imaging portal.

"We are banking on this DHS market" for whole body imagers, says Frain. "The TSA notice kick starts it."

Another company that has responded to the TSA notice is Sago Systems, a division of Trex Enterprises. Sago is offering its Pass...Port walk through millimeter wave portal (See related story p.2).

The Transportation Security Lab has already been exploring

non-backscatter whole body imaging technologies, including millimeter wave systems, says the TSA spokeswoman. Now TSA is trying to round out its understanding of all the available systems out there, she adds.

Whole body imaging systems in general have the potential to allow screeners to monitor for explosives and weapons threats simultaneously, she says.

The pre-solicitation notice requested white papers to determine capability and security clearance. Based on the white papers, the agency plans to identify eligible vendors, who will be issued a requirements document and management plan. Eligible vendors will also be authorized to provide a whole body imaging unit to the government for technical testing. Following those tests, vendors whose units have been determined by TSA to be effective and suitable for field testing will be provided a Request for Proposals for the lease of four systems, three of which will be used for operational testing.

A vendor may provide four units for mass transit or aviation environments or may provide four units for each environment. The whole body imagers must be capable of providing images remotely. For the aviation setting the systems must be able to be integrated into the checkpoint environment so that a screener can instruct passengers as to the proper positioning for scanning.

In the mass transit application, the imagers must allow for individuals to be screened as they move normally through the scanning space without being instructed by a screener. TSA also says that more than one individual may be in the scanned area.

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## Viisage Says Iridian Acquisition Frees It to Broaden Product Base

Viisage [VISG], which has agreed to acquire Iridian Technologies, Inc., the leader in the market for developing iris recognition software, says the deal will allow it to develop new software and hardware for the iris recognition market.

Viisage is paying \$35 million in cash for Iridian. The purchase is expected to be finalized in August.

"This acquisition brings together the premiere iris device and database management provider with the recognized leader in iris algorithm development and will provide tremendous benefits to our customers and the overall market," says Greg Peterson, the CEO of Viisage's subsidiary SecuriMetrics. "This combination removes the market perception and technology development challenges that have prevented widespread perception and adoption and will support the development of the truly multi-biometric search capability that is in such high demand by large federal projects and civil agencies."

Iridian will be combined with SecuriMetrics after the transaction closes. SecuriMetrics, which Viisage acquired in February, is developing the Handheld Interagency Identity Detection Equipment for collection and identification management using iris, finger and face biometrics. It also sells to the U.S. military the Portable Iris Enrollment & Recognition device.

Companies in the iris recognition market have been licensing Iridian's software, which is widely acknowledged as the industry standard, for their own products. However, in the case of SecuriMetrics, the company has only been allowed to use the software in mobile products. Now SecuriMetrics will be able to create fixed site type applications using the software, allowing Viisage to further entrench itself in law

enforcement and corrections markets.

Iridian as the first patent holder for iris recognition technology, controlling over 90 percent of this market until the patent expired last year. However, the company still holds substantial intellectual property in iris recognition and is the holder of another iris algorithm patent that Viisage says is the industry standard for iris recognition.

"With direct access to the intellectual property that underpins the iris recognition market, our business will realize improved margins and cost synergies, as well as significant revenue opportunities," Robert LaPenta, Viisage's chairman, said in a statement. "Most importantly, we believe the market will now be primed for accelerated growth as the development of critical services and products required for widespread adoption of iris recognition technologies can proceed ahead unencumbered."

Viisage said that in parallel with the deal for Iridian it secured a \$6.5 million reduction in potential contingency payments to SecuriMetrics, resulting in a net price for Iridian of \$28.5 million. The acquisition is being funded mainly through the initial \$100 million investment into Viisage by L-1 Investment Partners last year.

Iridian is expected to have positive net working capital and be debt free when the purchase closes. Viisage estimates that Iridian will generate pro forma earnings before interest, taxes, depreciation and amortization of \$3 million this year. Iridian's current licensees will continue to have non-exclusive rights to deploy the company's software and related intellectual property in their integrated products.

One of Iridian's largest deployments is for a border security program for the United Arab Emirates.

## Viisage's IBT Signs Illinois for HazMat Program

The State of Illinois has chosen Viisage's [VISG] Integrated Biometric Technology (IBT) division as its sole source provider under the Transportation Security Administration's HAZPRINT program, joining 33 other states and the District of Columbia in using IBT for the collection and management of fingerprints and demographic data of commercial drivers license holders who wish to transport hazardous materials (HazMat). IBT believes that Illinois is one of the top 10 states in terms of the number of individuals holding a HazMat endorsement, with 105,000 HME authorizations among their 465,000 commercial drivers today. The potential contract value for IBT in Illinois is about \$10 million over a multiple year period.

## LigoCyte to Validate Third-Gen Anthrax Vaccine

The Pentagon has awarded LigoCyte Pharmaceuticals of Bozeman, Mont., a \$2.3 million contract to continue pre-clinical development of its third-generation, mucosal anthrax vaccine, which provided 100 percent protection from an inhaled anthrax challenge in an animal study done at Battelle Memorial Institute. "Our vaccine not only prevented death in all of the immunized animals, but it also reduced the morbidity, preventing the sickness caused by the infection," says Dr. Susan Wimer-Mackin, LigoCyte's director of molecular biology. The dual-antigen vaccine includes a protein antigen to protect against a toxin release from the bacteria and a bacterial capsule antigen to help the body fight the infection itself. Noting what it says are the advantages of its anthrax vaccine over others being evaluated by the government, LigoCyte says it is a dry powder formulation so it is easy to handle and less likely to require cold storage for transport to remote areas, uses an intranasal delivery so it can be self-administered, and begins to offer protection after a single dose.

## Unisys in Canadian Biometric Field Trial

Unisys Corp. [UIS] says its Unisys Canada subsidiary has been selected by Citizenship and Immigration Canada for a six-month field trial to test the impact of introducing fingerprint and facial recognition technologies on the agency's operations. The work will be done under an \$835,000 contract. Unisys says that about 15,000 fingerprints and facial images will be collected. ImageWare Systems, Inc. [IW], a subcontractor to Unisys on the project, is providing its Biometric Engine Border Management Solution, a Web-based, multi-biometric identity management system that can support face, fingerprint and iris biometrics during enrollment and identification processing. Also included in the projects is ImageWare software that permits the use of third party biometric algorithms and third-party biometric scanners and RFID reader/writers.

### ► Standards [cont'd from page 5]

standards to the FAA, we will be in a position to provide more exact certification and operational requirements to UAS operators," says Sabatini. "As the technology gap closes, we expect some UAS will be shown to be safer and have more access to the NAS."

Meantime, FAA will continue to permit limited UAS operations the same way it does now. Government agencies operating unmanned aircraft must get a Certificate of Authorization from the FAA. The COA requires flight restrictions and ensures safety to other aircraft and the public on the ground. So far this year the FAA has issued over 55 COAs versus a combined 50 the last two years, says Sabatini.

In May the FAA issued a COA to the DoD for the use of UAS in responding to disasters in the U.S. That COA applies to both the Northrop Grumman [NOC]-built Global Hawk and the General Atomics-built Predator.

For private industry, experimental air worthiness certificates are issued for flight testing.

States are interested in the potential for unmanned aircraft for a variety of missions. John Madden, Alaska's deputy director for Home-

land Security, tells the panel that UAS could be used to monitor the "critical infrastructure of the Trans Alaska Pipeline System, the oil production fields of the North Slope, refineries, oil storage facilities, and the Alaska Railroad."

In April Alaska hosted a workshop on UAS with representation of 34 federal and state agencies, universities, private firms and non-profit organizations. Some of the potential mission areas identified by the attendees included Arctic climate and weather research, ecosystems and wildlife habitat, monitoring volcanoes and wildfires, emergency communications platform, monitoring of critical infrastructure, fisheries enforcement, emergency response management, and search and rescue, says Madden. A single flight could accomplish more than one mission, he adds.

Attendees at the workshop also mentioned the possibility that Alaska could be a testbed for UAS technology and applications that could benefit the entire U.S., adds Madden.

"Only in Alaska can we test the full range of potential missions of UAS without immediately confronting the complex airspace found in most of the National Airspace System," says Madden.

## **DTRA Issues BAA for Chem/Bio Defense S&T**

The Pentagon's Defense Threat Reduction Agency (DTRA) has issued a Broad Agency Announcement (BAA) soliciting proposals from degree-granting universities, non-profit organizations, and commercial concerns in support of the Chemical and Biological Defense (CBD) Program to fund chemical and biological defense science and technology (S&T) projects across a wide-range of military operations. The FY '06 CBD Initiative Fund spans both the Physical S&T (detection, individual and collective protection, decontamination, and modeling and simulation/battlespace management) and the Medical S&T (pre-treatments, therapeutics, and diagnostics) capability areas. The goal of the initiative is to explore new and innovative ideas to fill identified technology gaps. Sol. No. HDTRA-1-06-CBDIFBAA. Responses due by Aug. 25. Contact: Carmen Rios, contract specialist, 703-767-2984, CBPhysicalST@dtra.mil.

## **ONR Plans Transparent Urban Structures Program**

The Office of Naval Research (ONR) has issued a Broad Agency Announcement (BAA) under the Transparent Urban Structures program which is aimed at developing advanced technologies that make urban man-made structures transparent, thereby eliminating the safe harbor that buildings provide to hostile forces. This capability will be provided through basic phenomenological research, hardware and algorithm development of sense-through-wall technology that can directly support tactical expeditionary urban operations in the Global War on Terror. ONR plans to issue an annual BAA for the program, with about \$10 million is available in FY '07 and \$33 million during the period FY '07-11. Sol. No. ONR-BAA-06-024. Responses due by Sept. 29. Contact: Chris Williamson, contract specialist, 703-696-2972, williac@onr.navy.mil.

## **CBD Office Seeks Device to Aid Responders**

The Joint Program Executive Office for Chemical and Biological Defense (CBD) is conducting a market survey for a device—that provides in a self-contained, self-powered unit weighing less than one pound—that will display the recommended work/rest times and recommended hydration for individuals in chemical/biological protective gear. The unit must display values that are based upon its real time measurement of weather conditions and operator inputs of work severity and protective clothing. Sol. No. USA-NOTE-060712-009. Responses due by July 31. Contact: Larry Wakefield, 703-681-9678, or lynne.selfridge@smdc.army.mil.

## **CBP Issues RFI for Small Radiographic Imaging Systems**

Customs and Border Protection (CBP) has issued a Request for Information (RFI) for small and medium scale radiographic imaging systems for used in international mail facilities and international airports. International passenger luggage, packages and flat mail will be screened for money, guns, ammunition, agricultural items, explosives, chemical, biological and nuclear agents. Sol. No. HSBP072006. Responses due by Aug. 10. Contact: Terence Lew, contracting officer, 202-344-1247, terence.lew@dhs.gov.

## **Coast Guard RDC Seeks Drug/Bomb Trace Detector**

The Coast Guard's Research and Development Center (RDC) has issued a Request for Information for a handheld and or desktop system for trace narcotics and explosives detection to support an 18-month test and evaluation study. The goal of the study is to determine current capabilities for trace narcotics/explosives detection using portable systems to support development of functional specifications for future acquisitions. Sol. No. HSCG32-06-I-R00027. Responses due by Aug. 10. Contact: Helen Nelson, administrative assistant, 860-441-2843, Helen.r.nelson@uscg.mil.

## **TSA Seeks ETD Workstations**

The Transportation Security Administration (TSA) has a requirement for screening stations to be used with Explosives Trace Detectors to provide airport baggage screeners with an easily acceptable, user friendly workstation. Sol. No. HSTS02-06-R-DEP222. Responses due by Aug. 7. Contact: Melissa Conley, 571-227-2036, Melissa.conley@dhs.gov.