

## DHS Strategic Industry Conversation

# Biometrics: Current Challenges and Future Trends

Steve Yonkers, Director of Identity and Credentialing, Department of Homeland Security's Office of Policy, Screening Coordination Office (moderator)

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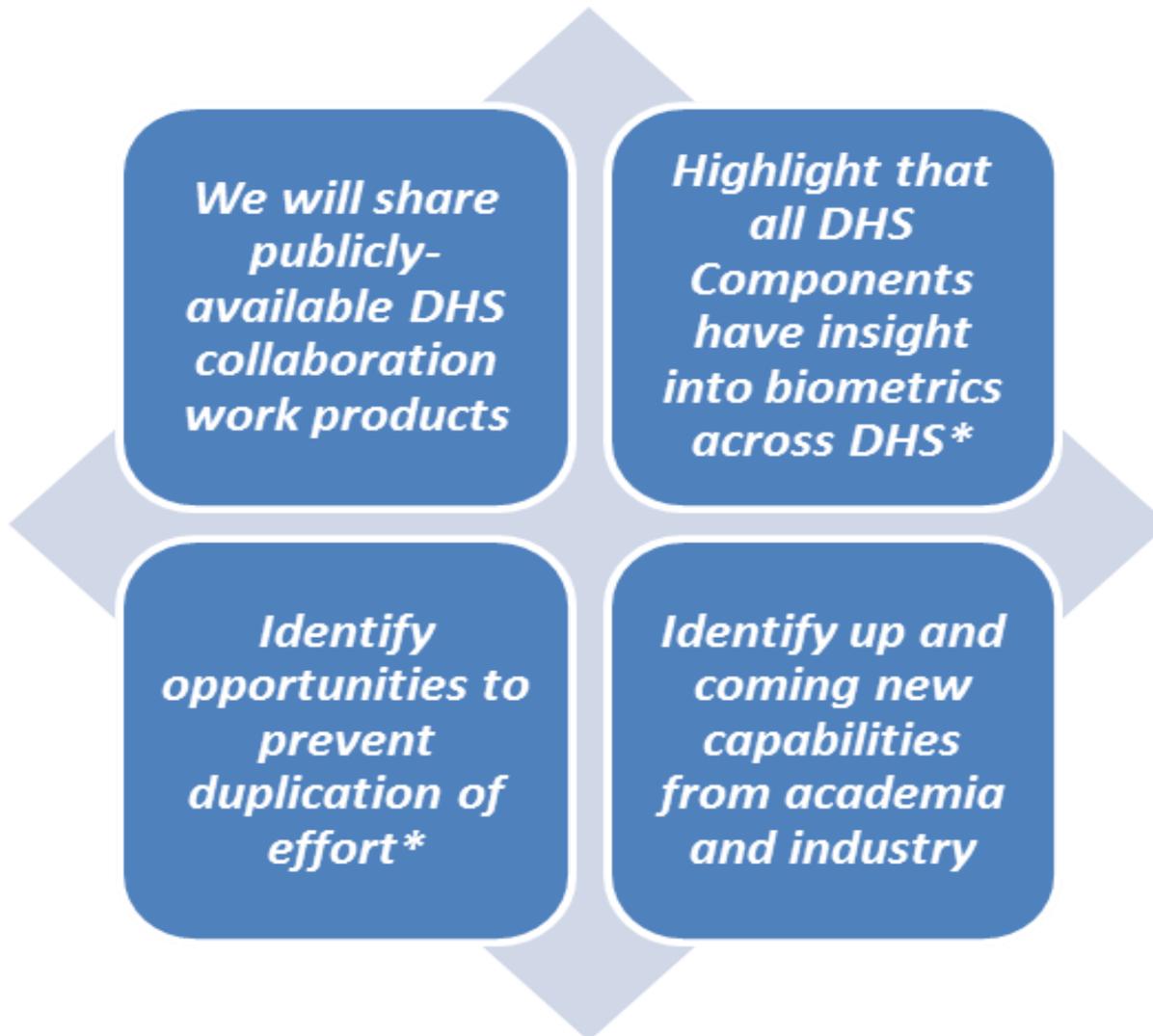
Deborah Kent, Intelligence and Analysis, Transportation Security Administration

Patricia Cashin, Program Manager Entry/Exit Transformation Office, Customs and Border Protection

Michael Dougherty, Chief Executive Officer, Secure Identity & Biometrics Association



Homeland  
Security



# Goals of the DHS Biometrics Strategic Framework

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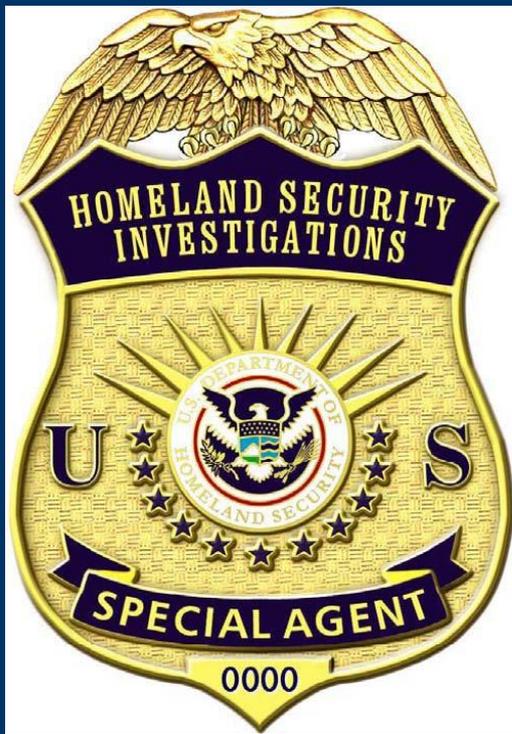
- **Goal 1: Enhance effectiveness of subject identification**
  - Objective 1.1: Refresh outdated biometric collection systems
  - Objective 1.2: Centralize access to federal and international biometric databases
  - Objective 1.3: Improve real-time access from field locations
  - Objective 1.4: Expand use of multi-modal biometrics to identify threats
- **Goal 2: Transform identity operations to optimize performance**
  - Objective 2.1: Automate resource intensive identity processes
  - Objective 2.2: Implement person-centric biometric processing
- **Goal 3: Refine processes and policies to promote innovation**
  - Objective 3.1: Institutionalize joint requirements efforts
  - Objective 3.2: Establish DHS-wide biometrics authorities
  - Objective 3.3: Develop privacy policies and processes
  - Objective 3.4: Enhance stakeholder communications
  - Objective 3.5: Implement standardized solutions
  - Objective 3.6: Establish governance and ensure appropriate oversight



U.S. Immigration  
and Customs  
Enforcement

# HSI

Protecting National Security and Upholding Public Safety



# HSI

## Biometrics in Investigations

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# Biometrics Today



- **Search and Identification**
- **Booking and Arrest**
- **Forensic Case work**
- **State and Local Support**

# Applications

**Make the Small Screen Work with the Big Screen**



- **EAGLE is used on our Tier 1 and 2 level devices.**
- **Allows for full identification and booking.**
- **Works offline to collect data.**



- **EDDIE is used on our Tier 3 devices.**
- **Allows for identification.**
- **Information collected and searched can be used to for decentralized bookings**

# HSI

## Types of Equipment

### 3 Tiered System of Biometric Equipment



U.S. Immigration  
and Customs  
Enforcement



## Types of Equipment

### 3 Tiered System of Biometric Equipment



## Types of Equipment

### 3 Tiered System of Biometric Equipment



## Evaluation Criteria



- Reliability
- Availability
- Usability

# Future Biometric Needs



## LIVENESS

- In August 2016 wanted subject Shaun “Shizz” Miller was arrested in Boston area.
- Subject paid about \$2000 for the mask.

<https://www.washingtonpost.com/news/morning-mix/wp/2016/08/21/fugitive-nearly-evades-police-using-hollywood-quality-disguise/>

# Future Biometric Needs



## Future Biometric Needs

- **IRIS at a Distance for Investigations**
- **DNA comparison for Identical twins at a low cost (4 per 1000 births or estimated 29-38 million people worldwide may share similar DNA)**
- **Algorithms for white light IRIS that work backwards to traditional IRIS**
- **Contactless Fingerprints**
- **Increase the reliability of DNA Phenotyping for face recognition**



## Key Takeaways

- Biometrics and the IOT
- Liveness Detection
- Multimodal Devices at a Distance
- DHS Standard for Software/Hardware
- Small Screen and Big Screen Working Together
- All Operating Systems (Windows, iOS, Android)
- Robust SDK



**“The truth is, that a life of dishonesty may pay at first when you are not known to the police, but when an offender once falls into the hands of the ever-watchful police he begins to be a well-known customer.”**

**Harry Houdini**

*The Right Way to Do Wrong: An Exposé of Successful Criminals.* 1906. Reprint. London: Forgotten Books, 2013. 9-10. Print.

**Questions?**

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