

Heathrow Airport

Heathrow is the world's busiest international airport. Over 67 million passengers travel through the airport every year, using the services offered by 90 airlines travelling to more than 180 destinations in 90 countries.

Heathrow Airport covers 1227 hectares and consists of five terminals, with the £4.3 billion Terminal 5 opening in 2008.

CEM's AC2000 AE (Airport Edition) provides Heathrow airport with a flexible and customisable security solution to meet their unique and growing security requirements.

CEM Systems has been working with Heathrow Airport for over 20 years to secure all terminals, including Terminal 5.

CASE SUMMARY

Location:

London, UK

Systems Installed:

AC2000 AE access control and security management system

AC2000 AED (Alarm Event Display)

AC2000 T&A (Time & Attendance)

AC2000 VIPPS (Visual Imaging & Pass Production System)

Interfaces:

BacNet Interface

XML Interface

Galaxy Intruder Integration

Hardware:

S3020 & S3030 portable readers

4000+ S600 series readers

ECM

emerald™ touch screen reader

Introduction

The AC2000 AE system is a powerful and fully integrated access control system that has been specifically designed for airports. The airport-specific access control system can be customised to meet the unique and ever changing needs of airports over time. The flexibility and high quality offered by the AC2000 AE is a key factor in its suitability for the airport environment.

The AC2000 AE system provides a fully integrated solution by using a suite of extended, comprehensive operational applications and seamlessly integrating them with third party external systems.

Amongst other things the system is most commonly used for managing access throughout the airport and preventing unauthorised access to secure areas. It is also used for managing the flow of passengers, visitors and baggage through access points inside the airport.

CEM Systems manufacture both the system hardware and software and therefore was able to customise the AC2000 system to meet Heathrow's unique requirements.

Solution

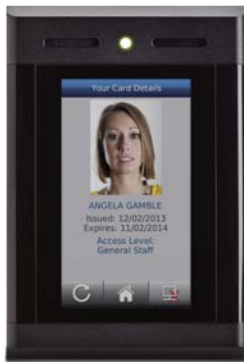
From its initial installation, CEM has worked with Heathrow Airport to develop the system in response to the airport's needs and to offer more than simply an access control solution.

Over the years, functionality has been added to in response to changing legislation in the aviation industry and as the airport grew. Today, the system provides an integrated business solution that is designed to help Heathrow run more efficiently.

From using VIPPS (Visual Imaging Pass Production System) to control the issue and invoicing of operational access control cards, to configuring readers to assist in the movement and segregation of passengers, CEM has provided Heathrow Airport with a dedicated airport security management system.

The CEM readers allow doors to operate in a variety of modes as required in the airport environment. Other than simply providing individual staff access, specified readers are configured to permit passengers to enter a controlled area and to allow airline staff to easily segregate arriving and departing passengers. At Heathrow the system sends broadcast data to the readers and monitor units. For instance, if a quiet evacuation of an area is required, the system is programmed to unlock a number of doors. This means in the event of an emergency threat, the area can be evacuated without having to trigger the fire alarm system to open doors.

emerald™ intelligent touch screen terminal controls critical paths and restricted zones as well as Heathrow's Campus Area where all cargo, staff and crew are processed before gaining airside access. This is an important part of Heathrow's security operation where the highest level of security is required. emerald features a touch screen reader and controller in one, built in Voice over IP (VoIP) intercom functionality and uniquely enables data normally only available on the CEM AC2000 access control client workstation to be accessed locally and securely at the door through its range of Remote Applications.



Terminal 5

Terminal 5 (T5) required a proven, fully integrated IP security solution that would not only provide 24/7 critical security, but also aid in the efficient flow of a projected 30 million passengers each year. To secure staff, retailers and immigration police, the existing CEM AC2000 AE system installed at Heathrow was extended to secure Terminal 5.

T5 comprises of two CEM access control systems; one for the main airport operator and one for the T5 dedicated airline operator, British Airways (BA). The overall access control system forms part of a main BSI (Building System Integration) system that utilises T5's impressive high bandwidth fibre-optic infrastructure.

Tailoring products for T5

CEM Systems manufacture both the system hardware and software therefore.

CEM Systems not only fulfilled Heathrow's requirements to integrate the access control system with T5's chosen CCTV system but also designed T5 specific card reader door modes. These specific door modes allow Heathrow Airport to automatically segregate international/ domestic and arriving/ departing passengers

A major design challenge was efficient use of the available departure gates. As T5 is mainly used for international flights, only 4 gates out of 40+ are dedicated solely to domestic passengers. To allow for any peak periods of domestic travel, 3 gates are assigned to be both domestic and international. To achieve this flexibility a system of 14 interlocked doors was designed to enable staff to easily control the flow of travellers, whilst maintaining security and segregation between international and domestic passengers.

CEM products at Terminal 5

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.

The S600e reader provides a number of features that prove ideal for installation in high security facilities such as airports. Onboard 10/100 BaseT Ethernet connection communicates directly with the AC2000 host server removing the need for an intelligent control panel in the system design. The S600 reader range uses an internal database for offline card validation. The card database is initially downloaded to the readers' memory from the host computer with subsequent changes to card data automatically sent as updates. This ensures the reader has up to date

card information when operating in off-line mode. The internal database ensures zero downtime and provides the highest level of security for those areas which require additional security such as Airside/ Landside boundaries within the airport.

The graphical LCD is used to display a number of predefined messages to the card holder depending on their privileges e.g. Wrong Zone, Access Granted, Lost/ Stolen card and additionally shows users such as airline staff which door mode the reader is in e.g. Passenger mode or Lobby mode.

Passenger mode allows a door to be kept open for a prolonged and set period of time. It is particularly useful in airports where there are large numbers of passengers disembarking from a plane and passing through a door or series of doors in a short period of time. Interlocking or Lobby mode, used throughout T5, commonly works in conjunction with Passenger mode to create a valve lobby; arrivals/ departure doors for example. Valve lobby interlocking can be between a pair of interlocked readers, or using a CEM Interlock unit, two or more doors can be interlocked.

For more information on the products featured here or on any other CEM Systems products please contact us
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