

IDGA Q&A: William Casey on the FBI's Biometric Center of Excellence

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IDGA: First, could you tell us a little about the Biometrics Center of Excellence? Why was it formed?

WC: The BCOE is the FBI's program for exploring and advancing the use of new and enhanced biometric technologies and capabilities for integration into operations. The BCOE is a collaborative initiative of the Criminal Justice Information Services (CJIS) Division, the Laboratory Division, and the Operational Technology Division. The BCOE's mission is to foster collaboration, improve information sharing, and advance the adoption of optimal biometric and identity management solutions within the FBI and across the law enforcement and national security communities.

The FBI's Science and Technology Branch created the BCOE in 2007 to support its overall biometrics mission and the major programs and strategic initiatives that comprise the FBI's biometric portfolio of services. The FBI provides a wide range of biometric services, and several different entities throughout the FBI previously led these services independently. The FBI required a more efficient approach to manage its growing biometric activities and priorities. By centralizing biometric activities and having the BCOE serve as a one-stop-shop for biometric collaboration and expertise, the FBI's ability to combat crime and terrorism is strengthened as state-of-the-art biometrics technologies move quickly from the laboratory to the workplace into the hands of stakeholders.

It is anticipated that in 2014 the BCOE will move into the new Biometric Technology Center (BTC) being built on the CJIS Division's campus in Clarksburg, West Virginia, collocating with the Department of Defense's (DoD) Biometrics Identity Management Agency (BIMA) and possibly other partners. Having the BIMA and the BCOE in one building will further facilitate joint biometric research and development efforts and will provide expanded opportunities for strengthening investigations, enhancing national security, and expanding capabilities.

IDGA: What are the current areas of focus?

WC: The BCOE works to advance new and enhanced biometric technologies, standards, and policies to improve operational capabilities. The BCOE is currently sponsoring applied research projects in the following biometric modality focus areas: fingerprints, deoxyribonucleic acid (DNA), face, voice, and multimodal recognition.

IDGA: What are the emerging technologies within the biometrics arena?

WC: Other biometric modalities and technologies that are emerging and currently being researched include scent, face, voice, Rapid DNA (R-DNA), ear, and handwriting. Mobile and multimodal biometrics are important now as well. Many handheld devices have the ability to collect and process fingerprints, facial images, and iris images. Some devices now come with wireless capabilities and are lightweight. These capabilities allow users to collect biometric data in the field and then wirelessly send it for comparison in near real-time.

Through the FBI's Next Generation Identification (NGI) Program, the FBI is developing a facial searching capability and Universal Face Workstation software which provides users the ability to submit images and receive back a ranked candidate list to aid investigators. The NGI Program is an incremental replacement of the IAFIS with next generation capabilities reaching full operating capabilities in 2014. NGI will provide faster and more accurate identification processing, increased search capacity, and a multimodal framework to incorporate palmprints and face, while expanding the functionality for fingerprint and latent processing.

The BCOE recently developed a new biometric prototype for the analysis and correlation of facial images. This breakthrough technology is called the Automated Face Detection and Recognition (AFDAR). The AFDAR prototype is an image analysis tool which includes applications for still imagery and video, allowing users to explore image datasets by grouping images based on appearance. It allows users to also see whose pictures occur most frequently and to identify relationships between different individuals. It allows for a broader scope of investigative effort by improving the ability to analyze large collections of images and videos, ultimately saving time and resources.

The FBI is also helping advance DNA analysis by working with the DoD and the Department of Homeland Security to develop R-DNA devices for use outside the traditional laboratory environment. The point of collection analysis devices for human reference samples are being designed to quickly process DNA in booking stations and holding facilities by law enforcement and military personnel. R-DNA offers the advantage of expediting DNA analysis – ideally in one hour – while an individual is still in custody. R-DNA will help eliminate DNA backlogs and prevent future crime by expeditiously linking individuals with unsolved cases. Investigators will more quickly receive the information they need to identify individuals and/or make informed decisions about cases.

IDGA: How does the BCOE enhance the capabilities of its various stakeholders?

WC: Biometrics provide a range of operational value to the law enforcement and national security communities. In the FBI, biometrics help support our mission of protecting and defending the United States against terrorist and foreign intelligence threats, upholding and enforcing the criminal laws, and providing leadership and criminal justice services to federal, state, municipal, and international agencies and partners. Therefore, it is important to continually enhance our biometric capabilities to ensure our stakeholders (whose diverse responsibilities range from intelligence, law enforcement, and civil missions) have the tools and technologies they need to do their jobs.

IDGA: Could you address the collaboration efforts the BCOE has undertaken?

WC: The BCOE collaborates with stakeholders and forms beneficial partnerships to share lessons learned and to leverage the resources and capabilities of the wider biometrics community to ultimately expand the FBI's biometric capabilities. In 2011, the BCOE sponsored applied biometric research projects with 14 different federal agencies and 10 with academia.

The BCOE also sponsors many collaborative events to advance biometrics. Some examples include the Facial Identification Scientific Working Group (FISWG), the R-DNA Task Force, the U.S. Government Facial Recognition Legal Series, the FBI's Biometric Steering Committee, and many others. It is important to ensure collaboration and maintain communication with our partners so that the FBI is coordinated with interagency biometric needs and activities and so that information on biometric tools and technologies is shared effectively. Collaborating with stakeholders is an essential part of our work and does affect change in the biometrics community by making the country safer. Maintaining an environment of collaboration and communication remains critical for advancing biometric technology more rapidly.

IDGA: What does the future hold for biometrics, both in terms of (relatively) short-term projections one to five years ahead, to more speculative changes beyond that?

WC: Biometrics will continue to be an invaluable tool for the law enforcement and intelligence communities. I like to say that biometrics is not a technology of the future. Instead, it is a vital tool for solving and preventing crime today. Biometric technology has seen tremendous growth over the last decade, and the FBI will continue advancing biometrics to help provide solutions to operational challenges. Interoperability and the successful sharing of biometric and criminal history data are essential to the future of biometrics in law enforcement and the national security communities. There will always be a need to provide the ability to collect biometrics from subjects wherever they are

encountered and to have the ability to search biometrics against all important databases. It is very important to get the right information, to the right person, at the right time. Biometrics provide additional opportunities for solving crimes and saving lives.

The BCOE recently worked with the National Science and Technology Council (NSTC) this year by serving as one of four primary authors to update the *National Biometrics Challenge* document. The 2006 report identified key biometric challenges, and the 2011 update examines the advancements made since the original report and also describes issues that still need fully addressed. I recommend taking a look at the 2011 report which can be accessed online at www.biometrics.gov. Considering the needs of today and the requirements of tomorrow, biometrics will continue to be an invaluable tool for the law enforcement and intelligence communities, and the FBI will continue advancing biometrics to help provide solutions to operational challenges.

William M. Casey will be speaking at IDGA's 5th Annual Biometrics for National Security and Defense Summit, to be held Jan. 23-25, 2012 in Washington, DC.

Mr. Casey is the Program Manager of the FBI Biometric Center of Excellence (BCOE), located in Clarksburg, West Virginia. Mr. Casey has been with the FBI since January 2011. He retired from the Boston Police Department (BPD) after 28 years of service. Mr. Casey served in various capacities in the BPD ranging from patrolman to superintendent for the Bureau of Administration and Technology. Mr. Casey attended the New England School of Law in Boston and graduated with a Juris Doctor degree in June 1990. Casey also attended Suffolk University in Boston, graduating with a bachelor's degree in computer information systems in February 1986. Mr. Casey holds bar memberships in the Supreme Judicial Court and the United States District Court in Massachusetts, and has served in the US Navy and Navy Reserve.

<http://www.idga.org/military-weapons-technology/articles/idga-q-a-william-casey-on-the-fbi-s-biometric-cent/>

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