# Use of Mobile Biometric Devices for Coast Guard

ANSI/NIST-ITL WORKSHOP

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# National Need

**Within one year after the date of the enactment of the Coast Guard Authorization Act of 2010, the Secretary shall conduct, in the maritime environment, a program for the mobile biometrics identification of suspected individuals …**

**…the term 'biometric identification' means use of fingerprint and digital photography images and facial and iris scan technology …**

Coast Guard Auth Act of 2010


## National Requirements

- **Enhance Screening Using Core Identity (Biometric) Methods (HSPD-24/N5PD-59)**

**9/11 Commission Report**
**HSPD-6/12/24**

## Coast Guard Requirements

- **Protect Nation From Dangerous People**
- **Improve Maritime Safety, Security and Stewardship**

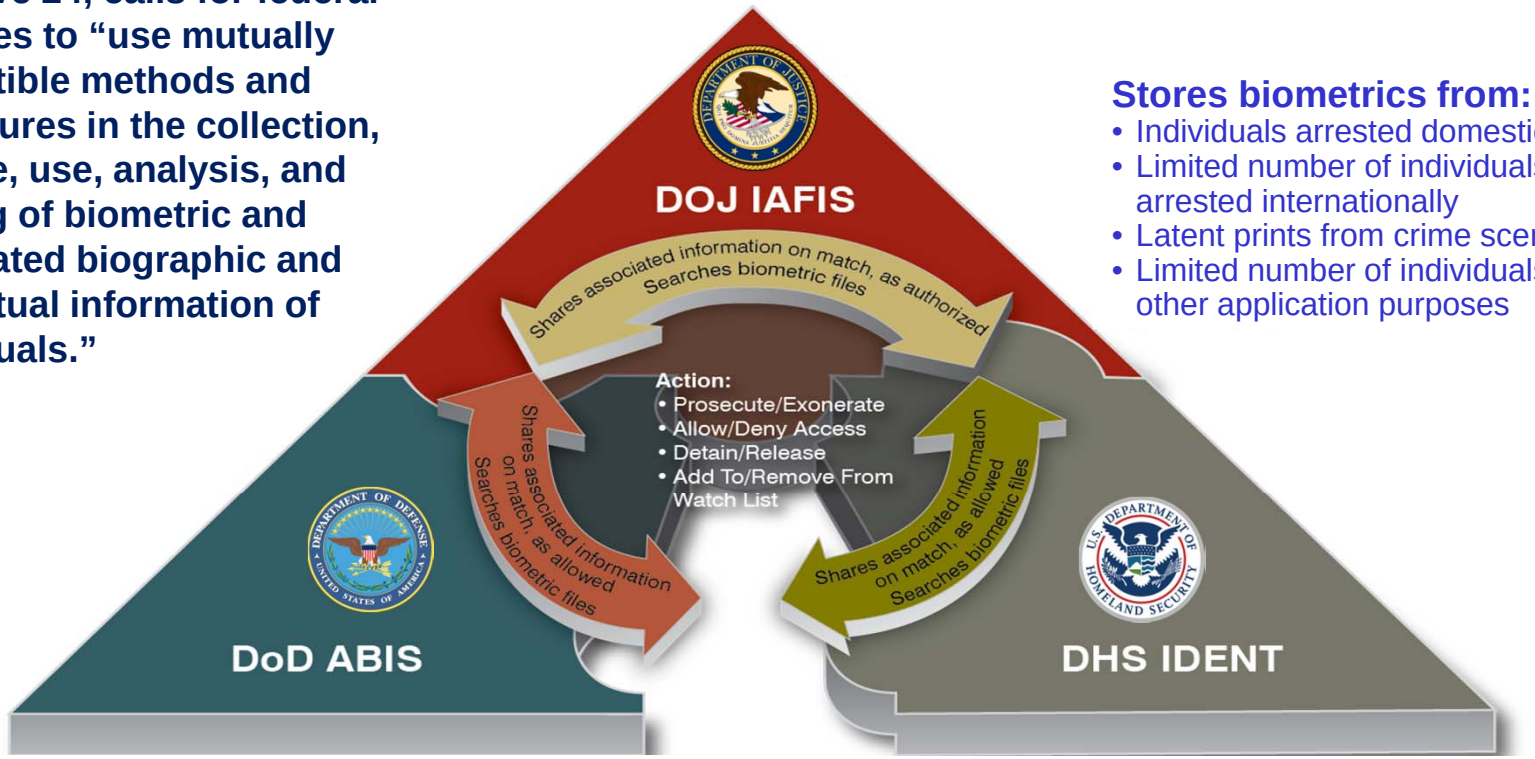
**HSPD-13**
**DHS Strategic Plan**

As the first-line protector of our nation's 95,000 mile maritime border, the Coast Guard is a critical element in implementing this national capability

# Existing National Databases

**Homeland Security Presidential Directive 24, calls for federal agencies to "use mutually compatible methods and procedures in the collection, storage, use, analysis, and sharing of biometric and associated biographic and contextual information of individuals."**

## Current State



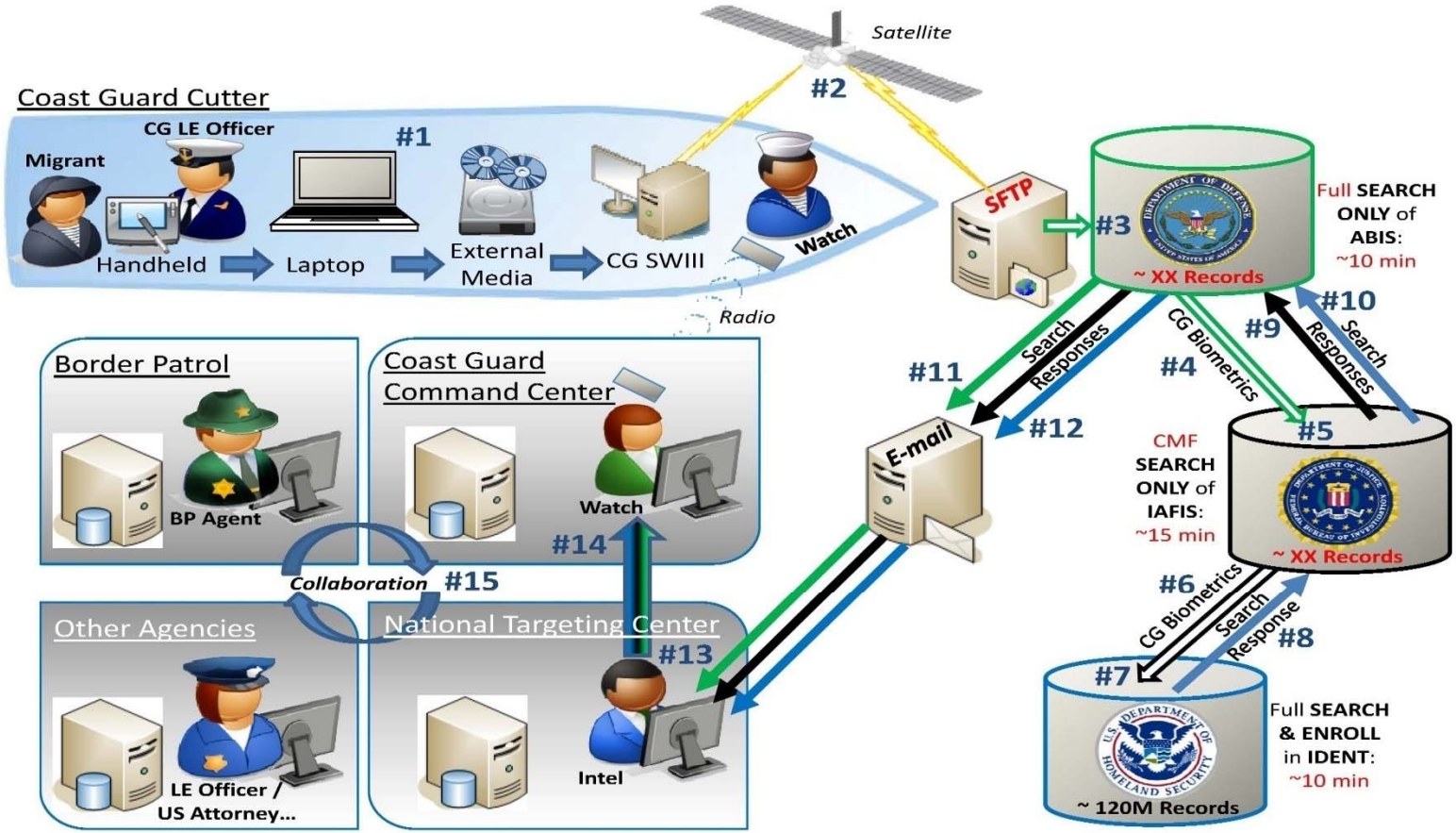

**Stores biometrics from:**
- Individuals arrested domestically
- Limited number of individuals arrested internationally
- Latent prints from crime scenes
- Limited number of individuals and other application purposes

**Stores biometrics from:**
- Credential applicants requesting access to U.S. installations overseas
- Latent prints from IEDs and other hostile actions
- Enemy combatants
- Detainees

**Stores biometrics from:**
- Visa applicants, travelers to the U.S.
- Immigration violators
- Other immigration and border management benefits and credential applicants
- Latent prints from DoD, DoJ, and DHS

CG plans to leverage existing national databases & collaborate to improve services

# Planned High-Level Architecture



# Biometric at Sea System results

## BASS 2-Print Results (to date)

**Signatures collected 4,891**
**Migrants found to have criminal records 1,368**
**Successful prosecutions 1,043**
**Number of migrant Biometrics matches 27.97%**
**Number of migrant positive "hits" prosecuted 76.24%**
**Number of Biometrics prosecuted 21.32%**

## BASS 10-Print Results (10 Oct 2012 – 01 Jan 2013)

**AMIO transactions 63 - Watchlist Hits 3 - Other Hits 17 - Total Hits 20**

**Analysis**
**% of Biometrics that are hits:**
**% of Hits that are Prosecuted: 76.73%**
**% of Biometrics that are prosecuted 21.50%**
**28.02%**

# Successes and Gaps

## BASS Success

- 80% Reduction in Maritime Migrant Flow Through the Mona Pass
- Collected Over 4,891 Biometric Signatures in Primary Threat Vectors
- Over 1,043 Migrants Found to have Criminal Records
- Over 912 Successful Prosecutions
- >$2.5M supplemental funding has created cache of SEEK II kits

## BASS Gaps/Issues

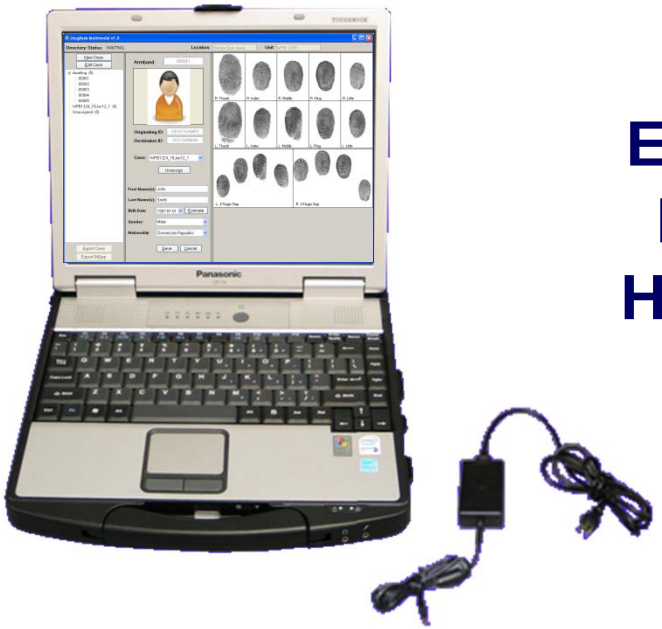
- No latent print collection capability
- Limited deployment within Coast Guard
- Limited cutter communications (satellite, 802.x, portable)
- 2-Print only supportable/searchable by US-VISIT
- Roughly 120M searchable records in US-VISIT versus >200M records in all 3 major databases
- No expressed support for expansion in future budget years.

# System Overview

**Armband & Written Log**

**Mobile Capture Device**

**Standalone Laptop**

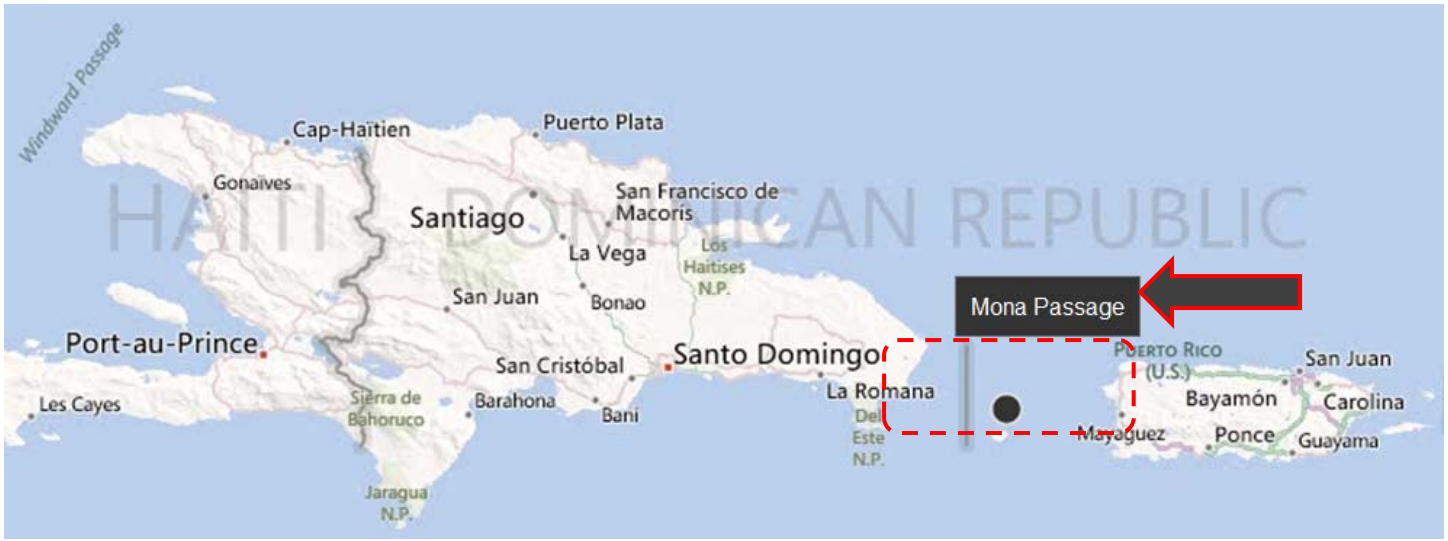


**Encrypted External Hard Drive**

# 2 Print to 10 Print transition:

- **Quantity On Hand:**
  - 140 SEEKs owned = 70 Kits
  - Sparing at depot = 10 spares
  - 60 Kits deployed when complete
- **Tier 0 – (23 Kits)**
  - One for one swap of existing 2 Print kit for 10 Print kit
  - Approximate 12 months transition and assumed near 100% 2-Print cost to support existing program during transition period.

# Project Operating Environment




**Pilot Cutters:**

- **USCGC CUSHING – WPB 1321**
- **USCGC FARALLON – WPB 1301**
- **USCGC KEY LARGO – WPB 1324**
- **USCGG MATINICUS – WPB 1315**
- **USCGC REEF SHARK – WPB 87371**
- **USCGC SAPELO – WPB 1314**

# Project Overview

- **Start Date:**
  - 1 September 2012
- **Planned Completion:**
  - End Data Collection – 29 April 2013
  - Deliver Sponsor Brief – 18 July 2013
- **State of Development - Complete**
  - Prototype system deployment for test and evaluation purposes.
  - Based on business process and existing workflow of the United States Coast Guard 2-print Biometrics At-Sea System (BASS).


# Project Overview (cont'd)

- **Testing** - **Complete**
  - Submissions to IDENT Production Integrated Testing (PIT) for XML format validation
  - Sector San Juan
    - Underway CGC CUSHING – 4 hrs
    - Underway CGC FARALLON – 4 hrs
- **Training** - **Complete**
  - 4 hr classroom training to SSJ cutter crews
  - New 10-print training curriculum, including materials such as SOPs and job aides
- **Feedback** – **In Progress**
  - Pre-Pilot Survey
  - After Interdiction Survey
  - Post-Pilot Survey
  - General Lessons Learned
- **Documented Results** – **In Progress**
  - Interim and final test briefs

# Photos Yola

# Fingerprint Quality

- A standard fingerprint quality report template is being collaboratively developed by US-VISIT, DHS S&T, and CG RDC.

**SCORES Range from 1 to 127**
1 is the highest quality
127 is the lowest quality


- A preliminary fingerprint quality score analysis was conducted for the first interdiction by **CGC FARALLON** – 22 migrants (total of 219 of 220 possible fingerprint images submitted).
  - The median fingerprint quality score was a **3**.
  - Maximum score (lowest quality) was a 10.
  - Minimum score (highest quality) was a 2.

| Quality | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8-127 |
|---|---|---|---|---|---|---|---|---|
| Accuracy | 99.4 | 99.2 | 99.1 | 98.2 | 95.2 | 89.3 | 83.0 | 53.6 |
| Frequency from 219 Images | 0 | 82 | 71 | 31 | 15 | 14 | 0 | 6 |

* Statistics from NIST IR 7110. "Matching Performance for the US-VISIT IDENT System Using Flat Fingerprints".

# Examples of SEEK II Facial Capture

# Additional Slides

# Photos SEEK II

# Photos Datastrip

# Photos Cutter / Transfer

# Photos Migrants on Deck / Repat