

## London Heathrow Terminal 5

**Heathrow**  
Making every journey better



To secure staff, retailers and immigration police, the existing CEM AC2000 AE system installed at Heathrow was extended to secure Terminal 5.

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.

T5 comprises two CEM access control systems; 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 utilises T5's impressive high-bandwidth fibre optic infrastructure.

### CASE SUMMARY

**Location:** London, UK

**System:**

**CEM:** AC2000 Airport Edition (AE)

**1,100+ readers**

**235,000+ cards**

BAA Heathrow Airport is the world's busiest international airport serving over 184 destinations in more than 80 countries. It consists of five terminals and covers 1,227 hectares. Terminal 5 (T5) is Heathrow's latest success. The £4.3 billion terminal is the largest IP aviation implementation in the UK covering 34 hectares and is the new dedicated home for British Airways. As CEM Systems operates in all BAA owned airports and has been successfully securing Heathrow's other four terminals for over 18 years, it was an ideal choice to secure T5.

The T5 project 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.

## Tailoring products for T5

CEM Systems manufactures both the system hardware and software and was able therefore to customise the AC2000 system to meet Terminal 5's unique customer requirements. CEM Systems not only fulfilled BAA's requirements to integrate the access control system with T5's chosen CCTV system but it also designed T5 specific card reader 'door modes' that allow BAA to automatically segregate international and domestic passengers as well as arriving and departing passengers.

A major design challenge was the efficient use of the available departure gates. As T5 is mainly used for international flights, only four gates out of 40+ are dedicated solely to domestic passengers. To allow for any peak periods of domestic travel, three gates are assigned for both domestic and international use. 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 used

Terminal 5 used the S600e IP card reader; the industry's most advanced 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 reader's 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 LCD display on the reader can provide localized character sets and has the ability to display recognizable icons. 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 or departure doors for example. A Valve lobby interlocking can be between a pair of interlocked readers, or using a CEM Interlock unit, two or more doors can be interlocked.

## In the future

With BAA and BA access control systems working in harmony, T5 has been successfully provided with an advanced, future proof security solution. CEM Systems continues to support BA and all BAA owned airports with all their access control needs.

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