



Securing Airports with Comprehensive Solutions

To secure important physical assets and traveler safety in airports, a wide range of systems and solutions are used. Depending on different airports, systems such as access control, biometrics, video surveillance and radar technology can be integrated to ensure higher security.

SUBMITTED BY CEM SYSTEMS, LG IRIS, MOBOTIX, NAVTECH RADAR AND PELCO

CEM SYSTEMS PROTECTS HEATHROW AIRPORT

London Heathrow's Terminal 5 (T5) building has been successfully using CEM AC2000 integrated security management systems to secure and enhance operations since its opening in March 2008.

To secure staff, retailers, immigration police, and a projected 30 million passengers each year, the T5 project required a proven and fully integrated IP security solution. The solution must provide 24/7 critical security and aid in the efficient flow of passengers.

CEM AC2000 system has been successfully operating at Heathrow for over 18 years and is an ideal choice for BAA to secure T5. Two CEM access control systems were used — one for the main airport operator BAA and one for the T5 dedicated airline operator, British Airways (BA).

The overall BAA access control system forms part of a main BSI (Building System Integration) system that utilizes T5's impressive high-bandwidth fiber-optic infrastructure. CEM Systems also designed T5 specific card reader "door modes" that allow BAA to automatically segregate interna-



▲ Radar technology, along with integrated surveillance and security systems, helps ensure 24/7 security at airports under all weather conditions. (Image courtesy of Navtech Radar)

tional/domestic and arriving/departing passengers. Terminal 5 used the S600e IP card reader.

Over 1,000 CEM S600e IP card readers with advanced smart card technology were installed throughout T5 to secure access gates, air-bridges, check-in desks, and other protected access points.

Its onboard 10-100 Ethernet connection communicates directly with the AC2000 host server and removes the need for an intelligent control panel in the system design. With the BAA and BA access control systems working in harmony, T5 has been successfully provided with an advanced, future proof security solution.

LG IRIS SECURES ACCESS FOR SCHIPHOL AIRPORT

Schiphol Airport in Amsterdam wants a biometric solution that improves security and its user experience. Accurate, reliable, quick and easy identifications and authentications were considered critical to meeting these objectives. Iris recognition was selected with systems complied to stringent privacy policies.

Schiphol's workforce includes 60,000 airport workers employed by more than 500 companies. The goals of their iris-based biometric access control system were to prevent transferability of access cards and PINs and reduce errors associated

with human identification processes. They aim to automate security functions to the greatest extent possible and increase user convenience.

The access control solution at Schiphol relies on a unique combination of iris recognition and weight measurement. 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. In order to open the second door, Iris verification and weight measurement are required.

MOBOTIX COST-EFFECTIVELY SECURES COVENTRY AIRPORT

Coventry Airport, the first low-cost airport in the U.K., offers flights to many destinations with a cheaper price. To keep the flights at a competitive price, Coventry Airport's infrastructure cannot be as luxurious as the other major airports. However, security is still the airport's highest priority.

Mobotix's network cameras surveillance system was deployed. "The cameras include internal memory that can temporarily store video sequences in the case of server failure," commented Security Administrator Dilip Mistry. "When there is disturbance on the network, camera storage can still be accessed. When the server is again available, update is automatic."

Mobotix's cameras use PoE cable, so no extra power lines are needed. "This way we can theoretically connect from anywhere over the virtual private network to the sub network, with necessary authorization, to see the requested images," said Mistry.

There are 26 Mobotix's network cameras in action at the airport. Seven of them are megapixel cameras with zoom function to watch over the parking areas, check-in counters and the departure halls.

The cameras only record when something enters the clearly definable image zone to save storage space. All camera images could be observed simultaneously in a control room through a simple internet browser with adjustable perspectives.

NAVTECH RADAR SECURES MOVEMENTS IN AIRPORTS

The Department for Transport requires that airports monitor and control all movement of vehicles and people from the controlled zone (CZ) to the restricted zone (RZ). In many airports the RZ includes the entire airfield amongst other key locations. Access to the



RZ, such as hanger areas, is where Navtech Radar Airfield Security Situation Awareness System (ASSAS) can be applied.

Jason Burger, Sales and Marketing Manager at Navtech Radar explains, "These areas would be monitored for all movement, and targets would be assessed using a set of rules to determine whether the movement constitute a threat. Often there is also a requirement that these areas, and the accompanying rules, must be flexible in order to cater for control room operators changing them to match changing requirements and priorities within the airport."

The ASSAS is a low-power, commercial-off-the-shelf millimeter wave radar that scans in 360 degrees. It provides a visual output on a map or aerial photograph of the airfield, plotting the location, direction and speed of a transgressor. Video surveillance cameras can be controlled to track and provide surveillance images of the target wherever it moves. The system can incorporate several radars working as a meshed security network, ensuring large area coverage 24 hours a day in all weather and light conditions.

The system displays real-time information about threats which are being tracked, including the matching video surveillance footage. One or more surveillance cameras can be linked to a detection area enabling ASSAS to control them. Cameras can also track fast moving vehicles.

Integration with a software package can exclude targets that exceed specific sizes and helps airports to distinguish between aircraft and other vehicles. False alarms can be reduced.



▲ Airport security is multifaced and requires coordination among people, procedures and technologies. (Image courtesy of Pelco)

Navtech Radar provides three radar models suitable for the ASSAS solution — W200, W500 and W800-H. The model numbers indicate the detection range. For example, the W800-H provides the ability to detect people and vehicles out to 800m. This radar alone provides total area coverage greater than 2 squared kilometers.

There are different models to cover distances that range from 200m, 500m, 800m and 350m. The mix of radars can provide comprehensive coverage across all the areas of concern, said Burger. Thermal cameras or standard PTZ cameras can also be connected to the radar. Some cameras also incorporate both thermal and optical lenses for day and night operation.

A large flat screen can be installed in the control room to monitor satellite images of the area overlaid with radar data. Remote viewing in multiple locations is allowed.

PELCO CONVERGES OTTAWA MACDONALD CARTIER INTERNATIONAL AIRPORT

The Ottawa Macdonald Cartier International Airport Authority plays an essential role in the economic growth of the Canadian National Capital Region. The value of the

airport facilities exceeds US\$461 million. There are hundreds of million of dollars worth of aircraft and other equipment on site, not to mention employees and travelers.

The Airport Authority adopts Pelco's Endura. "As technology advances, more areas of the business are being implicated and brought into the IT spectrum," Scott Boyle, Director of Information Technology and Communications for the Authority said. "As such, systems integration is becoming increasingly important for this organization, particularly given that it manages complex systems both internally and for customer groups within the airport."

The Endura system includes a mixture of Spectra III and Spectra IV SE domes, IP3701 series color network cameras, DVR5100s, NVR5100s. The overall security solution also includes a combination of procedures, video processing, door security controls and people.

"Through integration with other systems, the Authority is able to provide effective security management in a facility more than double the size of the previous terminal without significantly increasing the number of security resources," said Mike Lafreniere, Manager of Technical Support at the airport.

