

# BODY SCANNER OPERATION REVIEW AND PASSENGER FLOW ANALYSIS

-  Birmingham Airport
-  United Kingdom
-  Process optimisation, 3D fast-time simulation
-  2023



## KEY OUTCOMES:

- Review of proposed security designs
- Development of optimised layout options
- Identification of resource requirements

## THE NEED:



- Birmingham Airport aims to increase passenger volumes from 13M in 2019 to 18M by 2033, as outlined in its 2018 Master Plan.
- In response to upcoming regulation changes by the DfT, the airport appointed EBEA Consulting to analyse the performance of different body scanning and body search configurations.
- The project aimed to develop a solution that would ensure smooth passenger flow, optimal resource utilization, and target throughputs, while prioritising excellent passenger experience.

## THE APPROACH:

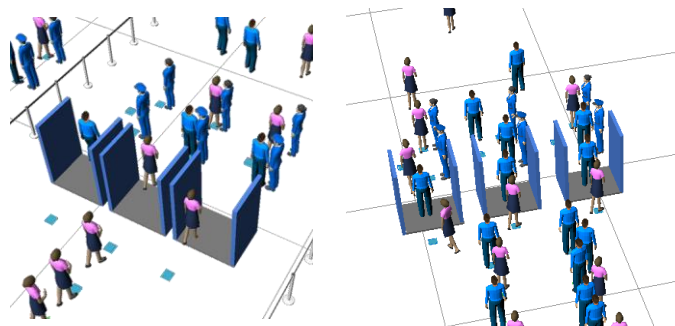


- EBEA conducted a comprehensive analysis of a standard security cell layout, identifying bottlenecks and process inefficiencies within the passenger and tray journeys.
- Greater detail was applied to the security scanner process, as it was identified as the key capacity pinch point of the new security lanes.
- EBEA proposed new standard operating procedures (SOPs) for passenger queueing and handling of rejected passengers in the body search area, aiming to enhance system efficiency and improve the passenger experience.

## THE SOLUTION:



- Reviewed proposed area designs and infrastructure provision to identify potential bottlenecks and inefficiencies.
- Developed concept layout options to address the identified issues and optimise system throughput.
- Assessed resource requirements and OPEX implications for implementing the recommended layout options.



"EBEA Consulting supported our Next-Generation Security project with their experience in terminal design. They helped us in identifying the right solutions for the airport and integrating them into the existing environment. The team at EBEA made sure that the project was delivered within the tight timelines, without compromising on the quality. They paid close attention to the details and always communicated with us proactively, making them a very important partner. We highly recommend EBEA Consulting for projects related to airport security and passenger experience."

**Chris Wilson**  
Head of Terminal & Capacity  
Birmingham Airport