SEVENTH MEETINGS OF THE SAT IMPLEMENTATION MANAGEMENT GROUP (SAT IMG/7)
AND
SAT SAFETY OVERSIGHT GROUP (SAT SOG/7)

Dakar, 6-10 April 2026

Agenda Item 2: States/ANSP updates

Planning and Implementation Programmes for the Piarco FIR/CTA/UTA

(Presented by Trinidad and Tobago)

EXECUTIVE SUMMARY

This Paper presents the updated activities of Trinidad and Tobago regarding the planning and implementation of programmes such as, reduced separation minima, Free Route Airspace (FRA), Controller Pilot Data Link Communication (CPDLC), Automated Dependant Surveillance – Contract (ADS-C) and ADS – Broadcast (ADS-B) for Piarco Flight Information Region (FIR) and Actions taken to address the Impact of Space Launch Vehicles.

Strategic goals	*A-Every Flight is safe and secure* *C- Aviation Delivers Seamless, Accessible, and Reliable Mobility for All*
References:	• *ICAO Doc 9958 – Assembly Resolutions in Force* • *ICAO Doc 9750 - Global Air Navigation Plan 2016-2030*

1. Introduction

1.1 Trinidad and Tobago, continues to work towards improving the efficiency of ATS provided to the airspace operators for both the Continental and Oceanic Sectors while focusing on safety of operations. The following systems and processes are currently employed or, are being employed within Piarco's Flight Information Region, Controlled Airspace and Upper Controlled Airspace (FIR/CTA/UTA), referred to as the Piarco FIR:

- Airspace Optimisation (AO)
- Air Traffic Flow Management (ATFM)
- CPDLC
- ADS-C
- ADS-B
- AIDC

1.2 The following systems are currently being assessed for use in the Piarco Oceanic Sector:

- Reduced Separation Minima
- FRA

1.3 **Appendix A** provides the traffic movements within the Piarco FIR/CTA/UTA for the period January 2024 to March 2026.

2. Discussion

2.1 Airspace Optimisation and Transition to Free Route Airspace (FRA)

2.1.1 Given the projected growth in air traffic and the diverse mix of aircraft types operating in the Piarco FIR, the Air Navigation Service Provider (ANSP) continues to work strategically (e.g. use of User Preferred Routes and transition towards Free Route Airspace) towards optimising airspace usage to ensure the efficient smooth and safe flow of air traffic, while assisting with the reduction of fuel consumption and minimising environmental impact.

2.1.2 Trinidad and Tobago continues to approve limited SDR operations (waypoint to waypoint filing) for major airlines operating in the Piarco FIR, with each request being analysed for potential safety risks before the requisite approval is granted. With the recent transition of the Very High Frequency (VHF) communication system from analogue to Internet Protocol (IP) circuits in early 2026, this paves the way for more formal and structured trials of SDRs to be continued within Piarco's Continental airspace.

2.1.3 Trinidad and Tobago continues to remain committed to collaborating with the TMAs within the Piarco FIR/CTA, and neighbouring FIRs of the NAM, SAM and SAT Regions to harmonize both the upper airspaces within the Piarco FIR/CTA/UTA, thereby improving Air Traffic Management (ATM) throughout Piarco's Continental and Oceanic airspaces.

2.2 Reduction of separation from 100NM to 50NM within the Piarco Oceanic Sector

2.2.1 Trinidad and Tobago continues with its efforts to implement reduction in lateral separation within the Oceanic Sector from one hundred (100) Nautical Miles (NM) to fifty (50) NM, using Controller-Pilot Data Link Communications (CPDLC), and impending use of Space-based Automatic Dependant Surveillance – Broadcast (ADS-B) expected in the fourth quarter of 2026.

2.2.2 Simulations and live traffic trials have been rescheduled for the fourth quarter of 2026, with full implementation expected by the first quarter of 2027, if not before. This reduction in lateral separation is a significant advancement toward optimizing airspace utilization, increasing capacity, and enabling more efficient use of available airspace, potentially reducing flight distances and improving overall airspace efficiency.

2.3 ATFM Implementation

2.3.1 The implementation of ATFM and associated activities within Piarco's airspace continues through effective Collaborative Decision Making with various ATFM Groups, Service Providers, and Regional Organisations (e.g. Civil Air Navigation Service Organisation Air Traffic Flow Management Data Exchange Network for the Americas (CADENA) and International Air Transport Association (IATA)),

with the aim of improving upon demand and capacity balancing within the Region. This was evidenced with the recent increase in space launch vehicle activities.

2.3.2 Trinidad and Tobago is currently in the process of providing ATFM OJT to its operational ATS Staff, which is expected to be completed in the third quarter of 2026.

2.4 Provision of ADS-C and CPDLC

2.4.1 Trinidad and Tobago continues to provide ADS – Contract (ADS-C) and Controller-Pilot Data Link Communications (CPDLC) to airspace users within the Oceanic airspace, and for certain contingency measures within the Continental airspace when issues with Secondary Radar Surveillance (SSR) and VHF air-to-ground communications arise.

2.5 Ground-Based ADS-B Surveillance and Multilateration (MLAT)

2.5.1 While the first phase installation of the Ground-based ADS-B/Multilateration (MLAT) System in Trinidad and Tobago has been completed, the second phase, which involves installation at strategic high sites within the Eastern Caribbean (E/CAR) Region is now expected to be completed by the fourth quarter in 2026.

2.5.2 This introduction of redundant surveillance/situational awareness will serve to improve upon surveillance reliability and airspace efficiency, while maintaining safety in the provision of en-route and approach ATS within the Piarco Continental airspace.

2.6 Space-Based (SB) ADS-B

2.6.1 Space-Based ADS-B data services for the Piarco Oceanic and Continental airspaces, has been implemented within the current ATM System, with full implementation expected in the fourth quarter of 2026, based on the outcomes of the scheduled Site Acceptance Tests (SATs), regulatory compliance, and requisite On-the-Job Training for operational ATS Staff. This implementation of space-based ADS-B will serve to provide surveillance redundancy capabilities, improved Search and Rescue capabilities, and airspace efficiency while maintaining safety in the provision of ATS within the Piarco FIR.

2.7 AIDC Testing and Implementation

2.7.1 Trinidad and Tobago (Piarco ACC) and United States (New York ARTCC) realised full implementation Air Traffic Services Inter-Facility Data Communications (AIDC) with the signing of a revised operational Letter of Agreement (LOA) with New York ARTCC, which took effect in December 2025.

2.7.1 States/Territories within the Piarco FIR/CTA as well as neighbouring ANSPs such as French Guiana, Puerto Rico, Senegal and Portugal, have shown interest in commencing AIDC tests with Trinidad and Tobago. Collaborations have effectively begun with San Juan Combined Control Facility (CCF) with expected implementation by the first quarter of 2027.

2.8 Impact of Space Launch Vehicles on ATS Operations within Piarco FIR

2.8.1 With increasing space launch vehicle activities, the ANSPs of Trinidad and Tobago, and other States/Territories of the E/CAR, NAM, SAM and SAT Regions have experienced challenges with the use of terminology, and in ensuring the safe and efficient movement of aircraft within their respective

Terminal Control Areas (TMAs) and FIRs. Airline operators have also faced challenges with the efficiency of, and additional cost to operating their flights.

2.8.2 For the ANSPs the challenges were experienced regarding the use of varying terminology. For example, according to ICAO Annex 11 - Air Traffic Services, there are three (3) main ways to categorize portions of airspace that may have some type of restriction to aircraft operations:

- Prohibited Area,
- Restricted Area, and
- Danger Area.

However, it has been recognized that some States/ANSPs utilize different terminology to indicate airspace restrictions/contingency areas. For example, the United States utilizes the following terms:

- Aircraft Hazard Area,
- Debris Response Area, and
- 10^{-7} Area.

2.8.3 The failure of SpaceX Super-Heavy Flight-7 launch vehicle on 16 January 2025, impacted the provision of ATS within the Piarco FIR, and neighbouring FIRs, when falling debris was reported outside the declared danger areas by various aircraft. Trinidad and Tobago was not provided with any prior information indicating that any portion of airspace within the FIR was at risk during the launch operation, and therefore, did not implement strategic measures to address such a possibility.

2.8.4 Piarco Area Control Centre (ACC) therefore had to implement tactical measures, which involved, the holding of several aircraft within its airspace; and the return of aircraft to their points of departure within the Piarco FIR or, the diversion to land in Trinidad and Tobago in the interest of safety. In the post analysis, the identified challenges posed by this launch made it clear that strategically harmonized procedures were required for future events. Additionally, it was identified that Collaborative Decision Making (CDM) processes between ANSPs, aircraft operators, and other relevant stakeholders were of utmost importance in preparing for future launch operations.

2.8.5 While Trinidad and Tobago's ANSPs along with neighbouring ANSPs have witnessed the increase in successful space launch vehicles, the following has been acknowledged:

- The need for standardized terminology for affected areas, within the Region that would be clearly understood by all stakeholders; and
- The need for effective CDM procedures with the concerned aviation stakeholders in preparation for future space vehicle launches.

2.8.6 Such collaborative actions taken by Trinidad and Tobago in collaboration with neighbouring ANSPs, airspace operators, space launch operators and regional and international organisations has resulted in the development of harmonised strategies to mitigate safety risks and minimise disruptions to ATS and aircraft operations.

APPENDIX A

Air Traffic Movements within Piarco FIR/CTA/UTA for the period January 2024 to March 2026

MONTHS	NO. OF FLIGHTS PER YEAR		
	2024	2025	2026
January	10,545	11,580	11,230
February	9,650	10,064	10,160
March	9,913	11,072	10,813
April	9,062	9,807	
May	8,691	9,074	
June	8,520	*8,811*	
July	9,158	9,732	
August	9,302	9,806	
September	7,981	8,346	
October	8,703	9,208	
November	9,909	9,616	
December	11,271	11,155	
TOTAL	**112,705**	**118,271**	

Source: TTCAA ANS Planning and Development Department - 2026