

INNOVATION INTEGRATION PERFORMANCE

Applus⁺
Technologies

Biometrics Solutions



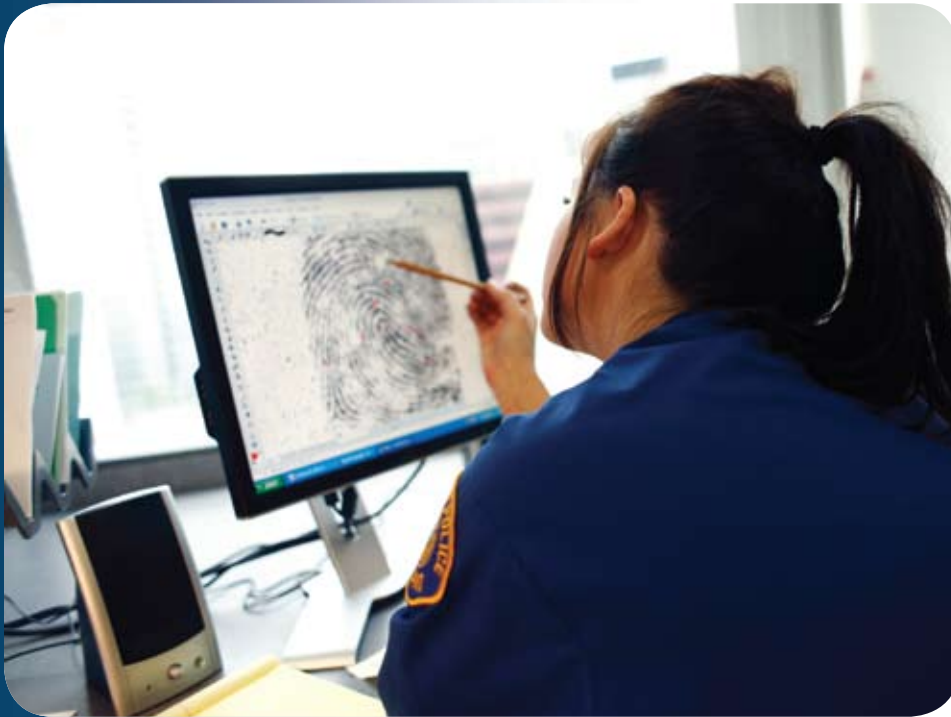
Applus systems go beyond ID cards and passwords to provide convenient yet powerful access controls

Though ID cards and passwords serve as excellent safeguards, there is the danger that credentials can be falsified. Employees may balk at the need to remember pass codes or carry an access badge. And, in some venues such as transportation or casinos, the people who need to be identified aren't carrying badges at all. In situations where access control is critical, more and more organizations are relying on biometrics: using a unique physical characteristic such as a fingerprint or the pattern of an iris to identify a person. Applus offers scalable, full-featured biometrics solutions that not only provide advanced controls for securing physical assets and information, they also provide identity-based audit trails to support regulatory compliance.

Better solutions for security and compliance

Applus can tailor an exact-fit solution for virtually any environment

Applus biometrics solutions integrate tightly with databases containing records to optimize the speed and accuracy of matches. Plus, Applus can deliver solutions that incorporate any or all of today's best biometric technologies, including:



- **Facial Recognition**—In addition to taking video footage, surveillance cameras capture the overall facial structure, including the distance between eyes, nose, mouth and jaw edge. This image is instantly analyzed and compared to database records. A user usually stands within two feet of the camera and most of the time is required to perform some human facial movement, like smiling or blinking to prevent the use of a mold or fake face. The decision is typically made in less than 5 seconds.

- **Retina Scan**—Retinal scanning analyzes the very unique layer of blood vessels at the back of the eye. Scanning uses a low-intensity light source and an optical coupler. A person is required to keep his head still, look closely in the device and focus on a green light while scanning is performed. The whole process takes 10-15 seconds. Since there is no known way to reproduce a retina, and one from a dead person would weaken too soon, no additional precautions are taken to prevent faking a living human. There is no need to remove glasses.
- **Iris Recognition**—Another method of eye recognition is iris-analysis of more than 200 points in the colored tissue surrounding the pupil. In this case user can be either close to the video camera or 2 feet away, depending on the device. Iris recognition does not use infrared light beams, so it is safer to an eye. The identification is done in less than 5 seconds and may use light shone to watch for pupil dilation to prevent users from fooling the system. There is no need to remove glasses.
- **Voice Recognition**—People speak a pass phrase into a microphone to validate their identities. Another level of security can be added by requiring a user to reproduce low and high sound frequencies. Both validation procedures typically take less than five seconds.
- **Vascular Recognition**—Face or hand vein thickness and their locations are considered unique enough to identify a person. An infrared scan from a curved reader device performs a vascular scanning process and then compares it to the database records to find a match.

- **Hand Geometry**—As a user places a hand on a metal plate, the system takes more than 90 measurements of the length, width, thickness and surface of the hand and fingers. It is a simple, fast and accurate procedure. The drawback is that this scan is unable to tell the difference between a living, fake or dead hand, if pressure is properly applied. For optimum security, it is best to combine hand geometry with another method authentication process.
- **Fingerprint**—A user gently places fingers against a small reader device. Characteristics such as whorls, arches, and loops are recorded along with the patterns of ridges, furrows, and minutiae. Depending on the security level in the organization, fingerprinting may require a match of six or seven identical points, while law enforcement agencies may prefer a match of twelve or more.



The Applus Advantage:

OPEN-SYSTEMS ARCHITECTURE ALLOWS APPLUS TO CREATE CUSTOMIZED, BEST-OF-BREED SOLUTIONS QUICKLY AND COST-EFFECTIVELY

INTEGRATION MAKES BIOMETRICS PART OF A TOTAL SECURITY SOLUTION

PRECISION ENGINEERING ASSURES EVEN THE MOST COMPLEX TECHNOLOGY FUNCTIONS SMOOTHLY

Applus' scalable biometrics solutions perform to industry-specific levels of security and ID

- Eliminate false or alias identity information
- Increase the success rate of identifying suspects and criminals
- Smooth the investigation process with easy access to identity information
- Enhance the apprehension and prosecution of criminals
- Use biometrics to properly welcome VIPs

Critical Infrastructure

Adding biometrics to access control solutions delivers the highest level of security to facilities by implementing multi-factor identification. Integrating biometric technologies to smart cards, proximity cards and pin pads can positively identify people going in and out of your facility. More than one biometrics technology can be used—which allows you to implement the minimum three layers of identification recommended to secure sensitive environments.

Law Enforcement

Because most crimes are committed by individuals who have run afoul of the law before, biometric technology provides a valuable law enforcement resource for identifying suspects and criminals during the booking, release and investigative processes. With databases of fingerprints, matches can be made quickly and easily. Facial recognition can be used to identify known offenders from a distance, from a photo or sketch, or when fingerprints are unavailable. Biometric matches save time by quickly determining an individual's identity—sometimes right in the field. Users can also build a valuable library of images and store image data in the records of individuals who are booked and being held in facilities.

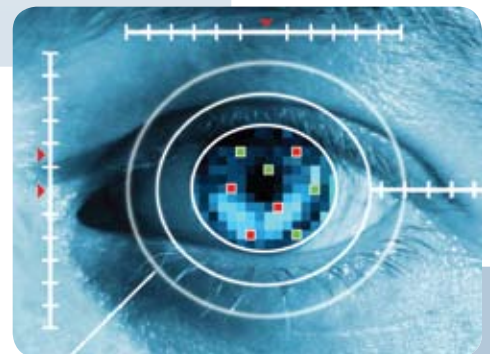
Hospitality and Entertainment

Managers of casinos, sports venues, clubs and other leisure facilities can use biometrics as a high-level customer service tool that reliably recognizes special guests so they can be welcomed appropriately.

In casinos, normal security concerns are amplified by the need to secure the house against blacklisted players. In many countries, casinos also have the responsibility to prevent chronically addicted players from gambling. Facial recognition can make sure that these individuals are either kept out of the casino, or that security personnel are alerted to their presence. The fast comparison and retrieval speed of Applus biometrics solutions also enable casinos in the same town to exchange data quickly to prevent a blacklisted individual from moving from casino to casino.

Banking

Facial recognition systems automatically check every person approaching a counter or ATM against a database of known suspects. Depending on the level of risk, these people can then be kept away, or allowed to complete their transaction under heightened security alertness. In the case of a robbery, facial recognition systems provide far better identification than conventional video monitors: the facial data can quickly be passed to other systems to prevent the same person from targeting other institutions.



**It takes creative thinking to monitor
and manage complex environments.**

Based in Chicago, Applus+ Technologies is recognized as a leader in providing high-performance, cost-effective solutions for addressing complex security, financial, operational and regulatory compliance challenges. Our solutions are distinguished by open systems and seamless integration of IT, engineering and technology that make highly customized functionality affordable and easy to manage. By combining our resources across the U.S. with those of our international parent, Applus (a Carlyle Group company), we can provide local support in 40 countries, making us an experienced and responsive partner for businesses and government entities worldwide. Plus, as a \$1+ billion company, Applus+ Technologies is backed by financial stability that means you can count us for a quality solution today and continued support and innovation for years to come.

Security

Asset Management

Information Technology

Emissions Inspections

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**Sharper Perspective
Driving Superior Performance**

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