



21st Century Airport Operations

Improving security and efficiency with iris recognition based access-control

21st Century Airport Challenge

Twentieth-century air transportation infrastructures are straining against the demands of twenty-first century airport operations. The crushing pressures of an unpredictable global economy, stringent regulatory constraints, increasing customer expectations and service demands, and escalating security threats are stressing airport processes, facilities, and IT systems to the breaking point.

In this volatile business environment, airports the world over are confronting extraordinary challenges including the inherent contradiction between improving operational efficiency, customer service, and the overall “travel experience” while anticipating and combating a broad range of security threats. This dual *high service/high security* challenge has created significant operational gaps in the airport environment that require innovative process reengineering and comprehensive operational improvements. Biometrics-based access control is one of an array of new and innovative business processes and automated technology solutions airport operators are adopting to close these gaps, remain competitive, and breakthrough to the airport experience of the future.

Biometric-based Secure Access Control

Secure access control is critical to addressing existing airport security/service operational gaps. This is particularly true for managing staff and third party vendor access to restricted zones within an airport facility. These solutions must effectively and reliably balance a number of seemingly irreconcilable constraints, including:

- Regulatory compliance
- Cost minimization and reduction
- Leveraging security infrastructure and investments
- Comprehensive, multi-layered security
- Balancing security with speed of access
- Uniform access to multiple locations and facilities
- Flexible solutions that evolve with planning process
- User friendly, easily adopted, and accepted solutions
- Integrating access control with existing and planned airport ID systems
- Unique facility/location issues -- environmental, local rules/regulation, end-user concerns

A highly reliable identification process is a key component of any airport access control solution that successfully balancing these requirements. Biometric technologies are uniquely suited to quickly and accurately establish and verify identity enabling secure and reliable access control in the airport environment.

Advantages of Iris Recognition

One third of the world’s leading airport operators have already incorporated biometrics into their access control solutions with another third expected to do so by 2011. Iris recognition has been one of the most effectively deployed biometrics to ensure secure, efficient, and expedited airport operations for both landside¹ and airside applications. Iris recognition’s unique capabilities are proven to increase security, speed, and user satisfaction for access control while

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Why Iris?

Accurate and Reliable: More accurate than other security alternatives – biometric or otherwise. A distinctive iris pattern is not susceptible to theft, loss or compromise

Fast and Stable: Unique iris pattern is formed by 10 months of age, and remains stable throughout one’s life. Full enrollment with instruction can take less than 2 minutes. Authentication takes less than 2 seconds.

Non-invasive/No contact: No bright lights or lasers are used in the imaging process. No physical contact is required for authentication.

Expandable, Scalable, and Flexible: Data templates require only 512 bytes of storage per iris and even very large databases do not compromise search speed or degrade performance accuracy. Operates in standalone mode and easily integrates into existing security systems.

1. The Airport IT Trends survey 2007, A Joint Airports Council International, Airline Business magazine, and SITA Survey, www.sita.aero/NR/rdonlyres/2C464901-6574-4AA0-B4E317199B9B8D45/0/AirlineIT07Booklet.pdf

satisfying compliance requirements and providing a “hands free” airport access control solution. Recent advancements in capture technology and matching algorithms -- along with declining product and deployment costs -- have enhanced iris recognition’s position as the preeminent biometric for airport access control.

More people use Iris ID’s IrisAccess platform than all other iris recognition alternatives combined.

Iris ID Iris Recognition Solutions

Iris ID first introduced commercially viable iris recognition in 1997 and today more people use Iris ID’s IrisAccess® platform than all other iris recognition alternatives combined. Iris ID’s iris recognition technology is increasingly utilized as a core component of high security solutions for airport environments. In fact, more than half a million airports authentications are completed each day worldwide using Iris ID products. IrisAccess has been successfully deployed as a stand-alone solution, integrated into portals, incorporated into networked security environments, and combined with a range of non-biometric identification technologies.

Iris ID is committed to the on-going development of iris recognition platforms that incorporate robust security features and offer improved speed, enhanced usability, and lower equipment and ownership costs. Standards based output enables easy integration of Iris ID’s IrisAccess® with most physical access panels and security systems. This commitment to product excellence, ease of deployment and use, and customer satisfaction has helped establish and maintain Iris ID’s position as the clear iris recognition market leader.

Iris ID’s Iris-based Airport Access Control Success Stories

The following two customer success stories highlight the effectiveness of Iris ID’s IrisAccess® platform in meeting the access control needs of challenging airport environments while providing the highest levels of operator and end-user satisfaction.

When airport workers have a choice, they show a decided preference for the “hands free” iris recognition option, according to CATSA.

Canadian Air Transport Security Authority (CATSA)

In response to post 9/11 security concerns, CATSA was given responsibility to reduce the risk of unauthorized access to restricted areas at Canada’s 29 major airports. CATSA introduced the Restricted Area Identity Card (RAIC) - the world’s first dual biometric (iris and finger) smart-card program deployed on a national scale that confirms the identity of airport workers via a one-to-one match of biometric information. As of January 31, 2007, RAIC became fully operational. The RAIC covers pilots and flight attendants, ground crews, maintenance workers, caterers, and other airport workers who require access to restricted areas.

The choice of authentication modality -- fingerprint or iris recognition -- was determined cooperatively by CATSA and local airport authorities based on the unique requirements of each access control point. Iris was selected in areas where staffs are likely to have dirty hands, wear gloves, or require “hands free” access. In locations where iris and fingerprint authentication are available side-by-side offering airport workers a choice, CATSA reports a strong preference for the “hands free” iris recognition option.

The RAIC has significantly enhanced secure access to restricted areas of Canadian airports. Previously, each airport issued restricted-area passes that were validated manually. Guards inspected cards, matched photos against workers, and confirmed card numbers against a list. This subjective process was inherently inefficient, error prone, and frustrating for individuals that had to carry multiple cards for access to multiple airports. Today, the RAIC program relies on an innovative and complex nationwide network of infrastructure and processes. Linked systems across the country enable consistent use of multi-airport access cards providing dramatic improvement in both security and efficiency, significantly reducing costs and saving time for airports and airport personnel. Another key benefit of the RAIC is the ability to maintain security clearance status for more than 100,000 airport workers in real-time rather than relying on outmoded system based on weekly updates.

Schiphol Airport, Amsterdam

Schiphol pioneered the use of iris recognition in the airport environment. Long before the post 9/11-security frenzy, Schiphol planned for biometric-based access control to secure restricted areas within the airport environment, ensure efficient airport operations, and comply with all appropriate regulations by the most cost effective means possible. Not only did Schiphol's operators want to improve security; they wanted to improve the experience of security by the user as well. Accurate, reliable, and quick and easy identification and authentication were considered critical to meeting these objectives. Iris recognition was selected as the access control biometric modality of choice in the process reengineering employed to streamline, automate, and optimize staff badging and credentialing at Schiphol Airport

Schiphol's workforce includes sixty thousand airport workers employed by more than five hundred companies. The goals of their iris based biometric access control system were to 1) prevent transferability of access cards and PINs, 2) reduce errors associated with the "human" identification processes, 3) automate security functions to the greatest extent possible, and 4) increase user convenience. In addition, stringent privacy policies were applied. This included verification to smart card with no centralized template storage, overt user participation (no distance or surveillance iris capture), built-in identity theft protection, encrypted data storage on the smart card and in the communication to readers to prevent skimming, and the use of private highly secure keys.

The access control solution at Schiphol relies on a unique combination of iris recognition and weight measurement to access and pass through a "mantrap" portal. The authorization to open the first door is based on validation of the smart card and the verification of the iris pattern on the card with the cardholder. A second iris verification along with the weight measurement (obtained via a scale embedded in the portal) opens the second door.

The access control system at Schiphol went live in 2004 and became fully operational in 2006. Today, Schiphol processes sixty thousand accesses per day across 110 access control points with an average throughput of eight seconds and a rejection rate of less than one percent. As a result, Schiphol has experienced improved accuracy of verification over the previous system and extremely high user acceptance of this contactless, hygienic, and rapid access control solution.

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Iris Recognition: The 21st Century Airport Secure Access Control Solution

Faced with a seemingly endless stream of domestic and international rules and regulations, a confusing array of technology based service offerings, economic uncertainty, and an increasingly impatient and demanding customer base, airport operators need reliable technology and reliable technology partners to support a comprehensive approach to identity-based access control. The promise of the twenty-first century airport is therefore integrally linked to the promise of twenty-first century identification solutions. Iris ID's Iris recognition has delivered on this promise.

Iris ID's IrisAccess® platform has proven an effective and preferred authentication method for airport based access control while Iris ID has consistently provided iris recognition market leadership and vision. Iris ID is uniquely positioned to provide the technology solutions and service airport operators need as they struggle to leverage existing facilities and capabilities more effectively to meet the extraordinary challenges of twenty-first century airport operations.



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