



ICAO

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The Fifth Meeting of the South Asia, Indian Ocean and Southeast Asia ATM Coordination Group (SAIOSEACG/5)

Bangkok, Thailand, 13 – 16 January 2026

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## Agenda Item 5: ATS Route Development

### UPDATES ON DATA-DRIVEN AIRSPACE EFFICIENCY STUDY ON NEW ATS ROUTE PROPOSALS AT EUROPE-ASIA INTERFACE

(Presented by IATA)

#### SUMMARY

This paper presents the updates on IATA’s special project “Data-driven Airspace Efficiency Study” and its case study on the new ATS route proposals at Europe-Asia Interface, aiming to improve the airspace capacity and efficiency between the APAC and EUR/NAT Regions.

## 1. INTRODUCTION

1.1 At the Fourth Meeting of the South Asia, Indian Ocean and Southeast Asia ATM Coordination Group (SAIOSEACG/4), IATA presented the [Proposal on New ATS Routes to Increase the Airspace Capacity between EU and East Asia \(WP/15\)](#), aiming to increase the connectivity, capacity and efficiency of the EU-Asia air corridor, and to mitigate the impact of geopolitical conflicts and airspace constraints.

1.2 At the Thirteenth Meeting of the Air Traffic Management Sub-Group (ATM/SG/13) of APANPIRG, IATA also presented the [Data-driven and Performance-based Case Study on Improving Airspace Efficiency and Capacity \(WP/32\)](#). This paper provided an update on the route proposal and briefed the special project led by IATA in collaboration with industry stakeholders. This project was to develop a methodology and a tool that enables data-driven and performance-based analysis comparing existing airspace structure with proposed optimizations, and to provide results highlighting key metrics on flight efficiency and environmental impact.

1.3 In completion of the case study under the project, IATA will release a white paper for the desk research including the developed prototype and key methodologies, analysis result as well as its conclusions, etc. This paper is to share the important updates and milestones, draft conclusions and observations during the project execution.

## 2. DISCUSSION

### Project Activities

2.1 Real Data Collection and Modelling: the project team has conducted an operator survey and received the historical flight schedule data from the top 22 real users of the airspace, along with the Carrier Consent Forms. The collected data covers all the real flight schedules to/from/overflying ZWUQ FIR and/or ZLHW FIR over the past 12 months (2 flight seasons from March 2024 to March 2025).

Meanwhile, the project team developed statistical modelling based on a modern flight planning platform and completed flight simulation with the collected real flight data, historical weather information (wind and temperature, etc.) and operational constraints (e.g., NOTAMs) in the 12 months. The simulation was completed with 3 scenarios, including the existing route structure and 2 proposed optimization options. As a result, a total of 894,410 flights were processed and calculated by this model.

2.2 Technical Visits and Interviews: the project team also organized several on-site technical visits to the key ATM/airport facilities in ZWUQ, ZMUB and ZLHW FIRs successively, which were joined by industry advisors. This is to validate the ATM/CNS/airport infrastructure needed to fulfill the operational requirements, as well as the regulatory frameworks. In the meantime, the real operational cases and examples were collected from the ANSPs and operators.

2.3 Industry Workshop and Meetings: the Data-driven Airspace Efficiency Study Workshop was successfully held in China in November 2025 for the industry discussion and review of the project, attended by 103 participants in-person from 9 States, 20 operators and 7 international organizations or institutes. The delegates reviewed the methodology, KPIs and draft conclusions, etc., and the comments from industry stakeholders were received and addressed by the project team.

#### Draft Conclusions

2.4 Review of the KPIs: the KPIs included and measured by the modeling: enroute distance, enroute extension rate, enroute flight time, flight time variability, NOTAM-induced delay rate, average NOTAM-induced delay, enroute airspace capacity, estimated fuel consumption, estimated CO2 emission, ANS charges, traffic diversion rate, and ATC workload.

2.5 Preliminary Results: the current situation in the airspace presents significant operational challenges, and the proposed optimization provides operators with additional route options and shows significant benefits in the KPIs on flight time and distance, fuel consumption and environment, etc. However, it is essential to evaluate the impact of the changes on all stakeholders.

2.6 Industry Review and Validation: during the industry discussions a lot of positive feedback along with suggestions was received, all the comments were reviewed by the project team and necessary adjustments were made accordingly. Furthermore, the industry suggested having more collaboration with those States/ANSPs with strong experience in KPIs and/or airspace restructuring, more efficient and effective data collection processes, and further analysis as the model matures, etc.

#### Next Steps

2.7 Draft White Paper: the project team is currently developing a white paper with 5 major parts, including the urgent challenges in the airspace, collective call from the airlines and ANSPs, viable solution and feasibility assessment, data-driven validation of the benefit and impacts, conclusions and strategic roadmap. The white paper is to provide a comprehensive report of the study and share the relevant information and practices with the industry.

2.8 Cross-border Coordination: for large airspace optimization projects in complex airspace, analyzing overall/individual benefits and cost/impact for different stakeholders and multi-party coordination are crucial. The project team is continuing to facilitate the implementation of the proposals and provide strategic recommendations to the industry.

2.9 Improvement of Prototype: the project team is also planning to work with suppliers and improve data collection, aiming to develop a more mature data integration tool with multiple sources of industry databases, and achieve more advanced functionalities, e.g., real-time or post-event analysis of the operational performance data.

**3. ACTION BY THE MEETING**

- 3.1 The meeting is invited to:
- a) note the information contained in this paper; and
  - b) discuss any relevant matters as appropriate.