SEARCH Anniversary: The Next 40 years
Future Trends in Law Enforcement

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A vision of the future of law enforcement…?

- Miniaturization
- Field Forensic Tools
- Augmented Reality Technology
- RFID
- Autonomous Vehicles
- Combined Digital Devices
- Hand-held/ Wearable computers

- Wireless Systems
- Multimodal Biometrics
- Advanced Law Enforcement Uniforms
- Exoskeleton Suit
- Thermal Imaging
- Handheld Laser Spectroscopy Devices
- Nanotechnology

Luckily, our role is not to prophesize the future…

▸ Error cannot be avoided in predictions of the future

- Unforeseen forces and events (e.g., 9/11, Hurricane Katrina) radically modify prior forecasts

- Policing is shaped by a complex convergence of social, economic, cultural, technological, political, and legal forces

▸ Despite error, examining future trends and possibilities provides numerous benefits

- Facilitates strategic planning in an arena that most frequently must focus on tactical response

- Discussing the future expands the aperture of preparedness as a range of possibilities are considered

…Our duty is to remain effective in whatever future materializes

Technology will undoubtedly continue to radically change how crimes are committed and policed

- ▸ Increased sophistication and "boundaryless" characteristics of crimes pose new challenges
  - – "Criminal and terrorist networks of the information age will be able to coordinate their actions quickly and effectively without centralized command and control structures, brick and mortar facilities, or hierarchical leaders who have been the standard target of traditional police operations" Policing 2020

- ▸ Rather than forecasting what technology will be adopted, law enforcement must commit itself to be:
  - – Flexible
  - – Nimble
  - – Adaptable

- ▸ FBI Criminal Justice Information Services (CJIS) Division is committed to provide timely and relevant criminal justice information and utilize state-of-the-art technology

We look out for trends on the horizon…

Law Enforcement requires greater ability to sift, process, and share the petabytes of available data

▸ Data Explosion

– 13 million gigabytes of information are added to the world's databases every day; a sizeable proportion can be used for criminal and/or terrorist purposes[1]

– Law Enforcement information might be in the form criminal history information on suspects, geographic location information, video images from a surveillance camera, voice transmission from a police officer in another department, or any other type of information from any other digital node on the network

▸ Law Enforcement Processing Lags

– The data management method of choice in departments is still manual filing   method human clerks, paper forms,   and meta
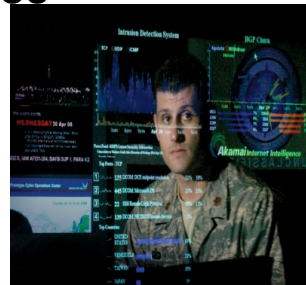
CJIS promotes effective sharing that encompasses biographic, biometric, and contextual data

▸ Fusing contextual and identity information we can better protect national security

– FBI representatives collaborate on the Homeland Security Presidential Directive-24 Action Plan where policy and procedure formalizes the responsibility to share with federal, state, and local partners

▸ Exploring the potential biometric enabled intelligence to…

– Derive further information from biometrics
– Match a known/unknown to a place, activity, or device
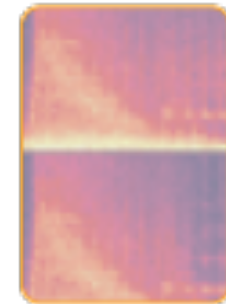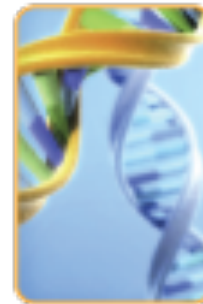– Facilitate high-value individual targeting
– Reveal movement patterns

CJIS programs seek to push pertinent information to its users and reduce their burden to search

▶ Today and on the horizon:

– Next Generation Identification Rap Back capabilities: Allowing authorized agencies to receive notification of subsequent criminal activity reported to the IAFIS on individuals holding positions of trust

– National Data Exchange System (N-DEx) subscriptions: Allows investigators to register a subscription for any records. If any N DEx user searches for the same, or a similar entity, N DEx will notify the user who set the subscription

– The FBI's Facial Recognition (FR) Prototype with Carolina DMV: Provides new leads on fugitives to when FR technicians working with North FR system match false identities

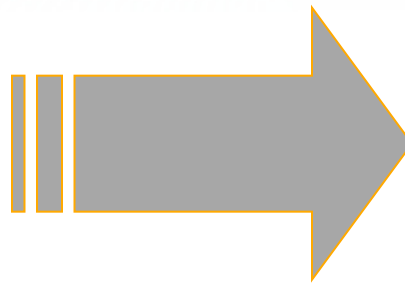# Increasingly sophisticated means to mask identity must be combated with positive identification capabilities

▶ Weakened ability for positive identifications
  – Innate weaknesses of relying on behavioral biometrics passwords, Pins, ID cards)
  – It is estimated that only five percent of cybercriminals are or convicted because the anonymity associated activity makes them hard to catch, and the trail to link them to a cybercrime is hard to unravel

▶ The push for multimodal identification
  – One form of biometric identification can be insufficient. For instance, with fingerprints, it is estimated that at least 10% of the population have worn, cut or unrecognizable prints[1]

▶ Expanded use of multimodal identification drives the need for interoperability and interagency database sharing
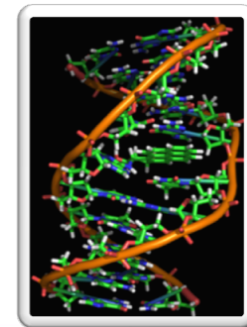

(1) *"Multimodal Biometrics" published by Biometric New Portal Available at http://www.biometricnewsportal.com/multimodal-biometrics.asp*

On the horizon, CJIS seeks to deploy enhanced, on-the-spot identification capabilities

▸ Quick Capture Platform

– Objective of moving toward blackberry-sized

▸ Rapid DNA processing technology (partnered with DoD and DHS): provide on-location DNA results for federal, state, and local crime investigations, military, and the Intelligence community

– Objective to have results in under one hour

CJIS is driving the development of new, interoperable biometrics

Next Generation Identification

- The NGI system will replace the current IAFIS and offer state-of-the-art biometric identification services.

Biometric Interoperability Program

- To establish interoperability between FBI's IAFIS and other biometric systems, with primary emphasis currently on DHS's IDENT system.
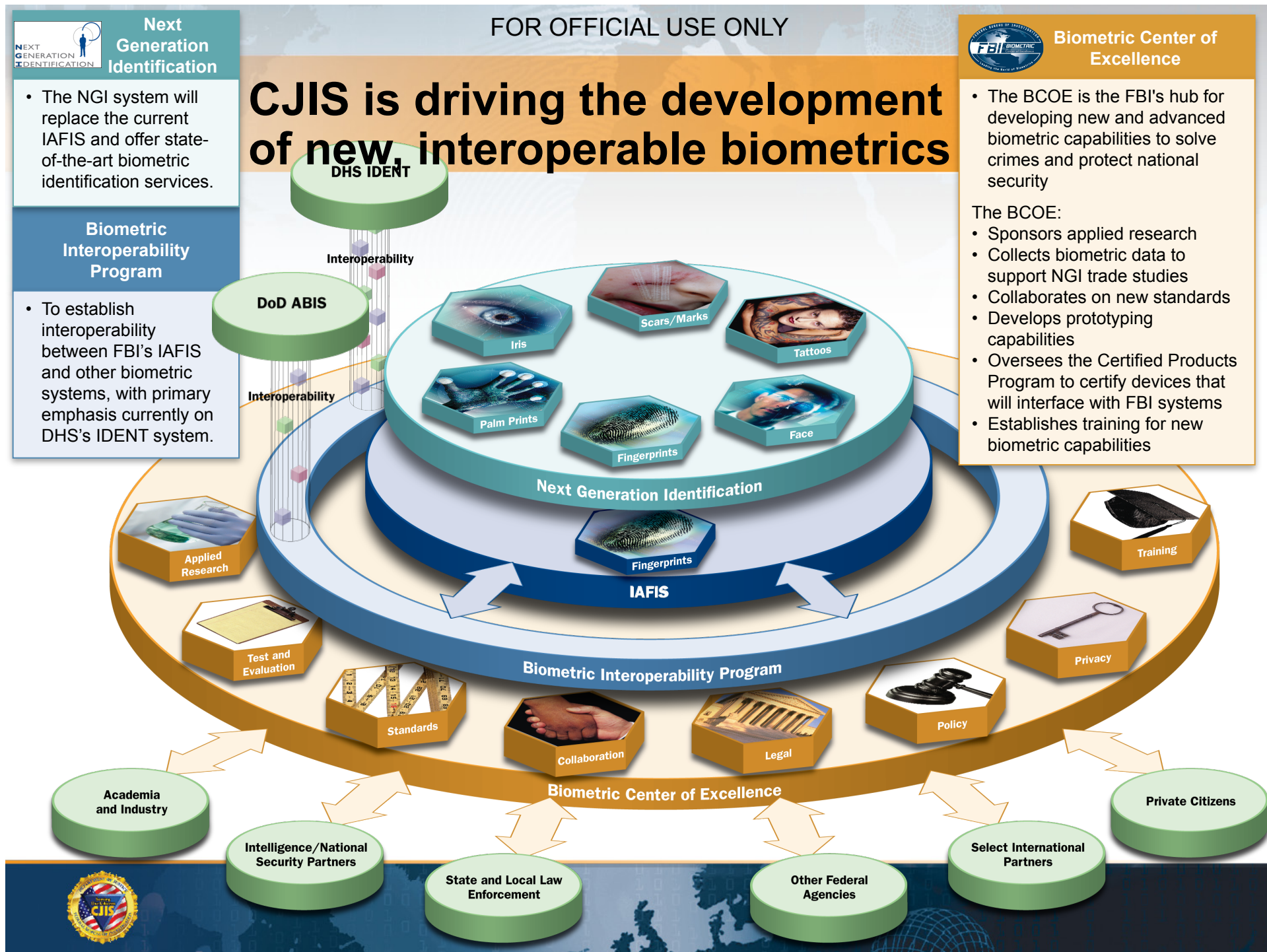
Biometric Center of Excellence

- The BCOE is the FBI's hub for developing new and advanced biometric capabilities to solve crimes and protect national security

The BCOE:
- Sponsors applied research
- Collects biometric data to support NGI trade studies
- Collaborates on new standards
- Develops prototyping capabilities
- Oversees the Certified Products Program to certify devices that will interface with FBI systems
- Establishes training for new biometric capabilities

DHS IDENT

Interoperability

DoD ABIS

Interoperability

Iris

Scars/Marks

Tattoos

Palm Prints

Fingerprints

Face

Next Generation Identification

Fingerprints

IAFIS

Biometric Interoperability Program

Applied Research

Test and Evaluation

Standards

Collaboration

Legal

Policy

Privacy

Training

Biometric Center of Excellence

Academia and Industry

Intelligence/National Security Partners

State and Local Law Enforcement

Other Federal Agencies

Select International Partners

Private Citizens

Law enforcement trends encompass far more than technological changes

Governance
The "environment" influencing sharing

- ✓ How managers drive initiatives within organization and in cross-agencies.
- ✓ Standards and guidelines to ensure a consistent approach.
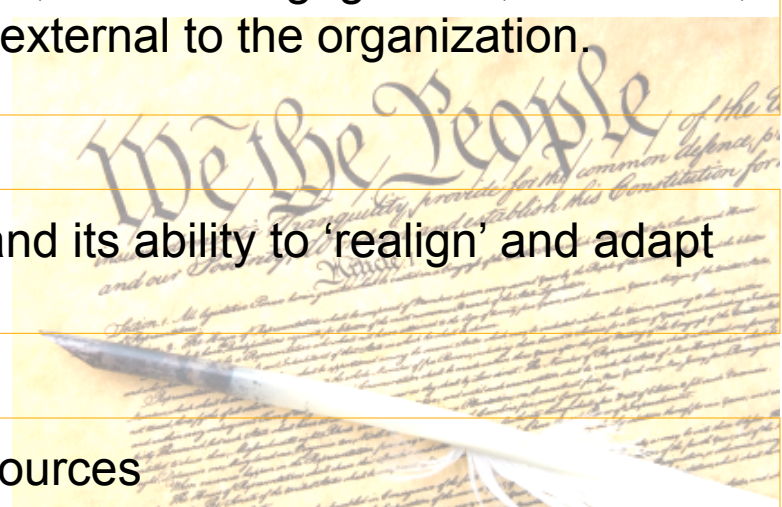
Policy
The "rules" for sharing

- ✓ National policies, internal policies, rules of engagement, standards, and role of players internal and external to the organization.
- ✓ Law and privacy rights

Culture
The "will" to share

- ✓ The organizational philosophy and its ability to 'realign' and adapt as circumstances change

Economics
The "value" of sharing

- ✓ Ability to obtain and provide resources
  - • Law Enforcement grants today fund technology that was not common knowledge a few years ago

Navigating the future, partnerships, such as between SEARCH and FBI CJIS, will be even more important

▸ Criminal, Homeland Security, and Counterterrorism missions are converging and creating a need for greater integration of LE and intelligence information among all levels of government

▸ **SEARCH** continues to provide leadership in tackling information management challenges that arise from the need to share

▸ CJIS is committed to

– Developing and deploying technology that will get the right information in the appropriate hands

– Driving technology to be better and faster

– Staying nimble and relevant in an unknown future

Questions / Comments

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