



ICAO

International Civil Aviation Organization

First Meeting of the APAC ANSP Committee (AAC/1)

Bangkok, Thailand, 17 – 18 April 2023

Agenda Item 3: Work Program

Proposed Framework and Focal Areas of the ICAO APAC ANSP Committee

(Presented by Singapore and Thailand, and
co-sponsored by China, Indonesia, Lao PDR, Papua New Guinea and CANSO)

SUMMARY

To enhance effectiveness in its work, the Committee is invited to discuss and adopt an organising framework with five workstreams, taking into consideration discussions at the 57th Conference of Directors General of Civil Aviation (DGCA), Asia and Pacific Region and the Asia Pacific Summit for Aviation Safety 2023:

- a) Workstream 1 – Step up investments in ANS capacity and capabilities;
- b) Workstream 2 – Accelerate the development and implementation of Seamless ATM;
- c) Workstream 3 – Share requirements and best practices in the procurement of ANS systems through the setting up of a “Buyers Club”;
- d) Workstream 4 – Build cooperation on business continuity and contingency planning; and
- e) Workstream 5 – Collaborate on green initiatives to enhance ATM sustainability.

1. INTRODUCTION

57th DGCA Conference

1.1. The 57th DGCA Conference held in Incheon, Republic of Korea on 4 – 8 July 2022, agreed to form a Committee of Air Navigation Service Providers (ANSPs) involving CANSO and IATA, coordinated by ICAO, to cooperate on the implementation of regional ATM initiatives including the ICAO APAC Seamless ANS Plan. In arriving at this action, the DGCAs of the APAC region took on board the following considerations:

1.1.1. COVID-19 has severely affected the aviation industry. The imperative of the region is to facilitate the recovery of aviation and to work towards a more resilient future.

1.1.2. While there are positive signs of air traffic returning, it is expected that improvement of ANS around the world could be hindered, for example, by constraints in the finances and resources of ANSPs.

1.1.3. Unless proactive steps are taken early, congestion and delays would correspondingly worsen as air traffic increases to pre-COVID levels and beyond, adversely affecting fuel efficiency of flights, cost to airlines, as well as sustainability. Effective and timely implementation of the ICAO APAC Seamless ANS Plan will therefore be very important.

1.1.4. ANSPs play a crucial role in executing the ICAO APAC Seamless ANS Plan. They must do so collaboratively, so that these concepts of operation and technologies can be adopted seamlessly on a pan-regional scale, to maximise the safety and efficiency benefits, and save resources.

1.1.5. In APAC, ANSPs should use this period to consolidate efforts and collaborate on seamless air traffic management (ATM) solutions. Priority should be placed on procedures and technologies that enable flights to take optimal routes with minimal delays across ANSPs' areas of responsibilities.

1.1.6. This effort would be in line with the Beijing Declaration that emanated from the ICAO's 2018 APAC Ministerial Conference on Civil Aviation, which included a commitment to the timely implementation of the ICAO APAC Seamless ANS Plan. It is expected that the Ministerial Conference to be held in Delhi, India in September 2023 would reaffirm the commitments.

1.1.7. Post-COVID, extra consideration should be given to minimise cost burden to airlines. Solutions should therefore be cost-effective while leveraging advances in ATM and information technologies. The ANS industry should look towards innovative solutions and business models that allow ANSPs to provide the best value for money and the greatest pragmatism. CANSO and IATA should therefore be involved in the work, to support the prioritisation and implementation of solutions. In particular, CANSO could share the experiences of ANSPs in other regions.

1.1.8. The Asia/Pacific Air Navigation Planning and Implementation Regional Group (APANPIRG) is the guiding and coordinating organ within ICAO for activities concerning air navigation system for the APAC region. The collaboration amongst ANSPs should complement and support APANPIRG, and the efforts of States and Special Administrative Regions (SARs). ICAO could support the Committee to take a coordinated and collaborative approach, and interface with APANPIRG, States and SARs.

Asia Pacific Summit for Aviation Safety

1.2. In addition, DGCA's and ANSP CEOs at the Asia Pacific Summit for Aviation Safety 2023, on the topic of "Managing Service Disruptions: Ensuring Safety, Building Resilience in Air Navigation Services", discussed the challenges of service disruptions and the actions needed to build resilience:

1.2.1. While there is high level of availability of ANS, disruptions can and do occur from time to time – for instance, due to system failures, airspace closures, industrial actions or natural disasters. It is noted that ICAO has a standard in Annex 11 to the Chicago Convention for States to implement contingency plans to counter such occurrences. The ICAO Asia and Pacific Regional Office is ready to set up a Contingency Coordination Team to support the continuity of air traffic operations in the region during unforeseen disruptions.

1.2.2. Overall resiliency requires effective leadership, whole-of-organisations preparations and system-wide response to disruptions. This would necessitate well-planned systems redundancies, robust contingency / business continuity planning, and close collaboration between ANSPs to ensure service availability during disruptions.

1.2.3. In terms of redundancy of systems, ANS systems and processes are typically designed with layers of back-up and redundancies. This has provided firm safety assurance to the aviation system. With new information infrastructure and technologies that enable digitalisation and virtualisation, there are opportunities to further enhance resiliency of the regional ATM network and facilitate collaboration

/ information sharing between ANSPs. The region should be committed to work towards enhancing ATM and modernising infrastructure to enhance resiliency.

1.2.4. Business continuity / contingency planning should be emphasised as a key part of resiliency and seamlessness, with safety as the top priority. This is a multi-faceted topic which should cover training for staff; plans and preparations for disruption management; readiness for crisis communications; and stakeholder engagements during a disruption etc.

1.2.5. Collaboration between ANSPs is essential in order to support each other during a disruption. This could include contingency arrangements between adjacent ANSPs (as stipulated in ICAO Annex 11), sharing of information as well as conduct of regional exercises between ANSPs and involving ICAO.

2. PROPOSED FRAMEWORK AND WORK PROGRAMME FOR THE ICAO APAC ANSP COMMITTEE

2.1 The ICAO APAC ANSP Committee provides a timely platform for ANSPs in the region to take forward the various initiatives. The Committee would need an organising framework for its work programmes so that it could work on them effectively. Taking into consideration what were discussed at the DGCA Conference and the Asia-Pacific Summit for Aviation Safety, we suggest that the Committee consider adopting an organising framework comprising five workstreams. Individual work programmes that are endorsed by the Committee can then be advanced under one of the five workstreams. The Committee can consider augmenting the framework by adding new workstreams, if there is a cluster of good work programmes that do not neatly fall under any of the five workstreams. The proposed five workstreams are:

2.2 **Workstream 1 – Step up investments in ANS capacity and capabilities.** Capacity and capabilities on the ground need to be matched by capacity and capabilities in the skies, in a timely fashion. States and SARs across the APAC region need to step up investments to build ANS capacity and capabilities, to support the anticipated growth in air traffic, in step with corresponding investments in airport terminals, runways and tourism. To secure support and the resources needed from States and SARs to continue to provide safe, efficient, sustainable and resilient ANS, ANSPs can work together to establish and articulate the investment necessary based on the projected demand and the priorities, whether in infrastructure, systems, methods, structures and/or manpower, so that the investments can be directed to areas of greatest impact and need.

2.3 **Workstream 2 – Accelerate the development and implementation of Seamless ATM.** Investments in ANS can deliver better outcomes, with better methods and technology. TBO would be a game changer in ATM, making use of real-time exchange of flight, aeronautical and meteorological data to optimise traffic flow across ATS airspaces. TBO is enabled by a combination of technologies, to be implemented in concert with each other and across the region to reap full benefits for airlines. APAC ANSPs could work together to prioritise key building blocks to be put in place. In particular, TBO building blocks include System Wide Information Management (SWIM) and Flight and Flow Information for a Collaborative Environment (FF-ICE). Use cases involving SWIM and FF-ICE could include an enhanced air traffic flow management system and / or a collaborative tool between ANSPs and airlines to optimise traffic flow. ANSPs can work together to accelerate the development and implementation of the various critical building blocks for seamless ATM, which would allow better outcomes for the investments received, and in turn better justify and secure the investments necessary.

2.4 **Workstream 3 – Share requirements and best practices in the procurement of ANS systems through the setting up of a “Buyers Club”.** Investments in ANS systems are significant capital expenditure and require in-depth knowledge and rigorous studies to find the most cost-effective solutions for users. To ensure better value for money, ANSPs can work together to share requirements and best practices in the procurement of ANS systems through the setting up of a “Buyers Club”. These

can include considerations in systems masterplanning, technical specifications, back-up / redundancy arrangements, project implementation, conduct of safety case analysis, building of business cases, life-cycle cost management, maintenance management, collaboration areas with fellow ANSPs etc which are not fully covered in ICAO Manuals such as the Global Air Navigation Plan (GANP) and the Manual on ATM System Requirements. Through the vendor-agnostic ‘Buyers Club’, ANSPs could as a group engage stakeholders and vendors to discuss new business needs and challenges. This would particularly benefit the smaller ANSPs. The setting up of such a club for mutual support would send a useful signal to industry and adjust the overall buyer-vendor relationship for ANS systems to ANSPs’ benefit.

2.5 Workstream 4 – Build cooperation on business continuity and contingency planning. As the provision of ANS is safety critical, ANSPs need to be ready to respond when disruptions in air traffic operations occur. To be better prepared, ANSPs can collaborate in their business continuity and contingency plans. Areas of collaboration could include training, information sharing as well as holding combined exercises that cover different aspects of the business continuity / contingency plans.

2.6 Workstream 5 – Collaborate on green initiatives to enhance ATM sustainability. The region should take a sustainable path as it recovers from COVID-19 to ensure long-term viability for the industry. There is growing expectations and social responsibility for ANSPs to do more for the environment. ANSPs could work with airlines to develop and implement concrete initiatives that enhance flight and air traffic management predictability and efficiency. Fuel saving techniques include air traffic flow management (ATFM), continuous descent operation (CDO), performance-based navigation (PBN), user-preferred routes (UPR) and in future, TBO. There are other areas or methods which the APAC region could explore together, and in this respect, ANSPs could work together learn from the experiences in other regions.

3 ACTION BY THE MEETING

3.1 The meeting is invited to:

- a) Note the contents of the paper;
- b) Consider adoption of the proposed framework comprising five workstreams for the ICAO APAC ANSP Committee to pursue seamless ATM and resiliency:
 - Workstream 1 – Step up investments in ANS capacity and capabilities;
 - Workstream 2 – Accelerate the development and implementation of Seamless ATM;
 - Workstream 3 – Share requirements and best practices in the procurement of ANS systems through the setting up of a “Buyers Club”;
 - Workstream 4 – Build cooperation on business continuity and contingency planning; and
 - Workstream 5 – Collaborate on green initiatives to enhance ATM sustainability.