

SMART SOLUTIONS FOR SMOOTH AND SECURE TRAVELLING



BIRMINGHAM INTERNATIONAL AIRPORT BIRMINGHAM, UK

With nine million passengers travelling to over 100 destinations every year, Birmingham International Airport is the major transport hub in the West Midlands of the UK. The airport has seen significant investment and growth in recent years to provide world class facilities.

A key element of the project to create a new departures and arrivals facility was the development of a new Passenger Search Area (PSA). BuroHappold Engineering was appointed to test the design of the PSA to ensure optimum security, functionality and passenger comfort. Our team utilised a combination of static and dynamic simulation models to assess the design proposal and analyse passenger movements.

As part of this study our engineers looked at how the PSA would operate under different scenarios. Our team carried out detailed studies to ascertain queuing levels and the length of time taken for passengers to pass through the search area and boarding pass checks. In addition to analysing how the system functioned under different

scenarios, we carried out a high level review of the layout. Based on the architectural drawings provided, a 3D network model was built to represent the circulation and queuing areas through the PSA.

As a result of our analysis, our team proposed the introduction of Smart Lane technology, an intuitive system devised in-house by BuroHappold engineers. The system automatically separates the bags that fail the security scans from those that don't, ensuring that passengers that have passed security checks can continue on their journey without delay. BuroHappold also developed an innovative queuing strategy within the limited space available, ensuring that queues were allocated equally between the available lanes.

The ongoing improvements to Birmingham International Airport will see passenger numbers rise to 15 million over the next five years, and will enable facilities to continue to improve, providing passengers with a high quality, comfortable and secure experience.

CLIENT
Birmingham International Airport

ARCHITECT
D5 Architects

DURATION
2009-2010

SERVICES PROVIDED BY
BUROHAPPOLD
Passenger flow modelling, structural engineering, building services engineering, civil engineering, acoustic consultancy, security consultancy, bomb blast analysis, fire engineering consultancy and IT consultancy