

# Developing airspace safely and effectively

As airports seek to increase capacity and maximise their assets, so airspace development is becoming ever more important. The challenge for master planners and airport developers is to create ideal solutions whilst working within complex existing airspace infrastructures.

NATS Services provides airspace management techniques supported by a robust and internationally recognised safety management system. We are responsible for ensuring the ongoing safety and efficiency of some of the busiest and most complex airspace in the world and in doing so we've developed a highly skilled team with many years of experience in national and international airspace change projects.

Consultation with all the stakeholders involved, which may include the general public, is fundamental to understanding the requirements and constraints on an airspace development project and developing the optimum solution. Whether it's a small scale consultation with aviation specialists or a large scale exercise with the general public, our experts can ensure that consultation adds real value to the design process and that the stakeholder requirements are considered alongside the procedures and regulations pertinent to the country or region.

## Key skills and capabilities

Effective airspace design calls for technical skills in air traffic management, safety, environmental and procedure design supported by project management, legal and communications disciplines. Only by bringing these elements together successfully will the optimum outcome be achieved. Our other key capabilities include:

- Practical air traffic and airspace management experience in busy and constrained environments, enabling the provision of innovative airspace and procedural solutions
- Strong understanding of the global ATM environment and future technical advances, enabling the delivery of future-proof technical solutions

## Providing solutions for clients worldwide

NATS Services has delivered airspace planning solutions for clients around the world, always ensuring that all ICAO and EUROCONTROL standards are met. Recent examples of our work include:

### Hong Kong

Working with the Hong Kong Civil Aviation Department to develop a new airspace design to optimise the route structure surrounding Chek Lap Kok

### South Africa

The design of new airport procedures for Air Traffic and Navigation Services (ATNS)

### Sudan

Working with Dorsch Consulting and the Sudan CAA, our analysis aided the location of a new airport

### UK Ministry of Defence

Through the UK Joint Future Airspace Development Team (JFADT), we re-designed parts of UK airspace to meet the operational needs of both civil and military airspace users

### London City

We re-designed the airport's departure routes to match modern aircraft performance capabilities

### Ireland / UK route analysis

This joint project with the Irish Aviation Authority, which required consultation across international boundaries, resulted in improved routes and airspace from Dublin Airport to Scotland as well as improved airspace around Belfast

- The provision by our procedure design group of ICAO PANS-Ops compliant procedures, drawing on worldwide experience
- Operational research expertise that provides fast-time simulation (for example TAAM and AirTop) and analytical support for airspace development
- The delivery of real time simulation via in-house simulators or managed on customer equipment
- Market leading CO2 emissions assessment using an exclusive NATS Services model, endorsed by the CAA for use in airspace planning
- A complete review of AIP documentation against ATC procedures by our aeronautical information management and AIP production teams to check for accuracy, including liaison with appropriate authorities regarding AIRAC cycles
- Development and implementation of ATC training plans
- Provision of safety assurances to allow regulatory approval of the new operation
- Management of environmental assessments and consultation processes to ensure stakeholders participate appropriately in the design process
- Provision of a robust overarching airspace change proposal (ACP) process tailored to the needs of individual clients
- Development of partnerships to ensure the effective design development, regulatory approval and interface agreements process for the airspace

## Some of the benefits delivered to our clients

- Analysis showing the impact of global and local growth in air traffic and the capabilities of airspace users
- Increased traffic flow and airspace utilisation whilst maintaining safety
- Re-design, re-sectorisation and reclassification of airspace changes made within pre-defined timescales
- Measurable benefits of reduced vertical separation minima
- Clear evaluation of the implications of introducing new en-route and terminal procedures
- Significantly shorter timescales to obtain regulatory approval than those published by National Regulatory Authorities
- Development of stakeholder forums that can be utilised after project completion
- Development of a working methodology whereby operational ATCOs are embedded into the fast-time simulation process to validate operational procedures
- Development of post-processing tools to enable accurate and readily understandable representation of results from an ATC point of view
- Development of pre-processing tools to speed up data preparation
- World leading CO2 assessments identifying climate change benefits
- Inclusive consultation exercises that reduce the risk of challenge during development and after implementation

**For more information on how NATS Services can help with airspace planning, please contact:**

Steve Hathway, NATS Services, Heathrow House,  
Bath Road, Hounslow, TW5 9AT

T: +44 (0)20 8750 3631

Email: [sales.info@nats.co.uk](mailto:sales.info@nats.co.uk)

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