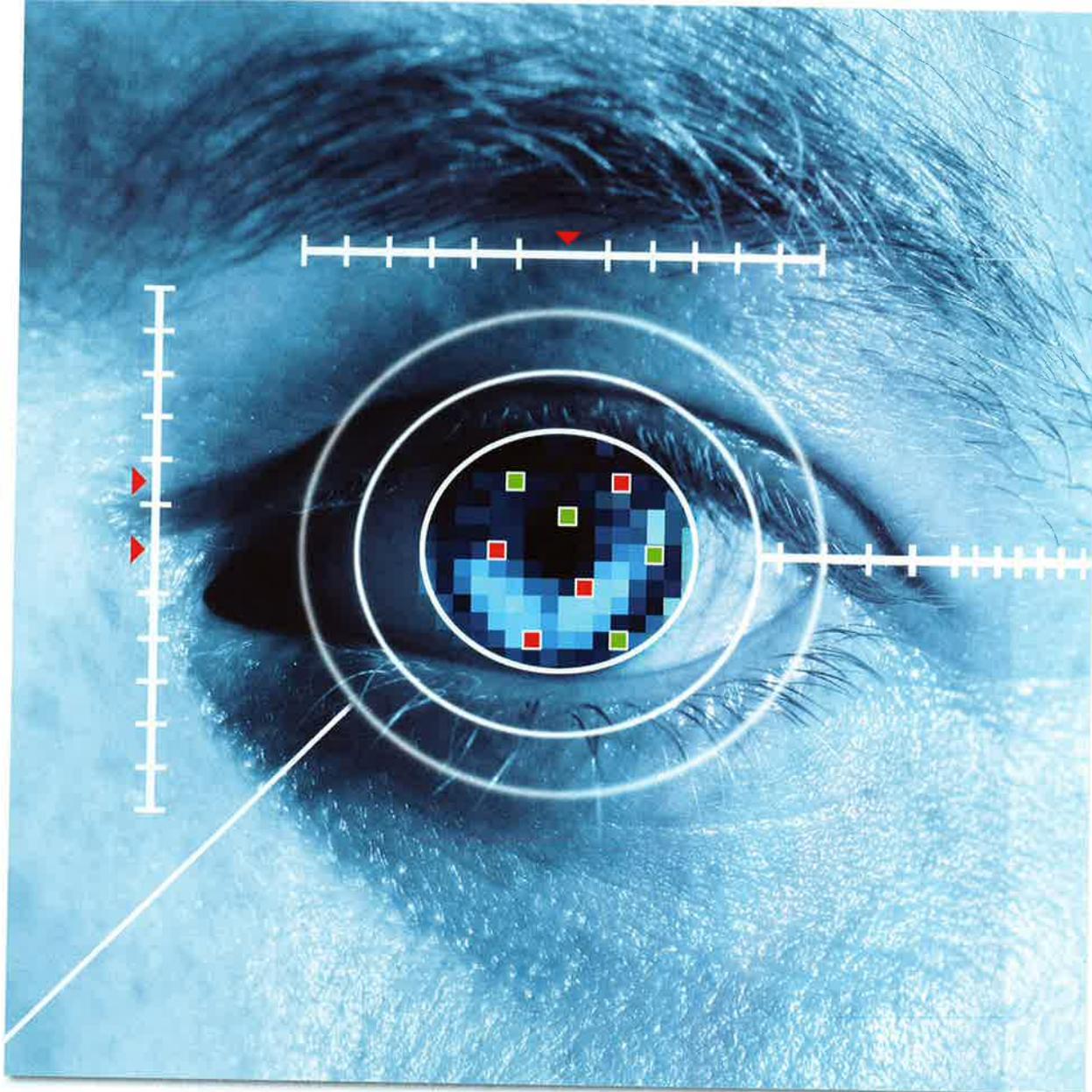


The Task Force's Concepts and Technologies Branch leads the way in integrating new and innovative biometric technologies to support the Department of Defense.



Moving Forward with Biometrics

BY JOSEPH EARLEY
AND CHRIS FERRELL

“HALT! WHO GOES THERE?”

The United States military has always had the urgent need to distinguish friend from foe. Just as enemy fighter jets, tanks and ships can be identified by their distinguishing characteristics, the positive identification of people is equally important in today's fight against violent extremism. The Biometrics Task Force, whose operational arm is located in Clarksburg, West Virginia, is a key component in this effort. The Task Force's Concepts and Technologies

Branch leads the way in integrating new and innovative biometric technologies to support the Department of Defense's (DoD) identity management mission, which, according to the DoD Identity Management Strategic Plan, is “to discover, protect, manage and access identity information across a full range of operations.”

The Concepts and Technologies Branch, commonly referred to as CTB, links emerging technologies to the

ExEdge

While the iris scan appeared in James Bond films in the 80s, the idea was actually conceived in 1936 and the first scan was available in 1995.

Source: <http://www.biometricscatalog.org/NSTCSubcommittee/Documents/Iris%20Recognition.pdf>

A U.S. soldier collects biometrics from a role player in a Biometrics Field Experiment at Camp Dawson, WV.



“We develop our BFEX objectives with input from the Combatant Commands in order to solve problems that the warfighters are facing, and we expose the uniformed operators to both current and future biometric technologies, which educates them and provides instant feedback to the manufacturers.”

needs of U.S. Soldiers, Sailors, Airmen and Marines operating around the world. Often, the branch’s biggest events take place at West Virginia-based training venues, including Camp Dawson near Kingwood and the Center for National Response in Gallagher. At these events, experts from the task force join officers from the military services, representatives from the biometrics industry, select members of the academic community and officials from other U.S. government agencies to “give new stuff a spin around the block.”

The term biometrics is used generally to describe both a characteristic and a process. According to the National Science and Technology Council’s Subcommittee on Biometrics Web site, biometrics, as a characteristic, describes the measurable biological (anatomical and physiological) and behavioral features that can

be used for automated recognition. As a process, biometrics refers to automated methods of recognizing an individual based on measurable biological and behavioral characteristics. These measurable characteristics include fingerprints, the pattern of the irises of eyes, the shape and structure of the face, the distinct features of voice, the way a person walks, the rhythm of strokes as they are punched on a keyboard or the identifiable characteristics of handwriting. The task force calls these features modalities, and the CTB works to apply the right modality to the appropriate military function. At Camp Dawson, the branch conducts its Biometric Field Experiments, called BFEX, to effectively link functionality, capability and technological maturity of biometric-enabling equipment to the needs of U.S. service members.

To meet the future needs of U.S. warfighters with the best identity-enabling technologies available, the CTB conducts several BFEX events each year to research proposed biometric solutions through experimentation. BFEX activities focus on stand-alone biometric devices as well as device interoperability and interagency communications within applicable, global architectures. In May 2009, CTB engineers explored ways to connect biometric devices with tactical communications at Camp Dawson and to transmit the collected biometric data to a representative authoritative database in Clarksburg using satellite communications. In July 2009, the CTB replicated portions of this experiment in a global scenario using four integrated communication networks to transmit biometric data from a navy base in Thailand. In both experiments, the database received biometric files and returned match or no-match results, which demonstrated the essential capability of providing field operators with valuable insight about previously enrolled people that they encounter. Another BFEX experiment conducted at the Center for National Response focused on matching enrolled fingerprints with latent fingerprints found in a simulated enemy hideout.

Joe Earley, CTB project manager for Experimentation, a Kanawha County native and a U.S. Army veteran, explains, "The overarching purpose of biometric experimentation is to support the DoD's mission within the Identity Superiority domain while leveraging the innovation and the improvements of a wide array of biometric-enabling technologies such as handheld collection devices, iris imagers, speaker identification

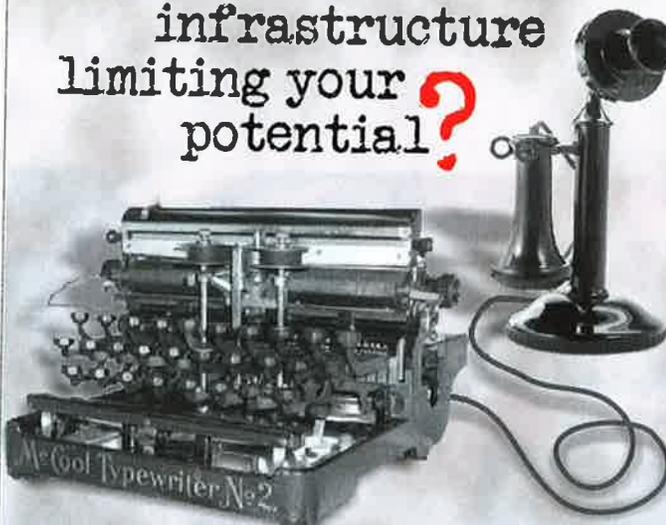
systems and associated software and algorithms. This CTB effort translates into supporting the warfighter's tactical identity management mission as well as identity protection activities, which affect developing base security and facilities' access control systems."

Chris Ferrell, a West Virginia University-educated biometrics engineer from Wheeling, adds, "CTB experimentation efforts support the Department of Defense's mission to remove or deny anonymity of potential adversaries. We develop our BFEX objectives with input from the Combatant Commands in order to solve problems that the warfighters are facing, and we expose the uniformed operators to both current and future biometric technologies, which educates them and provides instant feedback to the manufacturers."

Whether it is experimenting with new concepts or emerging technologies, developing prototype capabilities or conducting a multitude of other science and technology activities, the Task Force's CTB is actively involved in initiatives that provide critical support to American troops around the world. The CTB's mission, "to explore the efficient identification and transition of essential biometric capabilities to ensure that U.S. warfighters have the right biometric solutions for success across the entire range of military and business operations," is being accomplished every day in West Virginia by residents who are constantly striving to enable instant answers to the question "Who goes there?" ■

Photography by Brandy Goff, Azimuth Incorporated

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The U.S. Marshall Service's new mobile command unit.

Locally, Farber has been a partner in two projects that help bring better service to West Virginia residents.

Technology on the Move

BY KENSIE WESTERFIELD

THIS NEW TECHNOLOGY is on the move, literally. Farber Specialty Vehicles out of Columbus, Ohio has built two different types of emergency response vehicles in West Virginia.

Established more than 80 years ago, Farber can build a number of different types of vehicles that cater to the needs of very specific industries and are utilized for law enforcement, command centers, communication vehicles, mobile health, dental needs, mammography, telemedicine, bloodmobiles, mobile outreach, bookmobiles, computer labs and marketing displays. Farber recently completed the Mobile Command Center project for the U.S. Marshall Service.

Locally, Farber has been a partner in two projects that are helping to bring better services to West Virginia residents. Wood County is not the only one to benefit from this project. Production of this emergency response vehicle introduces Hino, located in Williamstown, into the Farber production line.



An example of what the interior of the Wood County Mobile Command Vehicle will look like.