



## BIRMINGHAM INTERNATIONAL AIRPORT BIRMINGHAM, UK

The Commonisation Project at Birmingham International Airport involved infilling the double height space in the link building that connects Terminal 1 and Terminal 2 with a new floor plate, allowing the creation of a centralised arrivals and departures facility. The scheme also entails significant reconfiguration of the existing facilities.

Buro Happold were appointed by D5 Architects to test the design of the PSA within the proposed terminal design in relation to agreed passenger comfort levels, as well as to test the scalability of the design.

The scope of this study covered specifically the Passenger Search Area (PSA) within the proposed terminal design. The aim is to test the design to achieve agreed passenger comfort levels, as well as to test the scalability of the design. A combination of static and dynamic simulation models were used to assess the latest design proposal with regards to the passenger movements within the PSA,

modelling the detailed but realistic ingress rates, services times, etc.

As part of this study two scenarios were considered:

1. Target demand peak hour modelling: to test the proposed developments against a target demand.

2. Limiting point peak hour modelling: to test the scalability of the proposed developments. Target demands were incrementally increased until system breakdown (throughput time and spatial capacity exceeding acceptable levels).

Additional to the detailed modelling task looking at the queuing levels and throughput times of the PSA and boarding pass checks, a high level review of the layout was carried out. Based on the architectural drawings provided, a 3D network model was built to represent the circulation and queuing regions through the PSA – including the boarding pass check and AMDs. Several detailed simulations of a number of scenarios were performed.

CLIENT  
Birmingham International Airport

ARCHITECT  
D5 Architects

DURATION  
2009-2010

SERVICES PROVIDED BY  
BUROHAPPOLD  
Smart Space / People Movement