A military base in the Middle East wants to assure that only those authorized can enter the camp. For soldiers in battle, losing a card to an enemy could be disastrous. PINs are way too easy to steal. Like so many commercial enterprises and other governmental entities, the military turned to biometrics – from public colleges protecting students in their residence halls to town officials protecting city hall. Here’s why.

Access control systems are to control where people can and cannot go. To gain entry to an access control system, one must use a credential—a PIN, card, or biometric data. Only a biometric device can truly verify that the person gaining entry to the facility is who they say they are. Using a biometric device takes a 2-step procedure to verify if an authorized person is trying to obtain entry. Users must present either a PIN (something they know) or a card (something they have) to activate the biometric device. This 2-step procedure is important for increased security.

A live biometric presented by the user is compared to a stored template, previously generated by that individual during enrollment, and the match is confirmed. However, the actual hand geometry, vein pattern or fingerprint is not stored in a database. Instead, a mathematical equation, or algorithm, creates a unique number that represents the points measured on the finger, veins or hand. The number – or template – that results from this equation is all that is stored. Thus, even if the system were hacked, the perpetrator would end up with nothing but a series of 1’s and 0’s.

At the bases in the Middle East, the military uses biometric HandReaders from Schlage housed inside a custom portal to ensure only authorized individuals access base camps in the Middle East. They are not affected by dust, dirty hands, or minor injuries, which can cause false rejects with other biometric technologies.

The resulting MAC portals are portable, turnkey access control portals that are plug-and-play, fully integrated security systems planned for military bases throughout the world. To install a MAC portal, military personnel simply set it in place and plug it into 220-power in a junction box. Since the units are portable, the military can establish a “moving perimeter,” widely used in base construction.

When the military is finished with one site, they can simply pick up the portal and move it to the next site. For the military this represents zero construction process. Before, they would spend $80,000 to $100,000 rebuilding “brass shacks” each time the perimeter changed.
Using the portals is also easy. Military personnel enter the portal through one of five roll-up doors. They walk up to the entrance and present a proximity card and then their hand to the HandReader. If the light turns green, they are allowed entrance through the turnstiles. If the light is red, an alarm is sounded that alerts a guard, who then investigates.

The MAC portals, featuring the HandKey units from Schlage, eliminate concerns about the identity of the cardholder or “tailgating,” in which someone simply follows the next person through an access point without proving their identity. A proximity card used in combination with the biometric identifier virtually eliminates both of these security-compromising practices and establishes a higher level of security.

New personnel are quickly registered at the MAC itself and the MACs can communicate with each other. There is typically a central MAC and the portals can be linked via a LAN or WAN.

Scott Air Force Base, which utilizes biometric HandReaders, in St. Clair County, Illinois, is the headquarters for the U.S. Transportation Command, Air Mobility Command, 18th Air Force, Defense Information Systems Agency, and the Air Force Communication Agency. It is located on nearly 3,600 acres of land and employs more than 5,000 active-duty military personnel. The total workforce numbers more than 13,000 people, including Air Force Reserves, National Guard units, and other civilians. It also provides services for more than 14,000 retired military personnel in the region.

The Shiloh-Scott MetroLink station offers Scott employees a valuable commuting and transportation alternative to the St. Louis metropolitan region, with stations located at Lambert-St. Louis International Airport, Busch Stadium, Union Station, Forest Park, University of Missouri-St. Louis, and the Central West End among its 27 stops.

Scott Air Force Base uses HandReaders to control access to the base from Shiloh-Scott MetroLink station. It is one of many U.S. Air Force bases to employ biometric HandReaders for heightened homeland security and automated access control. Security forces at Scott initially manned the gate between the civilian and military sides of the Shiloh-Scott light rail train station, but access to the base is now controlled using HandReaders in conjunction with a six-digit personal identification number, freeing security personnel for other duties.

Convenience is every bit as important as security for government users. Most people are familiar that biometrics are used in high security venues such as military bases, nuclear plants, government offices and others. However, many find it surprising that their biggest deployments are where they are chosen for convenience.

Biometrics is user-friendly. First of all, it can eliminate the need for keys or cards. While keys themselves don't cost much and dramatic price reductions have lowered the capital cost of the cards in recent years, the true benefit of eliminating them is realized through reduced administrative efforts. For instance, a lost card or key must be replaced and reissued by someone. Just as there is a price associated with the time spent to complete this seemingly simple task, when added together, the overall administration of a key or card system is costly. Hands are not lost, stolen or forgotten. They also don't wear out or need to be replaced.

“The number one suggestion from our members was eliminating the need for ID cards,” reports Director of Campus Recreation Jill Schindele at the University of California-Irvine. “We took their suggestions seriously and feel that hand geometry is the fastest and most efficient alternative to identification cards.”

Secondly, biometric solutions are easy to administer. The readers are easy to install and maintain. Replacing existing card readers with a biometric device, in many cases, is simply an unplug-plug-and-play operation. Hand geometry readers, especially, get people into buildings and rooms quickly. Plus, it is easy to control acceptance levels, tightening access control in a nuclear power plant while loosening the level at a spa.
Because they require minimal operator assistance, government agencies that use biometrics can save money by devoting customer service and other personnel to activities other than screening individuals requesting access to restricted areas.

Chesterfield County (Va.) implemented a HandReader to provide off-hours access at the county's main administration building.

“We needed a positive identifier for people carrying out critical county functions at off-hour times,” explains Dennis Lacey, Chesterfield County security coordinator who spent 20 years with the Secret Service and 17 years with the Department of Defense. “Biometrics is the only way you can positively identify who comes into a building. At the same time, we need to ensure that all those authorized to get into the building can do so, not be blocked because their biometrics aren’t being read. These false rejections can become a major reliability problem. We feel that fingerprint technology relies on too small of an area to avoid the problems of false rejects. Meanwhile, hand geometry takes its data points from an entire hand. From a technology standpoint, it’s simply much easier to consistently get a good image from a big hand rather than a small finger.

“We also felt that there would be too much employee resistance to iris/retinal scan,” Lacey adds. “People are uncomfortable putting their eye near a device and positioning themselves for the reader is just too time consuming.”

According to Lacey, the county’s existing access control system for the 5-story main administration building, linked to a three-story and two-story wing and police administration building, is comprised of mechanical keys and the HandKey terminals.

“It’s too expensive and time-consuming to replace missing keys,” Lacey emphasizes. “We often have to search for people who leave our employment to get our keys back since the key represents a part of their career. We’re looking at adding more HandReaders to other doors of this building as well as other buildings. We’ve actually had comments from the highest levels of county administration to do so.”

Biometric HandReaders ensure that you are you, not just somebody carrying some piece of plastic or knowing a PIN. They offer the highest level of security for a government organization.

Learn more about HandReaders

For more information about combating security risks with biometrics, please visit us.allegion.com/products/biometrics. To reach a professional security consultant in your area, please contact us at 888.758.9823 or fill out the Contact Us form on our website at allegion.com.