

ICE

DHS Homeland Security Science & Technology Advisory Committee (HSSTAC)

ICE Projects and Program Overview

April 2014



U.S. Immigration
and Customs
Enforcement

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Directorates

- Homeland Security Investigations
- Enforcement and Removal Operations
- Management and Administration



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HSI – A Day in the Life

Daily Statistics

FY2013

Totals

Make 90 Criminal Arrests **32,000**

To include:	6 suspects sexually exploiting children	2,100
	8 suspects involved in money laundering / financial crimes	3,000
	30 drug smugglers & traffickers	11,000
	10 transnational gang members	3,900
	4 suspected human traffickers	2,500

Seize: \$3.9 Million in currency and monetary instruments **\$1.4 Billion**

4,100 lbs. of drugs 1.5 Million

19,000 counterfeit items 6.8 Million

165 weapons 60,000

1,500 rounds of ammunition 560,000

Identified over 4 hostages, trafficking, sexual exploitation victims 1600

*Including almost 3 sexually exploited children 900



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Nogales Tunnel in Arizona



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HSBC Money Laundering and Sanctions Violations

HSBC CRIMES

- LAUNDERED **\$880 BILLION** FOR MEXICAN DRUG CARTELS
- CONDUCTED **25,000** WITH IRAN TOTALING OVER **\$19 BILLION**
- CONDUCTED BUSINESS WITH CUBA, SUDAN, ETC.
- PARTNERED WITH AL RAJHI BANK UNTIL **2010**
- ACCUSED OF PREDATORY/ DISCRIMINATORY LENDING SCHEMES AGAINST MINORITIES

RT HSBC BACK IN COURT





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Operation Holitna



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ERO - *Day in the Life*

- Track more than **1,716,831** aliens in various stages of immigration removal proceedings
- Identify and process **638** convicted criminal aliens for removal
- Work with U.S. Attorneys' Offices, who accept **26** cases for criminal prosecution
- Process **1,305** aliens into ERO detention centers
- Monitor more than **23,000** aliens enrolled in the Alternatives to Detention
- Provide over **600** health screenings, almost **300** physical exams, and over **400** sick call & urgent care visits
- Remove **1,120** aliens from the U.S. to countries around the globe



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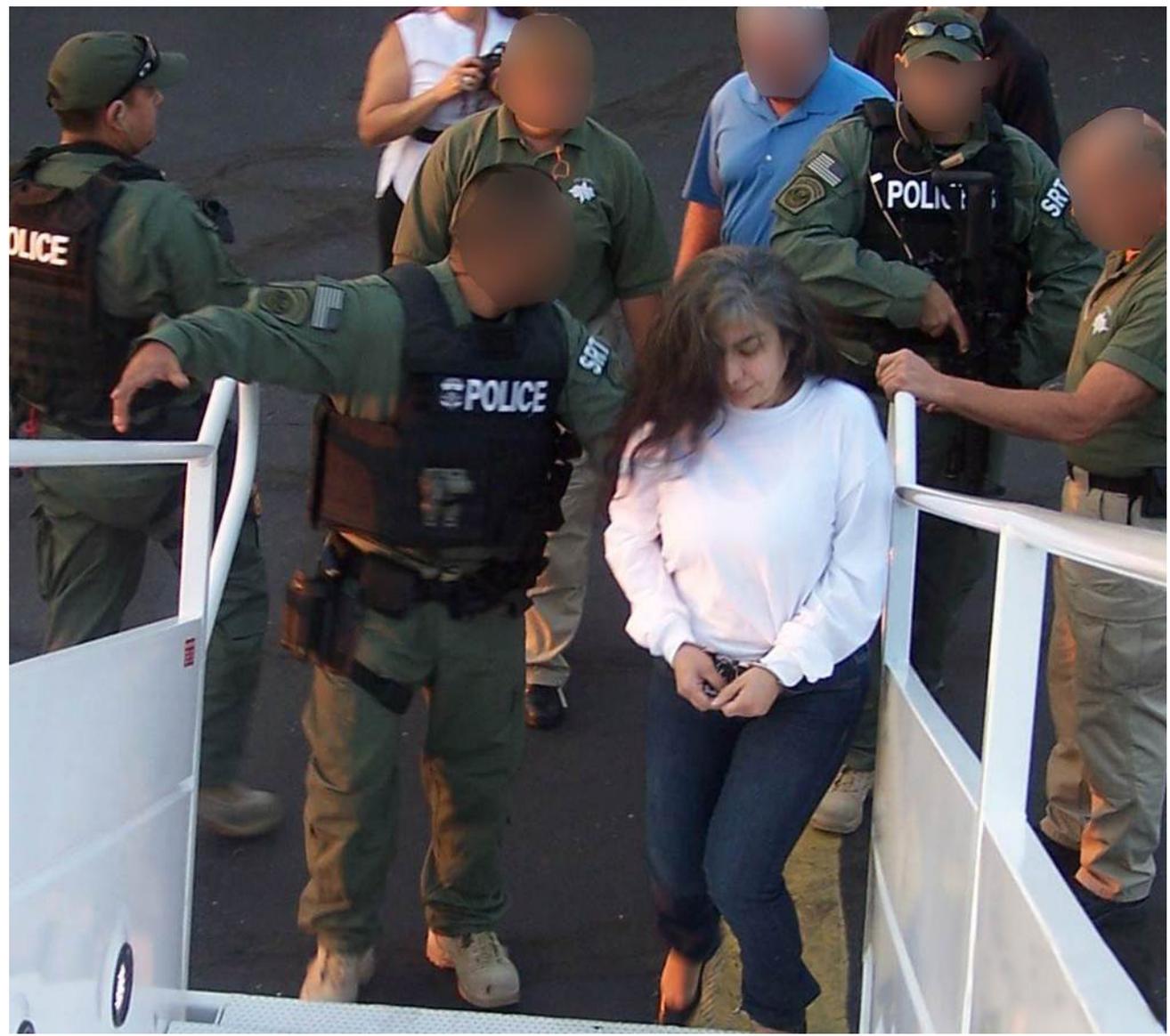
Immigration Enforcement



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Avila Beltran Removal



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Management & Administration



- M&A programs:
 - Chief Financial Officer
 - Human Capital
 - Acquisition Management
 - Chief Information Officer
 - Policy
 - Office of Diversity and Civil Rights
 - Training and Development
 - Privacy and Records Office
 - Office of Firearms and Tactical Programs
 - Freedom of Information Act Office





ICE R&D and Innovation Focus Areas

ICE R&D and innovation needs and ongoing efforts fell into the following areas in 2013 /2014:

- Analytical and Intelligence-Gathering Tools
- Clandestine Tunnel Detection
- Cyber Forensics
- Detection Technologies, Money Laundering
- Law Enforcement Systems Analysis
- Officer Tools and Safety
- Tactical Communications
- Technical Operations, Surveillance and Tracking

Cyber Crimes Center (C3)



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- Overview
 - Mission & Priorities
 - Projects with S&T
-

Focus Area: Cyber Forensics

Project / Program: Child Exploitation – Predictive Analytics and Data Analysis Tool Enhancements



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■ **Problem Statement:**

The amount of data being seized in the course of investigations is overwhelming current system abilities to manage, organize and analyze the data. HSI is in great need of an ecosystem of tools that will manage, organize and analyze data to detect deep patterns and relationships as well as identify specifically pertinent data points.

■ **Solutions:**

HSI has identified an ecosystem of tools currently under research and development by a foreign law enforcement partner which requires some additional funding to finalize.

Milestones / Accomplishments:

Several conference calls between DHS S&T, C3 Child Exploitation Investigations Unit (CEIU) and the foreign law enforcement partner have occurred from February through April, 2014. DHS S&T is currently coordinating with the foreign host nation government and the US Embassy in order to facilitate DHS S&T support of the project.

- **Deliverables / Next Steps:** Follow up meetings to be held with DHS S&T, C3 CEIU and the foreign law enforcement partner to finalize the agreement and statement of work.
- **Obstacles / Challenges:** Working with foreign government requires additional coordination and causes some delays.
- **Costs:** Costs are estimated to be between \$100,000 and \$150,000.

ICE Customers: HSI Cyber Crimes Center (C3) and HSI SACs.

HSI Technical Operations



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Focus Area: Technical Operations

Recently Completed

Project / Program: Low-Light Camera



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■ **Problem Statement:**

While there are many small, easy-to-conceal cameras on the market today, none offers the full range of capabilities required by today's undercover surveillance operations. Officers often require the capability to remotely pan, tilt, and zoom (PTZ) a camera while overcoming Internet connectivity issues and low light environments.

■ **Solutions:**

A new low-light, PTZ camera developed by S&T FRG provides remote PTZ capabilities over an IP network and operates in environments where little to no light is available. It will also emit little or no light for covert operations.

■ **Milestones / Accomplishments:**

Contract awarded in December 2012, and final design document completed in June 2013. Prototype build and documentation delivered in November 2013.

■ **Deliverables / Next Steps:**

A demonstration of the final prototype occurred on December 12, 2013, at ICE HSI Technical Operations in Lorton, VA.

■ **Obstacles / Challenges:**

None

■ **Costs:** \$465K over 12 months from the S&T First Responder Group (FRG).

ICE Customer: HSI Technical Operations and HSI SACs nationwide.

Focus Area: Technical Operations

Recently Completed

Project / Program: *Encrypted Video Encoder System*



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▪ **Problem Statement:**

The IP encoder will compress and encrypt large video data streams and securely transmit the stream back to a command post in real time.

▪ **Solutions:**

The encoder will be integrated with a modified camera, and can also be integrated with other surveillance cameras.

▪ **Milestones / Accomplishments:**

Contract awarded in fall 2012 and development work stayed on schedule with milestones met.

▪ **Deliverables / Next Steps:**

Demonstration of the final prototype and a briefing about the culmination of the last year of development occurred on December 12, 2013, at ICE HSI Technical Operations with S&T FRG and performers. The meeting covered a demonstration of the prototypes and instructional and operational matters, plus an ongoing developments discussion following the end of the CCAT contract period.

▪ **Obstacles / Challenges:**

None

▪ **Costs:** \$651K over 15 months from the S&T First Responder Group.

ICE Customer: HSI Technical Operations (TechOps) and HSI SACs nationwide.



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OFFICE OF FIREARMS AND TACTICAL PROGRAMS

Virtual Shooter Firearms Test Device

Office of Firearms and Tactical Programs (OFTP)

Introduction:

- OFTP Armory Operations Branch (AOB) is responsible for the testing and repair of firearms and the inspection of ammunition that support over 62,000 armed officers within DHS
- OFTP AOB personnel have historically function fired, by hand, over 100,000 rounds of ammunition annually
- Multiple forces are exerted on the body during the firing of a gun and repetitive usage can often translate to acute body pain
- A device to replace the human firing system with a mechanical system was needed



Virtual Shooter Project

Background:

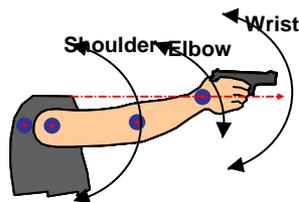
- In the fall of 2011, a S&T Small Business Innovation Research (SBIR) solicitation was initiated with the technical requirements given by the OFTP
- After evaluations of sixteen proposals, Phase 1 of the solicitation gave S&T funding to three companies to present more detailed proposals
- At the completion of Phase 1, Radiance Technology was chosen as the most technically advanced participant and they were selected to move forward into Phase 2



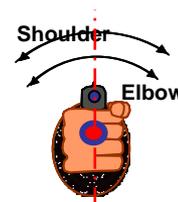
Virtual Shooter Project

Early Development:

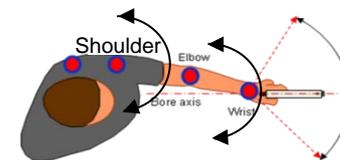
- In order for the device to mimic the shooter/firearm interaction, initial research was spent analyzing the forces exerted during firing and the physical reactions that occur



Vertical Plane Motions



Perpendicular Plane Motions



Horizontal Plane Motions

Virtual Shooter Project

Current Status:

- Radiance completed a working prototype of the Virtual Shooter and delivered it in March 2014 to the OFTP Ballistics Laboratory in Altoona, PA
- Initial testing of the device showed its capability met the original solicitation specification



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Virtual Shooter Project



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Virtual Shooter Project



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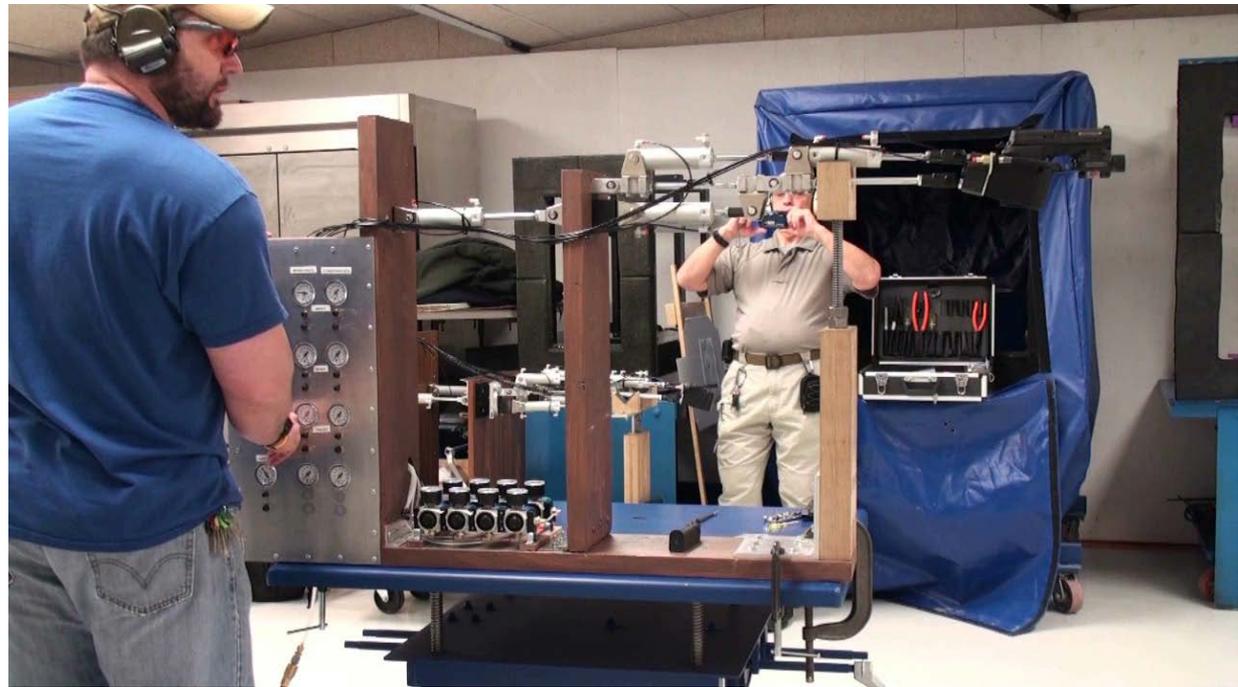
Virtual Shooter Project



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Virtual Shooter Project



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Virtual Shooter Project

Moving Forward:

- Several areas were identified for improvement on the next prototype while the AOB will begin to implement the Virtual Shooter into the ammunition and firearms testing protocols
- Phase 3 of the SBIR project will require Radiance to complete a production model of the Virtual Shooter for delivery to the OFTP
- Delivery of the final item is schedule for spring 2015
- Commercialization is also a key goal of the SBIR program and Radiance hopes to be able to market the device to other Federal and DOD testing laboratories, firearms and ammunition manufacturers, as well as the civilian market



Virtual Shooter Project

Conclusion:

- Discussion of the project with other government and civilian test facilities has generated a large amount of interest
- The OFTP Virtual Shooter system will:
 - Reduce workplace repetitive injuries
 - Improve ammunition and firearms testing efficiency
 - Allow for instrumented firearms analysis
 - Improve human interface design characteristics by using the device to measure the effects of recoil forces in a robotic hand
 - Goal of becoming an “industry standard” testing device

