



ICAO

*International Civil Aviation Organization*

**Eleventh Meeting of the South China Sea Traffic Flow Review Group (SCSTFRG/12)**

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**Agenda Item 7: Any Other Business**

**IMPLEMENTATION ROADMAP FOR SEAMLESS AIR TRAFFIC SERVICES IN THE SOUTH CHINA SEA AREA**

(Presented by China)

**SUMMARY**

This paper proposes a strategic roadmap for enhancing air traffic service (ATS) capabilities in the South China Sea region. Given the high growth and critical importance of this airspace for Asia-Pacific aviation, a comprehensive roadmap that integrates the unique operational characteristics and requirements of the region is vital. This roadmap outlines a shared vision, phased implementation stages, and fundamental principles to build collaborative, seamless air traffic services (ATS) that address both traffic flow and capacity needs. It aims to unify ATS capabilities across the region, aligning with ICAO's No Country Left Behind (NCLB) initiative, and thereby optimize air traffic management and safety.

**1. INTRODUCTION**

1.1 The South China Sea area is a core area for Asia-Pacific air traffic and among the most dynamic regions globally, with rapid demand growth expected in the coming years. As a key air corridor connecting Southeast Asia and Northeast Asia, the region's ability to enhance ATS capabilities is essential for supporting regional aviation needs and overall Asia-Pacific airspace efficiency.

1.2 Building on years of regional cooperation, stakeholders in the South China Sea share a common vision for advancing ATS capabilities. However, operational variations across Flight Information Regions (FIRs) and cross-border communication limitations introduce disparities in service consistency. Addressing these challenges through a unified ATS roadmap would enhance seamless operations across the South China Sea, reducing operational disparities and improving pilot experiences.

1.3 The ongoing recovery in traffic has spurred new challenges and opportunities for the region's air traffic services. Recent years have provided a window for reflection on the need for greater ATS integration. Developing a shared vision, clear goals, and a coordinated action plan tailored to the region is essential to support future growth and operational harmony.

**2. DISCUSSION**

Vision and Goals

**2.1 Holistic Traffic Flow Coordination.** A comprehensive approach to traffic flow in the South China Sea will enable stakeholders to address current issues and collaboratively plan for sustainable ATS development, ensuring robust service capabilities across the area.

**2.2 Elevated ATS Standards.** The roadmap aims to further enhance safety, capacity, and operational efficiency, advancing the quality of ATS services in the South China Sea region and setting a benchmark for seamless, high-performance operations.

**2.3 Integrated and Seamless Operations.** Promoting harmonized ATS services across the region will enable seamless, unperceived transitions between FIRs, leveraging collaborative regional efforts to support cohesive operations.

#### The Seamless ATS Program

**2.4** This program acts as a regional implementation framework aligned with the Asia/Pacific Seamless Air Navigation Services (ANS) Plan under ICAO guidance. As part of the Asia-Pacific region, the South China Sea initiative follows a phased approach to strengthen ATS capabilities, aiming to unify service standards and ensure consistent delivery across the region, in line with the No Country Left Behind (NCLB) initiative."

#### Proposed Phases for Implementation

**2.5** The roadmap suggests three key phases:

- **Phase I: Borderless ATS.** This phase focuses on establishing situational awareness and promoting a concept of regional operations in the South China Sea. By reducing operational discrepancies across borders, stakeholders can address issues such as differing ATS service levels, route structures, and transfer intervals, while gradually transitioning from fixed level allocation schemes (FLAS) to more efficient orientation systems (FLOS).
- **Phase II: Seamless ATS.** This phase aligns with the performance improvement milestones outlined in the Asia/Pacific Seamless ANS Plan, targeting enhancements in safety, capacity, and operational efficiency. Regional improvements will address mid-term challenges, including expanded airspace capacity, CNS data sharing, standardized ATS responses to complex events, and harmonized ATS standards.
- **Phase III: Integrated ATS.** At this stage, ATS services across the region are unified, allowing flights to experience consistent service levels akin to a single FIR, regardless of the specific FIR they transit. This will involve regional route optimization, infrastructure upgrades, and synchronized personnel training to maintain high service standards across all FIRs.

#### Core Principles

**2.6 Consensus Among Member States and Regions.** The roadmap must be built upon mutual agreement among South China Sea stakeholders, supported by ICAO's NCLB initiative. The plan should be tailored to the operational specifics of the South China Sea while ensuring alignment with all stakeholders' expectations and priorities.

**2.7 Alignment with ICAO's Regional Plans.** As a sub-regional collaboration under ICAO's Asia-Pacific program, the roadmap aligns with the Asia/Pacific Seamless ANS Plan. Any updates to this roadmap should remain consistent with regional objectives and timelines.

2.8 **Adaptation to Regional Realities.** The roadmap addresses unique challenges, including frequent FIR transitions, variable CNS capabilities, and socio-political diversity within the South China Sea. These factors require customized solutions to maintain seamless traffic flow and minimize operational discrepancies.

2.9 **Focus on Practical Solutions.** The roadmap emphasizes actionable solutions for both present and future challenges, with clearly defined milestones and timelines. The ASBU module/block structure can provide a flexible framework for delineating tasks and addressing operational goals at each phase.

#### Proposed Action Steps

2.10 Developing a South China Sea ATS roadmap requires a structured, long-term perspective, and draws from SCSTFRG's historical challenges and lessons. The following steps outline the path forward:

- **Initiation Phase:** Achieving consensus among South China Sea stakeholders on the necessity and feasibility of the ATS roadmap is essential. Regional commitment is critical to establish a unified framework that supports long-term ATS enhancement.
- **Planning Phase:** Once the roadmap is endorsed, a comprehensive situational awareness assessment will enable stakeholders to collectively analyze existing ATS limitations, identify operational needs, and outline specific solutions. This foundation will support the development of an implementation framework.
- **Execution Phase:** Implementation will follow a phased approach, beginning with Borderless ATS, progressing to Seamless ATS, and ultimately achieving fully integrated ATS. Each phase will consist of specific, actionable tasks, using an ASBU-style module/block framework to ensure alignment with long-term goals.
- **Monitoring Phase:** Involvement of airlines, airports, and related organizations is crucial for monitoring the progress and effectiveness of each roadmap phase. Stakeholders will continuously review outcomes and offer recommendations for optimization.
- **Continuous Improvement:** This roadmap will be periodically updated to reflect regional conditions and evolving priorities. The roadmap's alignment with the Asia/Pacific Regional Air Navigation Plan and Seamless ANS Plan will help maintain its relevance and authority.

### **3. ACTION BY THE MEETING**

3.1 The meeting is invited to:

- a) note the information contained in this paper;
- b) Review the feasibility and necessity of a Seamless ATS roadmap for the South China Sea;
- c) Support the establishment of a small working group under SCSTFRG to develop the roadmap;
- d) Consider continued engagement on this initiative to ensure consistent and effective progress.
- e) discuss any relevant matters as appropriate.

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