



*International Civil Aviation Organization*

**ICAO**

**Third Meeting of the Bay of Bengal Traffic Flow Review Group (BOBTFRG/3)**

Video Teleconference, 14 – 15 December 2021

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**Agenda Item 2: Updates from States and IATA on ADS-C/CPDLC and PBCS Implementation Status**

**UPGRADATION OF CNS-ATM SYSTEM WITHIN DHAKA FIR**  
(Presented by Bangladesh)

**SUMMARY**

This paper presents the information of scope and timeline of Communication, Navigation and Surveillance and Air Traffic Management (CNS-ATM) System of Bangladesh.

**1. INTRODUCTION**

1.1 Bangladesh wishes to inform the meeting about the initiatives taken for the modernization of ATM-CNS system of Civil Aviation Authority of Bangladesh (CAAB) in order to enhance its 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 to G project with Thales, France.

1.2 The new ATM-CNS systems will mainly be installed at Hazrat Shahjalal International Airport (HSIA) at Dhaka which will provide seamless Surveillance and Voice coverage for the entire airspace within Bangladesh including the extended portion of airspace over Bay of Bengal up to 200-250NM with the help of Radar, ADS-B and RCAG.

1.3 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. The system includes the followings:

- a) A new Air Traffic Management Control Centre (ATMCC) with Control Tower;
- b) Voice Communications Systems; and
- c) A Multi-modal Surveillance System filling the gap in radar coverage over the Bay of Bengal area up to 200-250NM.

**2. DISCUSSION**

Surveillance Systems

2.1 In order to enhance the surveillance coverage within Dhaka FIR and also towards the extended portion of airspace over Bay of Bengal, this projects consist 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 connecting with existing Chattogram Radar.
- ADS-B stations for Dhaka FIR (Dhaka, Barisal, Sylhet, Cox's Bazar and Saidpur).

- MLAT stations used for Dhaka TMA (Dhaka, Barishal, Jashore, Rajshahi, Cumilla).
- WAM (Wide Area Multilateration).
- ADS-C.

*[The PSR & SSR Radar Coverage and the ADS-B coverage of Dhaka FIR, as proposed under G to G project, have been presented in Figure-1 and Figure-2 of the Attachment A of this Information Paper]*

#### ATM Automation

2.2 Topsky-ATC system (Thales) Tower provides a new generation of tower automation systems integrating both A-SMGCS and Electronic Flight Strip (EFS) operations to ensure the safe surface traffic management. The ATC Automation system shall interface with the following systems:

- Advanced Surface Movement Guidance and Control Systems (A-SMGCS);
- ADS-B, ADS-C;
- AIDC for coordination with neighbor FIRs;
- TopSky-AIM system;
- Controller-Pilot Data Link Communication (CPDLC) for effective harmonization with adjacent FIRs;
- AFTN/AMHS switch and associated operators' terminals.

#### The Voice Communications Segment

2.3 To get the uninterrupted VHF communications 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 HSIA. To enhance the VHF coverage, 5 stations of Very Small Aperture Terminal (VSAT) and Remote Control Air Ground (RCAG) will also be installed at Barisal, Saidpur, Sylhet and Cox's Bazar. The VHF coverage of Dhaka FIR as proposed under G to G project has been presented in Figure-3 of the Attachment A of this Information Paper.

2.4 New HF system will be installed at HSIA 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 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.

2.6 Target date of completion of this project is 2024 and CAAB expects that ATM capability of Bangladesh will roll-out into a new dimension for providing seamless 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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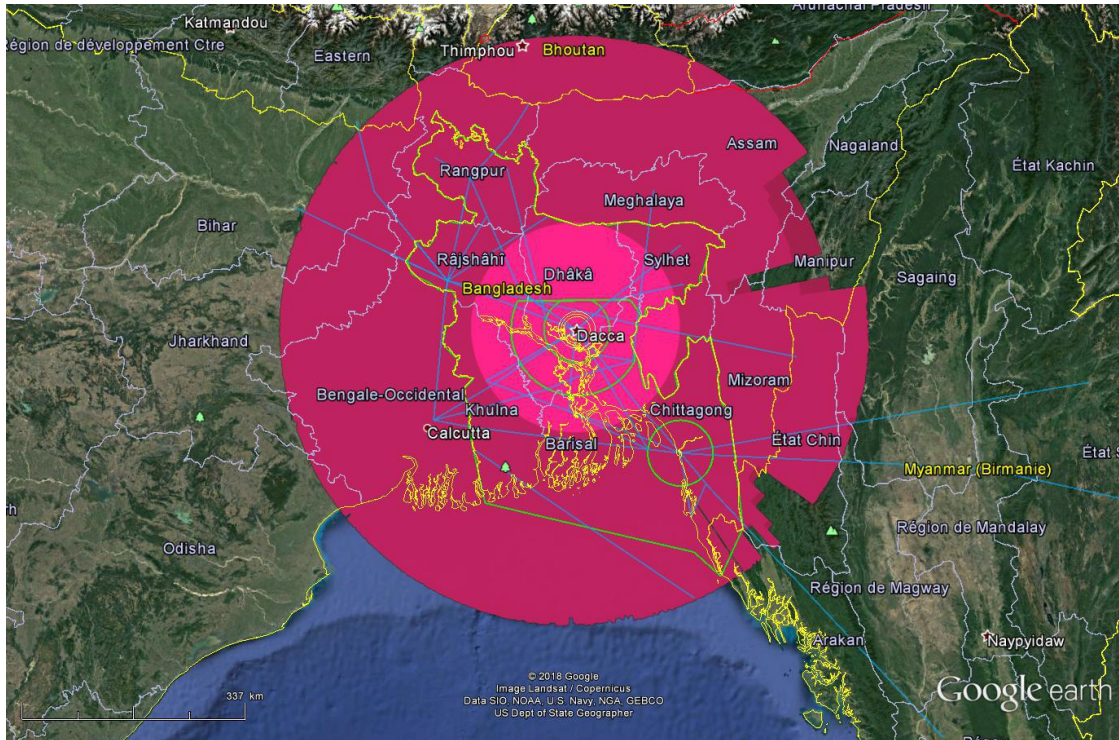


Figure-1 : PSR & SSR Radar Coverage of Dhaka FIR

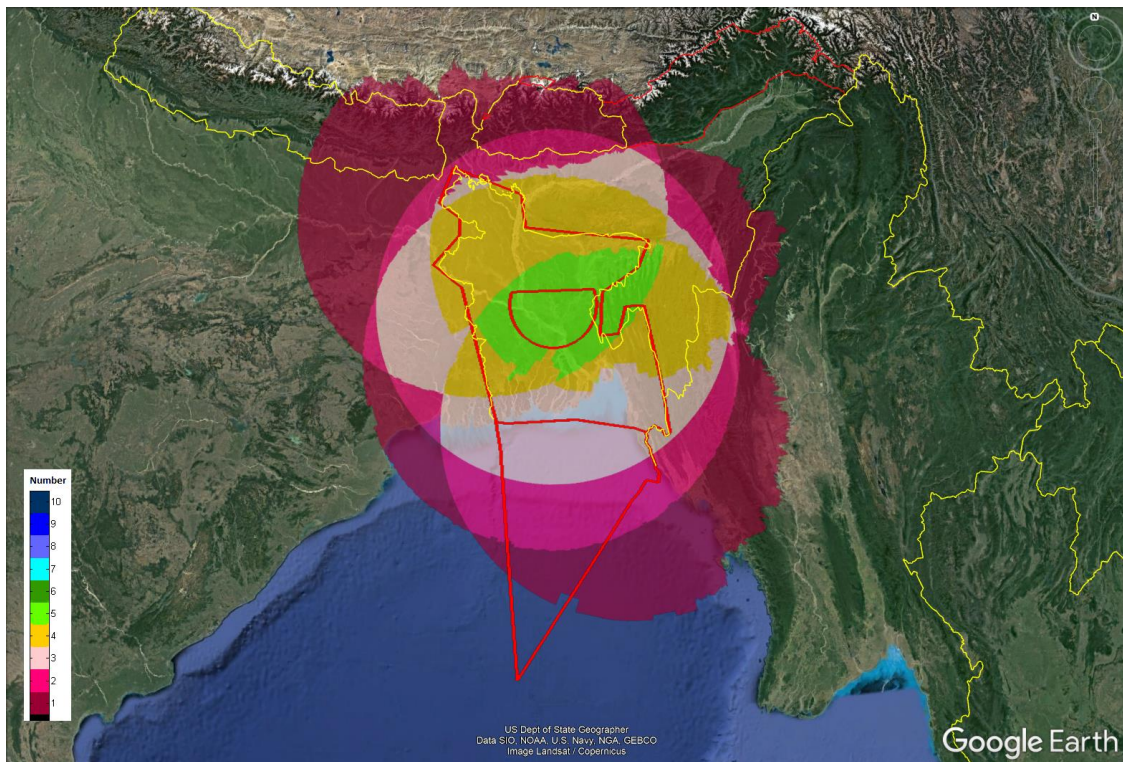


Figure-2 : Multi-Station ADS-B Coverage of Dhaka FIR

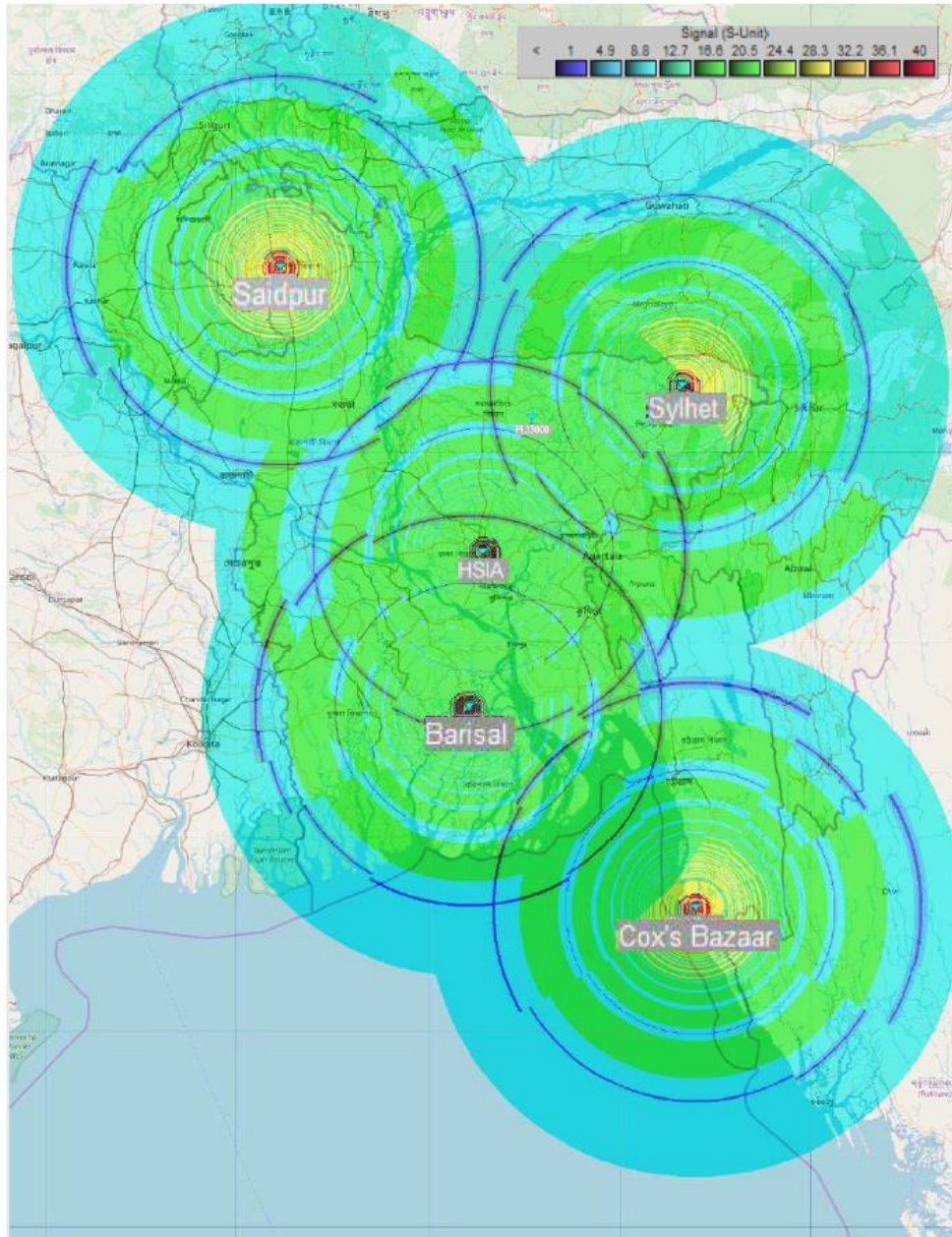


Figure-3 : VHF Coverage of Dhaka FIR