

# CBP Technology Challenges

## 2011 NDIA Joint Missions Conference

Mark S. Borkowski  
Component Acquisition Executive &  
Assistant Commissioner,  
Office of Technology Innovation and Acquisition

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# U.S. Customs and Border Protection



# Technology in CBP

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- **CBP integrates previously disparate functions**
  - Provides “one face” at the border
  - Presents a broad range of technology challenges
- **Technology investment has traditionally been fairly localized and mission-domain specific**
- **CBP is not yet ready for significant system development**
  - Near-term efforts: Nondevelopmental or Commercial items
  - Cost is a major consideration
- **CBP will build a technology baseline to provide experience, understanding of requirements, and a framework for future investment**



# CBP's Dual Missions

## *Security*

- Stop terrorism
- Prevent illegal entry
- Block drug & human smuggling
- Prevent agricultural disease
- Secure national events
- Assist with disaster relief

## *Facilitation*

- Collect customs revenue
- Process incoming travelers
- Inspect imports
- Stop counterfeits
- Allow legitimate travel and trade to flow freely





# Protecting the Border Is An Immense Job



*Every day, more than 58,000 CBP employees protect nearly 7,000 miles of land border and 330 ports of entry.*



# ...So Is Managing Our Massive Imports



*In FY 2010, CBP processed \$1.99 trillion in commercial imports and collected \$32.3 billion in taxes, duties and fees.*



# Recent Border Protection Successes



- **352 million travelers inspected at ports of entry**
- **Nationwide Border Patrol apprehensions of illegal aliens decreased to approximately 463,000, a 36 percent reduction, indicating that fewer people are attempting to illegally cross the border**
- **More than 84,000 wanted individuals apprehended for crimes including murder, rape and child molestation**
- **More than 1.7 million prohibited plant materials, meat, and animal byproducts seized**
- **\$147 million in currency intercepted**

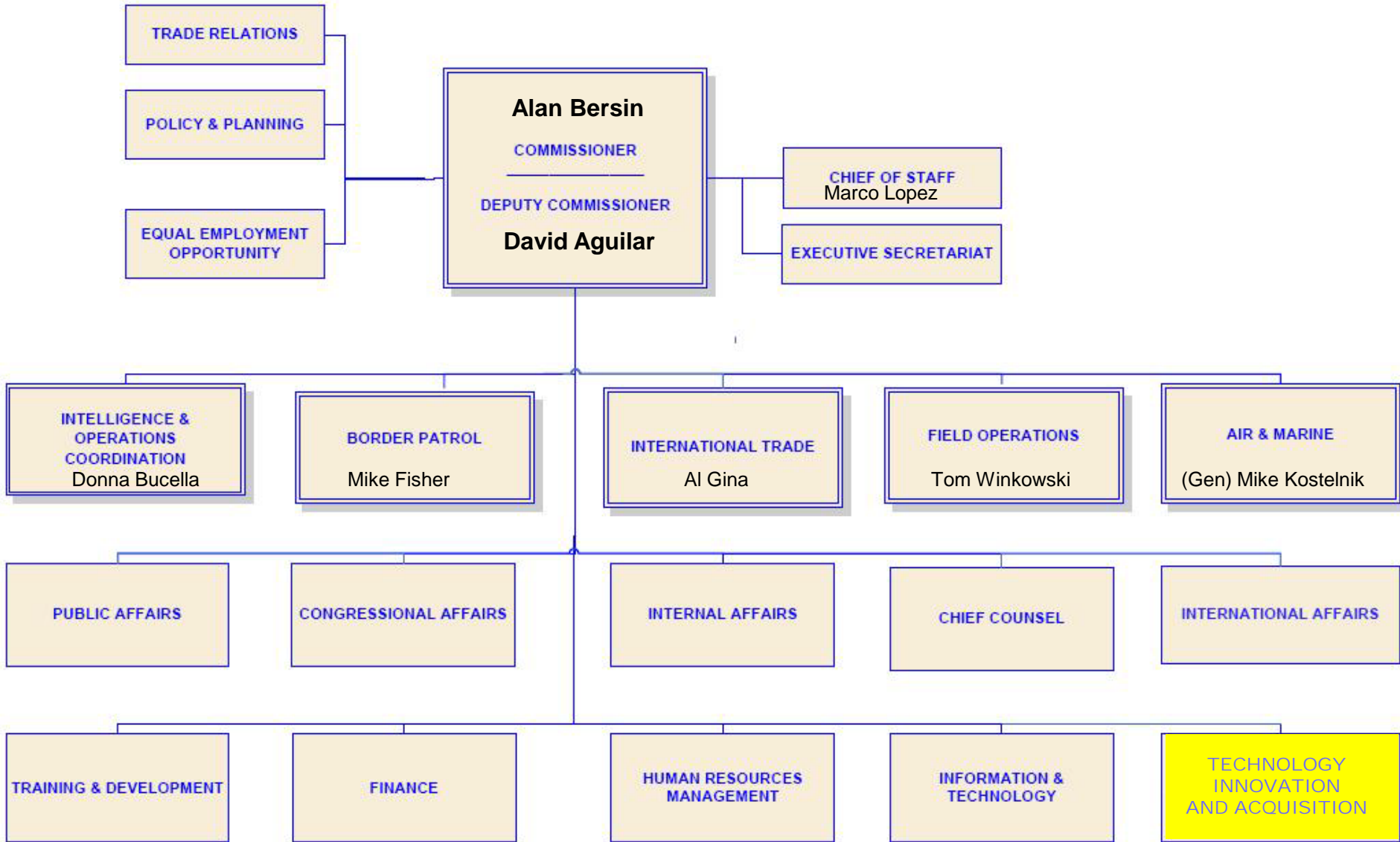


# Trade Security



- In FY10, CBP inspected 105.8 million cars, trucks, buses, trains, vessels and aircraft
- The agency conducted 3,200 security validations of members of C-TPAT, a voluntary self-inspection program designed to further secure cargo
- The agency also began enforcing the “10+2” rule, significantly increasing the scope and accuracy of information gathered on shipments of cargo arriving by sea

# U.S. CUSTOMS & BORDER PROTECTION

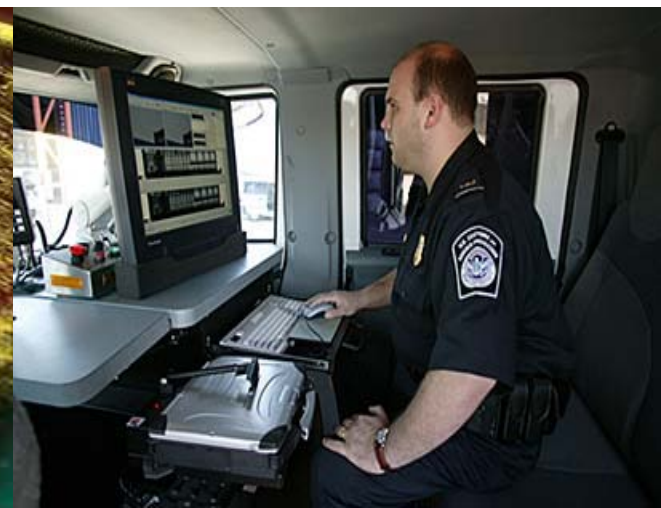
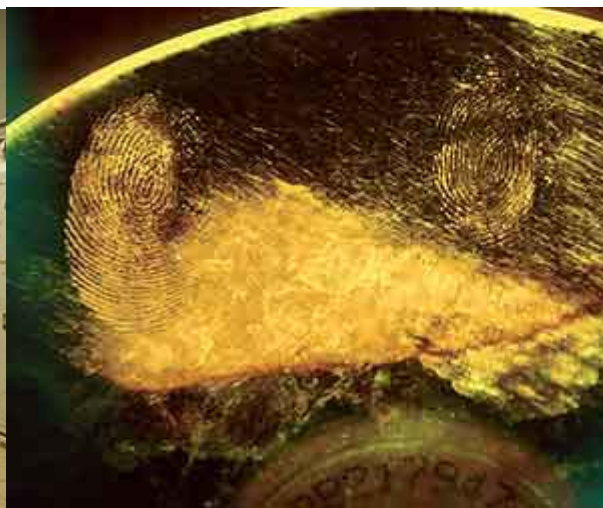






# OTIA

- OTIA is the Office of **Technology Innovation and Acquisition**
- **Acquisition:** Improve our overall competence and increase acquisition program performance
- **Technology Innovation:** Identify and apply innovative technology AND catalyze mission innovation through the use of technology





# Motivation for OTIA Creation

- **Ensure effective incorporation of technology for border security and facilitation of lawful flow (including link to outcome measures)**
- **Improve coordination among existing technology efforts**
- **Build a tighter linkage between acquisition efforts and future opportunities offered by S&T**
- **Provide consistent program management capability (oversee contractors)**





# Some Uses of Technology...

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- **Detect and Classify Incursions**
- **Identify Individuals or Objects of Interest**
- **Automate Transactions and Processes**
- **Inspect People and Conveyances**
- **Manage Risk (Automate Targeting)**
- **Integrate / Synthesize Data and Information**
- **Take Measurements**
- **Detect and Identify Contraband**
- **Provide Situational Awareness**
- **Support Decision-Making**
- **Protect Personnel**



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**Recent Focus...**



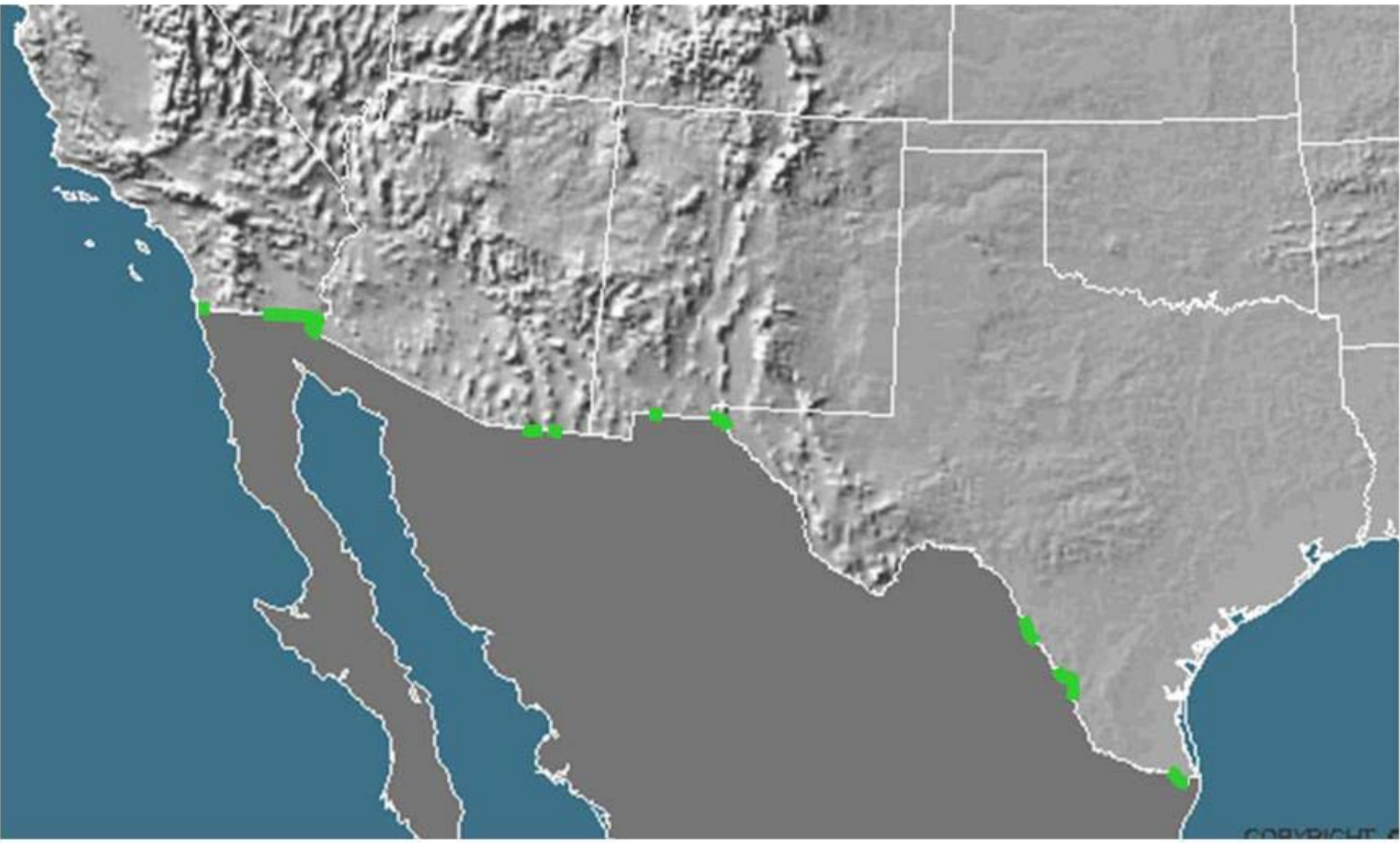
# Remote Video Surveillance System (RVSS) 80-foot Monopole Tower



- **2 pairs of cameras**
- **Each pair includes “day” and “night” cameras**
- **Images transmitted to Border Patrol station**
- **Remotely controlled**



# Exemplar Technology Deployments (Existing RVSS)

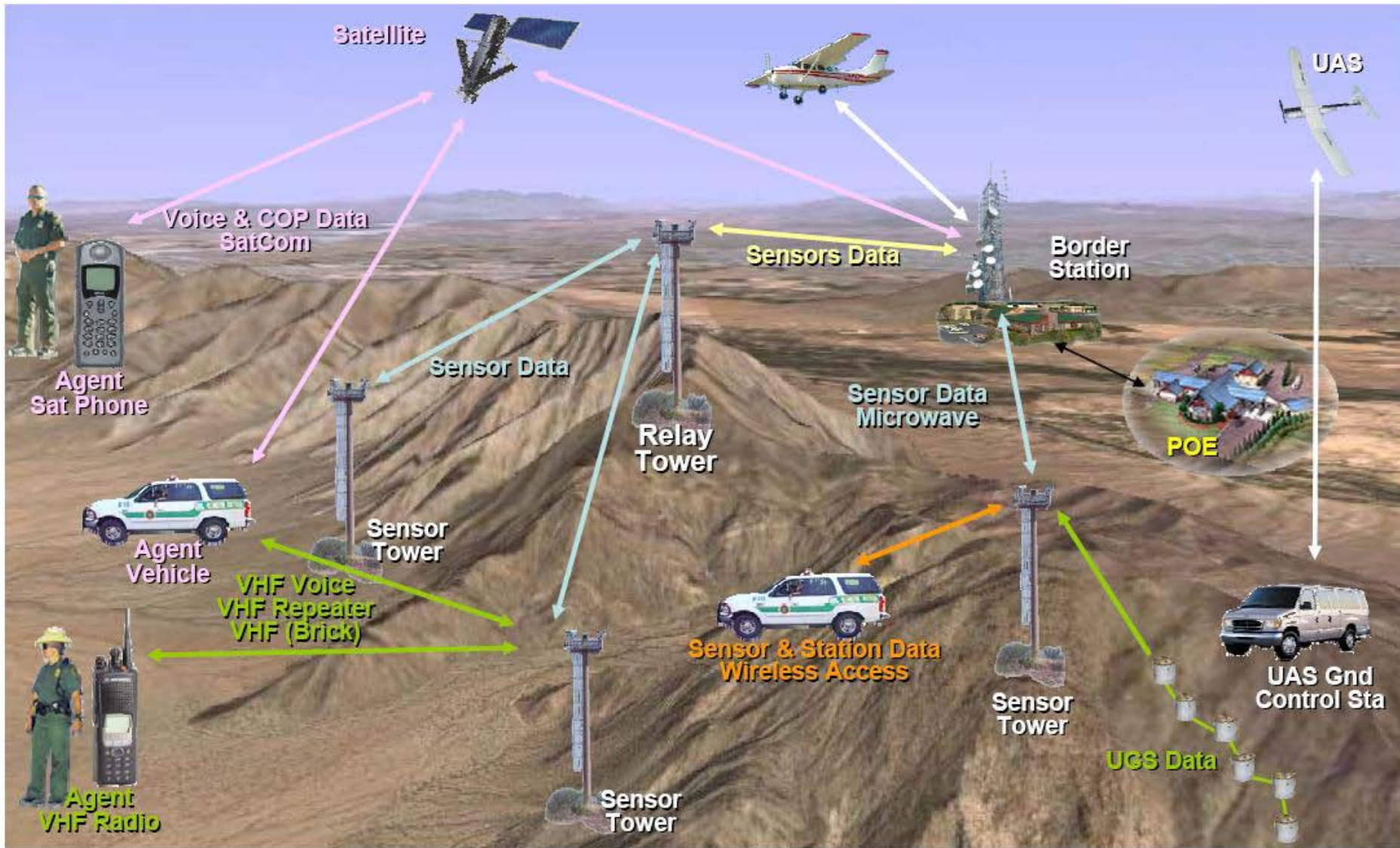


Principal RVSS Coverage

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# Secure Border Initiative-network (SBI-net) Early Concept





# Consequences of SBI<sup>net</sup> Experience in CBP

- Increased recognition of technology's potential role and value
- Recognition that “technology is good” is a dangerous tautology
- Concern over lack of coordination
- Need for tighter linkage between acquisition and future technology opportunities
- Need for more consistency in overall program management capability

***Along with other CBP experiences—highlighted the need for a more strongly denoted approach to technology innovation and acquisition***





# Example Technology Options



**Mobile Surveillance System**



**Mobile Video Surveillance System**



**Agent-Portable Surveillance System**



**Thermal Imaging Device**



**Unattended Ground Sensor**



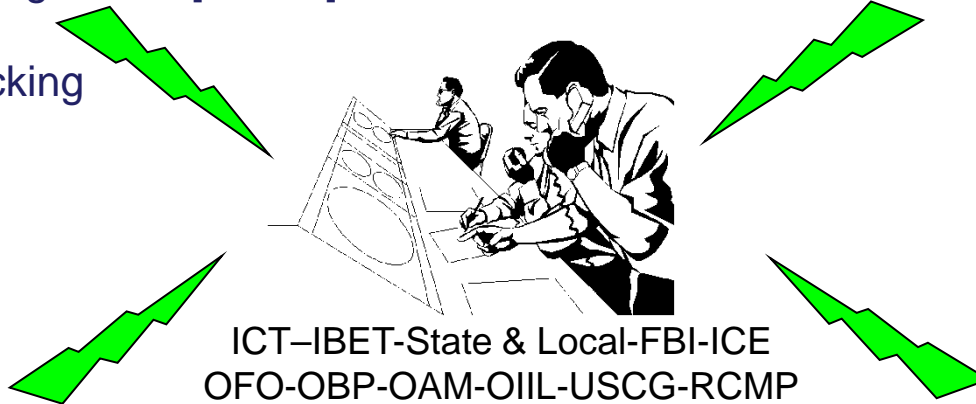
# Northern Border Operational Integration Center

## Situational Awareness

- RVSS Sensor Feeds
- MSS Sensor Feeds
- Air Platform Sensor Feeds
- UAS Proof of Principle Sensor Feeds
- Automatic Identification System (AIS)
- WatchKeeper Segment 2 [USCG]
- AMOC Feeds
- Blue Force Tracking

## Law Enforcement Data Bases

- CBP (e.g., TECS, Enforce, ATS, etc.)
- USCG (e.g., WatchKeeper Segment 1)
- State/Local
- Canadian (Federal/Provincial)



## Communications

- P-25 Portable Radios
- Satellite Encrypted Communications
- Homeland Security Data Network
- Marina Kiosks Modernization

## Intelligence

- National Sensors (as available)
- Video Exploitation
- Intel Coordination Team (ICT)
- Analytical Framework for Intelligence
- Law Enforcement Technical Collection

**RVSS: Remote Video Surveillance System**

**MSS: Mobile Surveillance System**

**AMOC: Air & Marine Operations Center**



# Commissioner's Focus Programs— 2011-2012

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- **SBI*net***
  - Continue improving program management
  - Implement the new technology portfolio
- **Automated Commercial Environment (ACE)**
  - Enhance program management effectiveness and credibility
  - Design well-scoped modules of capabilities
- **Radiation/Nuclear Detection**
  - Investigate new Concepts of Operation
  - Develop requirements and plan for advanced portal monitors
- **Border Surveillance Technology Integration**
  - Develop stronger synergy between air and ground assets
- **Non-intrusive Inspection**
  - Map existing capability and develop future strategy



# CBP Technology Interest Areas (Exemplars) Potential for Collaboration?

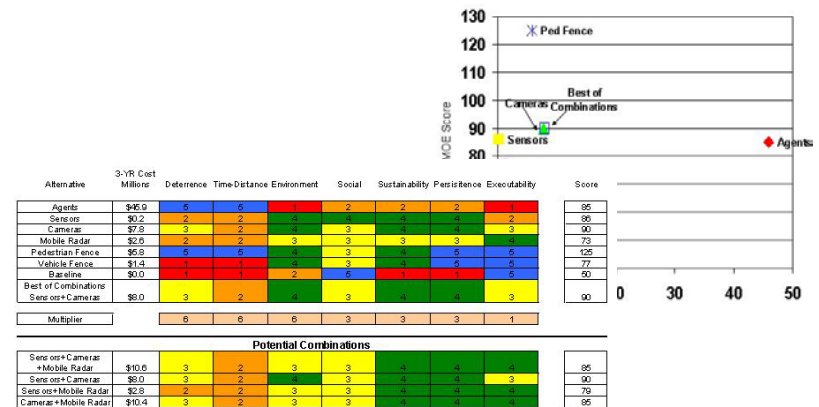
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- Open Architecture
- Broadband/wireless
- Common operating pictures
- Radiation Portal Monitors
- Wide-area surveillance
- Automated target recognition
- Ultra-light detection
- Tunnel detection
- Predictive intelligence
- Insider threat detection
- Foliage penetration
- Improved UGS
- IP-addressable sensors
- High resolution cameras
- Synthetic aperture radars
- Chemical identification



# Ongoing / Near-Term Opportunities

- **Tunnel Detection**
  - On-going JCTD near San Diego
- **Air Domain Awareness**
  - Study team for Gap-Filler
  - CDWG Initiative
- **Aerostats**
- **Wide-Area Surveillance**
- **Operations Research**

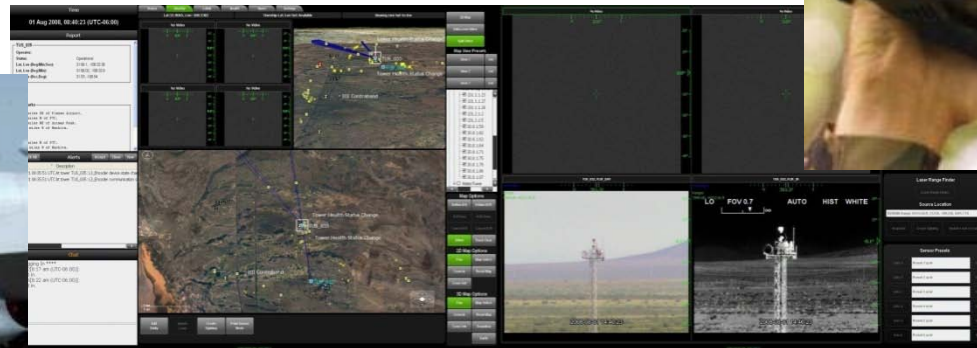


JCTD: Joint Capability Technology Demonstration  
 CDWG: Capability Development Working Group



# Summary

- Technology will be an increasingly important contribution to CBP's mission performance
- CBP will pace itself
- There is more to CBP technology than border surveillance—but *SBI*net lessons learned continue to influence our go-forward plans





# U.S. Customs and Border Protection

We are the guardians of our Nation's borders.

We are America's frontline.

We safeguard the American homeland at and beyond our borders.

We protect the American public against terrorists and the instruments of terror.

We steadfastly enforce the laws of the United States while fostering our nation's economic security through lawful international trade and travel.

We serve the American public with vigilance, integrity and professionalism.



