



## **AiQ Consulting White Paper**

### **Statement of Capability**



+44 (0) 203 5989124    [hello@aiqconsulting.com](mailto:hello@aiqconsulting.com)    [www.aiqconsulting.com](http://www.aiqconsulting.com)

World Business Centre 2, Newall Road, London Heathrow Airport, Hounslow TW6 2TA UK

## The Challenge

An airport is a complex environment that needs constant development to maintain effective operations and to introduce new technologies. Over a number of years AiQ have provided analytics support to Airports and Contractors as they plan projects for:

**Infrastructure Asset Replacement**

**Demolition and New Build**

**Optimising existing Capacity and Space**

**Ensuring Compliance with Local and Global Standards and Best Practice**

**Implementing new Processes and Technologies**

Most Airports are in constant use and works have to be planned to firstly be safe to the construction workers, to other airport staff and passengers and to protect the operation of the airport. The impact of any project on the airport operation needs to be understood with data-led evidence and modelled so that the impact can be assessed and mitigations planned for. Unintended consequences of works need to be avoided with decisions based on real world data analytics.

## The Solution

AiQ have built a body of expertise that understands the safe operation of works both Landside and Airside and the protocols around working at an airport. Part of this knowledge is working Airside with Security clearance and complying with the systems for Health and Safety, ensuring compliance with local and global standards and best practice.

At a wide range of Airports worldwide AiQ have addressed challenges in:

### Infrastructure Asset Replacement

- Terminal buildings
- Baggage and Cargo systems
- Transit systems
- Car parks
- Tunnels
- Aprons, roads and pavements
- Stands, Taxiways and Runways

This usually involves working with Stakeholders to develop options, validate designs, plan mitigations and working hours around peak passenger flows. Survey work is undertaken to collect real world data, followed by analytics and simulations to provide insights and support decision making.

+44 (0) 203 5989124    [hello@aiqconsulting.com](mailto:hello@aiqconsulting.com)    [www.aiqconsulting.com](http://www.aiqconsulting.com)

World Business Centre 2, Newall Road, London Heathrow Airport, Hounslow TW6 2TA UK

### **Demolition and New Build**

- Logistics planning for trades people, project support infrastructure, materials, construction equipment, waste materials, airport workers and passengers
- Passenger and Apron traffic mitigations including rerouting, demonstrated through traffic modelling and simulation
- Temporary reallocation of resources including check-in, baggage and aircraft stands

This usually involves working with Stakeholders to develop options for the project and plan the logistics to maintain a safe airport and work with the airport operation. Designs must be validated and mitigations developed to work around peak passenger flows. Survey work is undertaken to collect real world data and is followed by analytics and simulations to provide insights and support decision making. This includes architectural feasibility to assess the space being required for all aspects of the project.

### **Optimising existing Capacity and Space**

- Optimising passenger and vehicle traffic movement
- Replanning equipment storage and parking zones such as ULD's and GSE
- Assessing and disposing of redundant equipment
- EV Charging
- Equipment pooling between Ground Handling Agents

Working with the Stakeholders plans are developed recognising the need to maintain a safe airport and the airport operation and designs are validated. Surveys are undertaken to collect the current data and then analytics work produces simulations and models to support decision making. The models may include architectural feasibility work to assess the space considerations.

### **Ensuring Compliance with Local and Global Standards and Best Practice**

- Passenger and staff security
- Vehicle control posts
- Security boundaries

Knowledge of the operating protocols of any airport, both Landside and Airside, are an essential part of any AiQ project. The constraints set by these standards and practices must be considered when survey work is undertaken, in formulating plans that are workable and in analytics work to ensure that simulations and models work in the real world.

Also, an airport is a very complex organisation with many different Stakeholders with different responsibilities. Knowledge of the different Stakeholders and the likely need for involvement in decisions and approvals is an essential part of AiQ's work.

## Implementing new Processes and Technologies

- eGates
- Biometric security
- Vehicle electrification and automation
- GSE Pooling
- Baggage automation
- Self-service bag drop

As a project plan emerges AiQ can be involved to work with the data and to model the operation of the system providing valuable decision support. Often the model will be developed from scratch to reflect the new systems being proposed. Modelling also allows various options to be considered at relatively little cost and sometimes failure modes of the systems. Here too architectural feasibility of the space footprint can be important part of the project.

## The Benefits

- System analytics developed from first principles
- High level decision support provided at every phase of the project
- Expert Airport knowledge
- Knowledge of Local and Global Standards and Best Practice
- Improved system design
- Validation of the project plan
- Unnecessary investment costs prevented
- Project time-lines supported
- Support for the safe operation of the Airport

For more information about how we can assist you with any of your challenges in 2025, [contact us](#) today. Our award winning team of operational and analytical experts are dedicated to analysing, modelling and optimising every aspect of an airport. Specialising in airport capacity, we are trusted to realise capacity and solve complex operational challenges. Read some of our case studies below.



HEATHROW ZEV  
TRANSITION PLANNING



SCHIPHOL AIRPORT  
STAND PLANNING



LONDON HEATHROW AND  
BUDAPEST GSE POOLING

+44 (0) 203 5989124

[hello@aiqconsulting.com](mailto:hello@aiqconsulting.com)

[www.aiqconsulting.com](http://www.aiqconsulting.com)

World Business Centre 2, Newall Road, London Heathrow Airport, Hounslow TW6 2TA UK