



*International Civil Aviation Organization*

ICAO

**Tenth Meeting of the Air Traffic Management Sub-Group  
(ATM/SG/10) of APANPIRG**

Video Teleconference, 17 – 21 October 2022

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**Agenda Item 5: ATM Systems (Modernization, Seamless ATM, CNS, ATFM)**

**UPGRADATION OF CNS-ATM SYSTEM WITHIN DHAKA FIR**

(Presented by Bangladesh)

**SUMMARY**

This paper presents the updates of Bangladesh's initiatives to modernize the Communication, Navigation and Surveillance and Air Traffic Management (CNS-ATM) System within Dhaka FIR, which expected to be completed by Q3 2024.

**1. INTRODUCTION**

1.1 Civil Aviation Authority of Bangladesh (CAAB) has taken the initiatives for the modernization of ATM-CNS system within Dhaka FIR in order to enhance ATS efficiency, capacity and safety. To cope with the future growth of air traffic and to establish seamless ATM service with its other neighbouring States, CAAB has taken a G-G project with Thales, France.

1.2 Thales will deliver the turnkey project with the most advanced Air Traffic Management System. A Contract has been signed on 21st October 2021 between CAAB and Thales and project has been launched. The system includes the followings:

- A new Air Traffic Management Control Centre (ATMCC) with Control Tower;
- ATM Automation and Voice Communications Systems; and
- A Multi-modal Surveillance System to cover Dhaka FIR and over the Bay of Bengal.

1.3 Construction work of new Air Traffic Management Centre (ATMC) and an Air Traffic Control Tower (ATCT) is going on as per project timeline.

**2. DISCUSSION**

Surveillance Systems

2.1 In order to enhance the Surveillance coverage within Dhaka FIR and also towards the portion of airspace over Bay of Bengal, this project consists following surveillance solutions:

- Primary Surveillance Radar (PSR) with 80 NM instrumented range with Dual Weather channel.
- Monopulse/Mode-S Secondary Surveillance Radar (MSSR) with range 250 NM and interface with existing Chattogram MSSR Radar to enhance the Surveillance coverage of Dhaka FIR
- ADS-B stations for Dhaka FIR (Dhaka, Barishal, Sylhet, Cox's Bazar, Saidpur)

- WAM (Wide Area Multilateration) to cover the Dhaka TMA;
- ADS-C to cover the oceanic area over the Bay of Bengal.

#### ATM Automation

2.2 Thales will provide new generation ATM automation system (Topsky-ATC system), which will replace the non-automated ATC system. The Topsky-ATC system will integrate Surveillance Data, Flight Data, Air-Ground Data Communication (AGDC) to support ADS-C, CPDLC and Ground-Ground Data Communication (GGDC) means AIDC.

- The new ATM automation system will enhance the ATC and Airspace capacity and safety with 5 sectors of Dhaka Area Control Center (instead of 2 sectors), 3 Approach Control units to handle traffic within Dhaka TMA.
- Separate Aerodrome Control Tower and Surface Movement Control at Hazrat Shahjalal International Airport, Dhaka including A-SMGCS.
- The Advanced Surface Movement Guidance Control Systems (A-SMGCS) will be complemented by a standalone video system enabling to monitor the Apron & Aircraft Parking of new Terminal 3 and existing Terminal 1 & 2.
- Topsky-ATC concepts support a Layered Planning model that facilitates strategic, pre-tactical, and tactical planning and control within an ATM Centre, and the integration with national-level strategic and pre-tactical ATFM functions.
- Topsky-ATC is a modular system used to control traffic in continental, en-route, terminal approach and oceanic airspace. The design of the Human Machine Interface (HMI) has put particular emphasis on the provision of tools to achieve a safe and efficient handling of air traffic in future.

#### The Voice Communications Segment

2.3 To get the uninterrupted VHF communication with all flights from lower altitude to higher level of entire Dhaka FIR and towards the extended portion of airspace over Bay of Bengal a new Voice Communication Control System (VCCS) will be installed at new ATM Control Centre of Hazrat Shahjalal International Airport, Dhaka. To enhance the VHF coverage 5 stations of Very Small Aperture Terminal (VSAT) and Remote Control Air Ground (RCAG) will also be installed.

2.4 New HF system will be installed at Hazrat Shahjalal International Airport, Dhaka which will act as a redundancy of the VHF system to ensure the voice communication towards the extended portion of airspace over Bay of Bengal.

2.5 This project included Aeronautical Information Management (AIM) System on turnkey basis. Aeronautical Information System (AIS) which cover transition to Aeronautical Information Management (AIM) System. This AIM system is composed of dynamic aeronautical data management module for managing NOTAM, FPL, MET & Pre-Flight Briefing.

2.6 The Modernization Project of CNS-ATM System of Bangladesh will be in line with ICAO standards and with a view to meet the APAC seamless ANS plan.

2.7 Target date of completion of this project is Q3, 2024 and CAAB expects that ATM capability of Bangladesh will roll-out into a new dimension for providing harmonize and seamless ATM services.

**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.

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