BAA

Introducing the Latest Biometrics and Automated Standards: How Innovations in Airport Security are Re-Shaping Processes and Costs

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BAA UK overview

- 7 airports
- 146m passengers pa
- 1.3m ATMs pa
- 10,000 staff (50% security)
- £5 billion construction programme (2008 – 2012)

Making every journey better

Heathrow overview

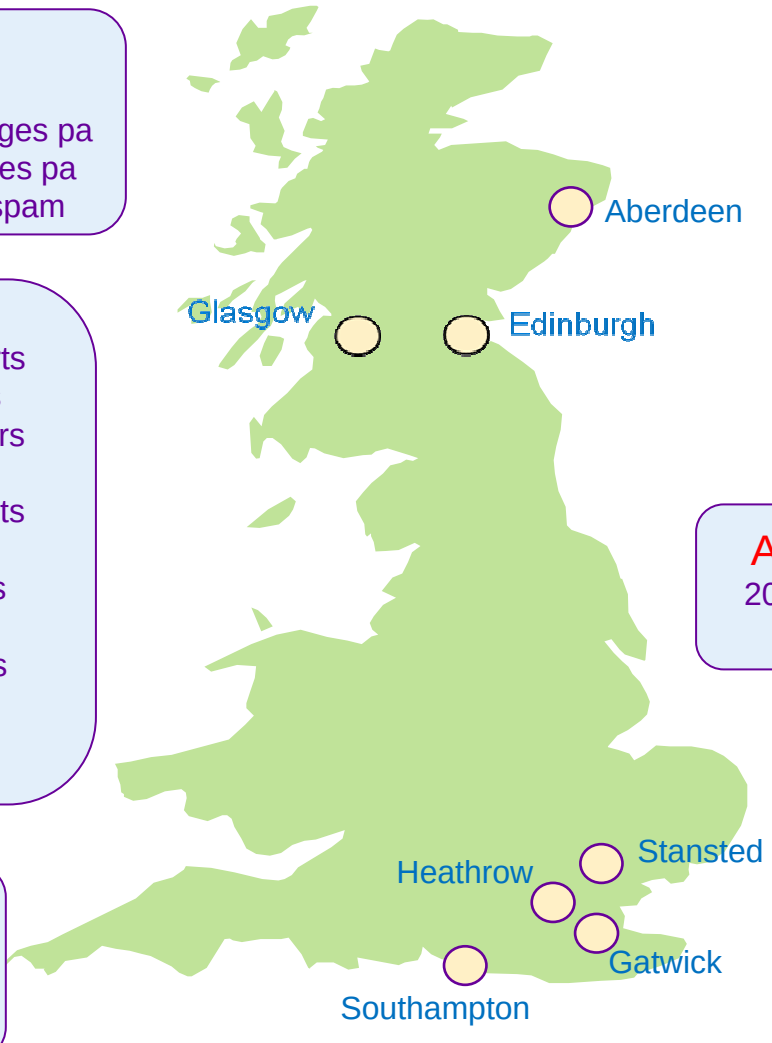
- **5 terminals**
- **67m passengers pa**
- **90 airlines / 180 destinations**
- **478,000 ATMs pa**
- **65% of UK long haul traffic**
- **7 of top 10 business routes**
- **1.5m tonnes cargo pa**
- **5,000 BAA staff**
- **70,000 staff (airlines, retailers, agents, authorities etc)**
- **650 VIP flights pa**
- **Airfield perimeter is c.12km with c.20 Control Posts**

BAA IT Services – Scope & Scale

Messaging
16,824 mailboxes
157,389,719 incoming messages pa
5,992,715 outgoing messages pa
90.1% of incoming mail is spam

Telecoms
MPLS WAN linking airports
2,500+ network devices
60+ commercial customers
1500 network cabinets
75,000 Data Network Ports
700 VLANS
17,000 fibre optic cables
2500 IPT phones
16025 traditional phones
4828 mobile phones
489 wireless devices
Cisco architecture

Server Management
1800 servers
Intel = 1500 / UNIX = 300
HP, SUN & IBM op systems



Service Desk
13855 End Users
15342 PCs
185,468 contacts pa
102,032 logged incidents
62,239 first time resolution

Storage Management
420 TB of live data
320 TB backup data
300 TB archive data
HP SAN Storage

Applications Management
200 Corporate Applications (COTS)
485 Business Applications

Change Management
800 Change Request pa
50,000 Work Orders pa

Facilities
4 Primary Data Centres
1673 Comms & Server rooms

Making every journey better

Heathrow Business Strategy

Vision: Become Europe's hub of choice by

making every journey better

Strategic intents:

- Make Heathrow the preferred choice for passengers
- Run our airport responsibly, safely and securely
- Improve airport operations every day
- Focus people and teams on service and results
- Succeed through airline success

Our Security and IT strategies are aimed at delivering this vision

Heathrow Business Strategy & Implications for IT

BAA

What does this mean?

- Providing the optimum passenger experience to users of Heathrow Airport; and,
- Heathrow is a leading choice airport for airlines and passengers to provide connecting travel across the globe.

What attributes does this require?

- Ability to manage the overall passenger experience from kerb to gate and back;
- Reliability of key services in terms of quality and timeliness from check-in through to connections and boarding;
- Providing accurate and appropriate information to the passenger, to enable efficiency of movement through the process;
- Providing an airport experience that is a differentiator from competitor hubs;
- The ability to manage a complex schedule of connecting flight services;
- An understanding of the needs of the airline community and the adoption of a shared approach;
- The delivery of world class hub services e.g. retail and leisure facilities for the connections community.

What this means for IT

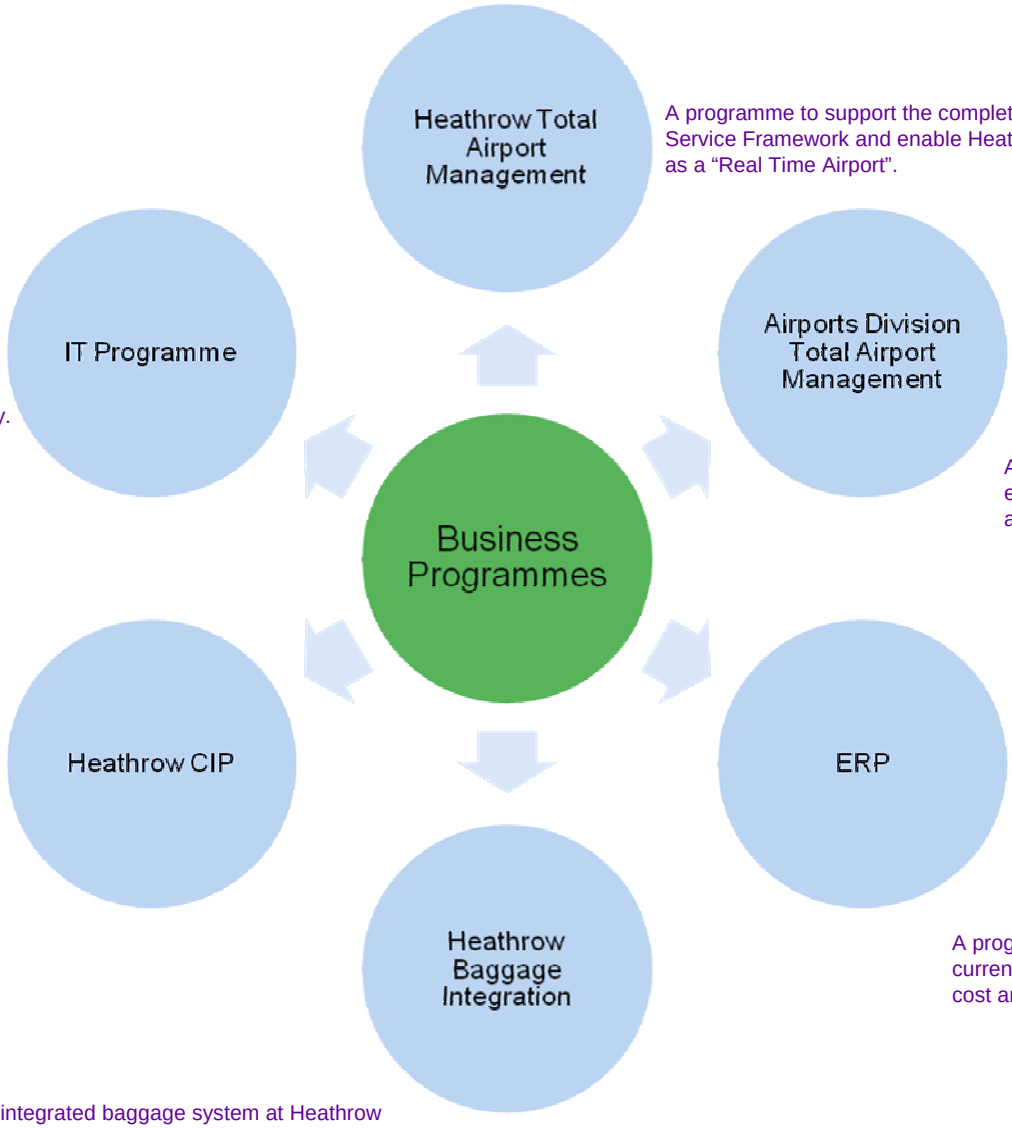
- IT investment aligned to delivering business value;
- Enhanced service delivery performance;
- IT driving and supporting innovative products and services;
- IT supporting every step of the passenger process from check-in to boarding;
- IT engaging with customers and passengers to drive out requirements;
- IT supporting the efficient scheduling of flight slots and gates to enable maximum utilisation of the airport;
- IT being delivered at the optimum cost to ensure that services are seen as value for money; and,
- IT delivering the Capital programme to provide a world class airport facility.

How IT Can deliver!

- Total Airport Management systems - to support the complete Airport Operations Service Framework and enable Heathrow to be managed as a “Real Time Airport”;
- Integrated baggage system across Heathrow;
- Deliver the IT element of the Heathrow CIP;
- Fully automated data centres, move from Unix to open architecture;
- Deliver “Intelligent Airport” solutions for optimum utilisation of resources; and,
- Provide Infrastructure services to airlines and retail.

BUSINESS DEMAND → **IT RESPONSE**

Business Programmes



A programme to support the complete Airport Operations Service Framework and enable Heathrow to be managed as a "Real Time Airport".

An integrated application environment enabling the centralised management of all the Airport Operations

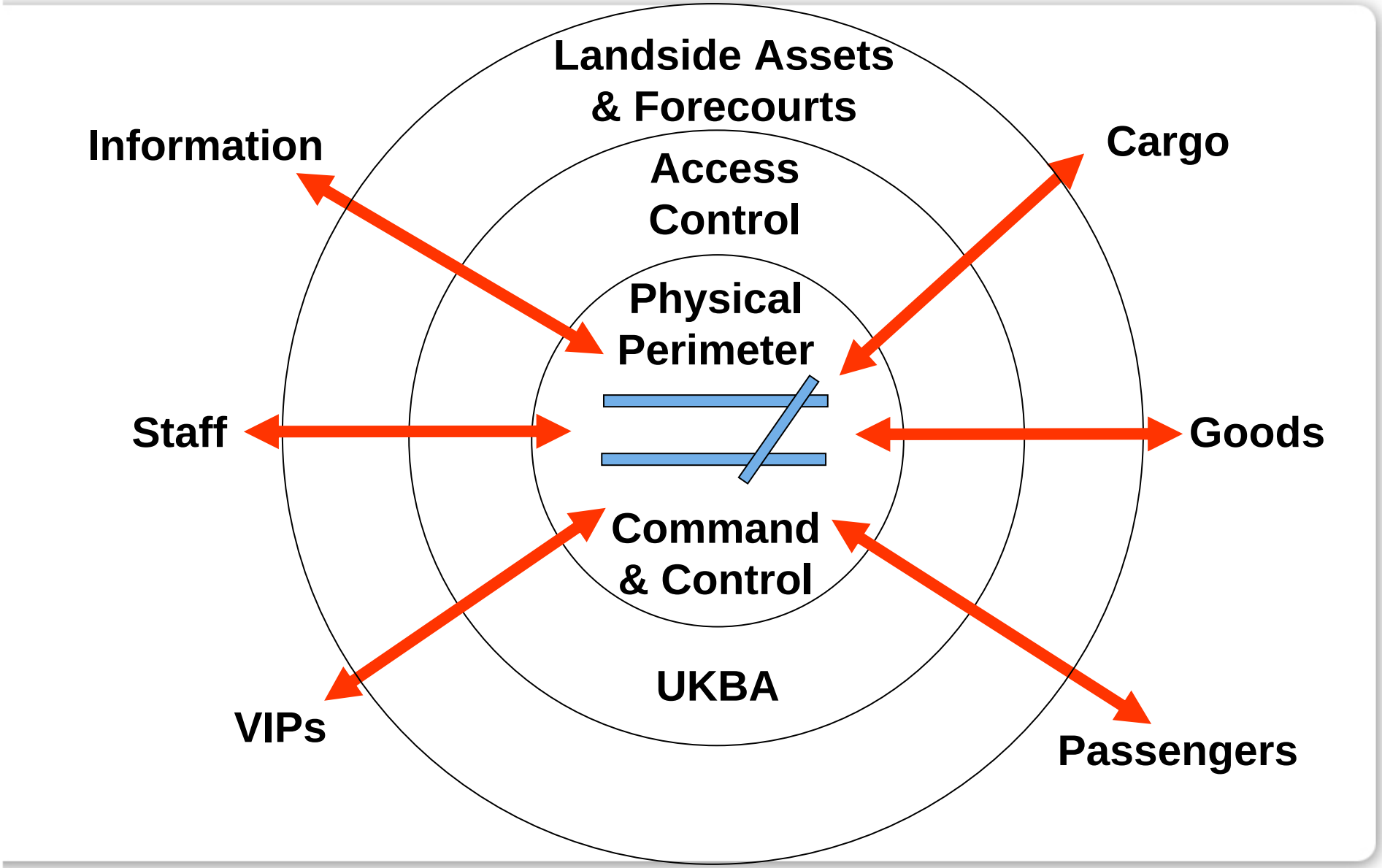
A programme to simplify and improve the current business systems, reduce the number, cost and complexity of the current systems.

The delivery of an integrated baggage system at Heathrow

The CIP programme of delivery.

The IT programme to deliver the technology programme and in order for IT to deliver this strategy.

Security radar & strategies



IATA Fast Travel Programme – BAA status

BAA is working with airlines on 3 (of 4) streams:

- Bags ready to go:
  - self-bag tagging at CUSS kiosks live in T3 for Air Canada
  - other carriers are reviewing their requirements

- Document scanning:
  - CUSS kiosks are in every terminal at Heathrow
  - Heathrow and Airline Operators Committee working towards common platform and contract
  - IT systems live for ticket presentation at security: home printed boarding cards (2-D barcode) + mobile phone 2-D barcode

IATA Fast Travel Programme – BAA status

- Self-boarding:
  - Domestic passengers:
    - project underway to identify and test technology to automate the verification process using facial recognition and automated gates

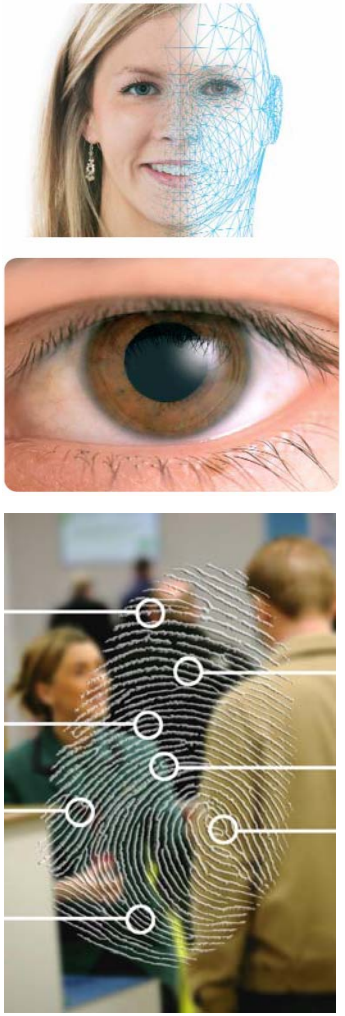
  - International passengers:
    - significantly more complex than Domestic flights – no proven examples anywhere in the world at present.
    - Externally facilitated workshop to be held with airline representation to identify:
      - Potential strategies for automation of 'Triple A' check
      - Identification of a suitable biometric
      - Strategy for enrolment/capture of passengers' biometrics

Biometrics & Self-service technology

Experience at BAA:

- Biometrics is a means to improving access control for anyone
- The technology involved is fairly simple and proven:
  - facial recognition in use (departures)
  - fingerprint: implemented for T5, but not activated
  - iris scanning: implemented by UKBA in arrivals (immigration)
- Process efficiency and operating cost benefits can be made by all stakeholders (Airport operators, carriers, agents and authorities)
- Passengers benefit from increased choice, easier and quicker processes in departures and arrivals
- The key issues for biometrics are more in the social agenda ie perception and acceptance by the public and media

We are on a journey using different biometrics from manual checking eg face comparison to biometric/automatic verification



Biometrics & Self-service technology

Case study – Automated border control at Stansted

- **Context:**
  - rapid growth of passenger numbers (airlines) v pressure to reduce resources (BAA/UKBA)
  - A firming up of national/international identity strategies (eg Advanced Passenger Information)
  - Where does the airport operator fit? What opportunities to manage the growing imbalance?
- **Stansted:**
  - 10m arriving passengers with large peaks driven by low-cost carriers
  - long queues, more opex for UKBA, more facilities provided by BAA, knock-on impacts to baggage reclaim and then carriers' & airport operations

Biometrics & Self-service technology

- **Solution:**
  - 6 lanes/gates installed in Dec 08, each replaces a UKBA officer at a desk
  - EU e-passport (facial data encoded on chip)
  - automated facial comparison

Biometrics & Self-service technology

- Outcome:
  - 8% of passengers now use gates with queue <5 mins (cf norm = 30 mins)
  - 11 second average transaction time
  - Positive feedback from users. People will trade their data for obvious benefit to them and if it's their choice
  - UKBA now able to improve service for non-gate users with no increase in their opex.
  - Aim to implement at Heathrow in 09/10 and aim to facilitate non-EU passport holders

Access Control

- Supports >100,000 users at Heathrow + further 100,000 at other BAA airports
- 3 levels:
  - high priority (CEM MAID controlled) eg landside/airside boundary, PCR (date centres), sensitive areas (regulatory).
  - medium priority (SALTO). Locking mechanisms or zone on MAID card eg 3rd party offices/demise, back of house corridors
  - low priority (Digilock / lock/key)
  - NB photo ID card can be used for all three above
  - no plans to link biometrics (yet)
- Aim to deliver the right level of access control at the right risk – appropriate and adequate

Surveillance

- **CCTV (ubiquitous):** moving to fully IP based system; intelligent distributed storage system (highly resilient architecture ensures no loss of service)
- **Mobile surveillance:** personal cameras on trial
- **Analytics:** working with the EU / universities to develop analytics capabilities (algorithms) that can plug into systems architecture:
  - process automation eg perimeter monitoring linked to response processes
  - monitoring risks, such as unattended luggage, triggers response using location data
  - monitoring queues for central search – meet our regulatory targets, manage resources effectively
  - monitoring critical areas such as boundaries, eg CA/RZ
- **ANPR (Automatic Number Plate Recognition):** different camera/technology. Used to secure service roads, measure queues at control posts, airport approach roads for police watch list

Managing & monitoring

- Control centres – currently distributed at terminal level. Reviewing options to centralise and coordinate at campus level:
  - create open architecture for ready integration (plug & play)
  - common interface to systems (real-time, 3-D, handhelds, mobile)
  - central automation of functions/processes
  - real-time reporting enabling more effective planning and use of resources (BAA/authorities)
- Benefits:
  - reduced number of false alarms
  - improved deployment & utilisation of resources (BAA and authorities) across campus
  - improved incident response and operational recovery

Conclusions

- Systems and Technology offer many benefits:
  - achieving compliance
  - improving efficiency/effectiveness → reduced operating costs
  - better experience and services to passengers (eg Automated Clearance at immigration)
  - new capabilities for operator/carriers and agencies to exploit
- Balanced against these:
  - business case must be developed and be thorough, including the lifecycle operating costs
  - this is an area where being first can be expensive & painful, without offering significant ‘system-level’ benefits
  - clear stakeholder alignment and incentivisation is needed, especially from partners such as agencies/government
  - more technologies to implement and support means more cost for IT (capital & operating)
  - data ownership and protection is key, especially to the general public


Heathrow
Making every journey better