

**58th CONFERENCE OF
DIRECTORS GENERAL OF CIVIL AVIATION
ASIA AND PACIFIC REGIONS**

*Dhaka, Bangladesh
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AGENDA ITEM 4: AIR NAVIGATION

**DATA-DRIVEN APPROACH FOR IDENTIFYING PRIORITY
AREAS FOR ENHANCEMENT OF AIR TRAFFIC
MANAGEMENT IN THE ASIA-PACIFIC REGION**

Presented by Singapore

SUMMARY

This paper notes the track record of the Asia-Pacific Air Navigation Planning and Implementation Regional Group (APANPIRG) in implementing initiatives to improve air traffic management in the Asia-Pacific Region, and proposes that, in anticipation of upcoming air traffic growth and to avoid worsening congestions, States / Administrations, working with ICAO and industry, leverage on the Data Analytics Adhoc group formed under the ambit of the ATM-subgroup to identify priority areas for enhancing air traffic management in the Asia-Pacific region.

DATA-DRIVEN APPROACH FOR IDENTIFYING PRIORITY AREAS FOR ENHANCEMENT OF AIR TRAFFIC MANAGEMENT IN THE ASIA-PACIFIC REGION

1. INTRODUCTION

1.1 The aviation industry is recovering from the COVID-19 pandemic. Air traffic levels are reaching pre-COVID levels, and in some instances have even exceeded pre-COVID levels. Air traffic congestion is increasingly experienced across the Asia-Pacific region, which could have downstream implications on safety, efficiency, and sustainability. Increasing flight delays also pose a negative experience for the travelling public.

1.2 Air traffic congestion could occur due to various reasons. Broadly, these include demand-capacity imbalance (which could arise from adverse meteorological conditions and airspace / runway constraints) and insufficient capacity on ATS routes (which could be due to less-than-optimal application of separation minima).

1.3 Since 2021, there have been several events that led to unavailability of airspace and ATS routes. Flights between the Asia and Europe regions had to circumnavigate the affected airspace resulting in additional flying times and flight delays. To support continual traffic growth in the region safely, ICAO, States / Administrations and stakeholders in the Asia-Pacific region should consider working together to address some of these issues

2. DISCUSSION

CURRENT SITUATION

2.1 Flights between Asia and Europe traverse through airspace which have been affected by events over the past few years. Since 2021, flights have to detour around the Kabul FIR, resulting in additional flying times. The situation was further exacerbated in February 2022 due to the conflict that affects FIRs over Eastern Europe where airspace became unavailable as well, until this day. These constraints have resulted in increased demand on certain segments of the ATS routes serving those areas, creating traffic bottlenecks which affected airlines operating on the east-west traffic flows between Asia and Europe.

NEED FOR A HOLISTIC, COLLABORATIVE AND SYSTEMATIC APPROACH TO ALLEVIATE THE SITUATION

2.2 There have been on-going works under the leadership of ICAO Asia-Pacific Regional Office, with the participation of States / Administrations and industry, to enhance air traffic management in the Asia-Pacific region. Indeed, over the last three decades, the Asia-Pacific Air Navigation Planning and Implementation Regional Group (APANPIRG) has achieved notable success in implementing various air traffic management initiatives. These include route restructuring (e.g., over the South China Sea and in the Bay of Bengal), reduction of enroute separation through Reduced Vertical Separation Minima (RVSM) and Performance Based Navigation (PBN), surveillance data sharing, and air traffic flow management (ATFM), to name but a few.

2.3 Nevertheless, it remains a challenge to continually keep air traffic management capacity ahead of demand. With air traffic anticipated to continue on the growth trajectory, a more anticipatory methodology could be taken by States / Administrations, working with ICAO and industry, towards identifying priority areas for enhancing air traffic management.

2.4 With the recently established Data Analytics Ad-hoc Group under the APANPIRG's Air Traffic Management Sub Group, States / Administrations could leverage on its expertise to understand the extent of this issue and its underlying causal factors, which could lead on to the identification of priority areas to work on to alleviate the situation.

2.5 In parallel, States / Administrations should work together taking advantage of existing ICAO ATM forums to discuss and develop solutions and traffic regulation capabilities. Existing ICAO ATM forums could also be supported by the Data Analytics Ad-hoc Group for a more targeted approach on developing solutions.

3. ACTION BY THE CONFERENCE

3.1 The Conference is invited to:

- a) Note the contents of the paper,
- b) Discuss the common challenges faced by States / Administrations due to the issues faced in the region,
- c) Urge States / Administrations to, as a first step, contribute towards the work of the Data Analytics Ad-hoc Group by participating and providing appropriate data to identify priority areas for alleviating the situation and enhancing air traffic management in the Asia-Pacific region, and
- d) Urge State / Administrations to collaborate on optimizing traffic regulation capabilities through the relevant regional ICAO ATM forums.

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