



JAMAICA'S AVIATION SYSTEM BLOCK UPGRADE (ASBU) IMPLEMENTATION

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JAMAICA'S AVIATION SYSTEM BLOCK UPGRADE (ASBU) IMPLEMENTATION

What is ASBU?

- An ICAO organized approach to the implementation of present and future technology
- Arranged in Blocks and Modules within those Blocks
- 4 Key Performance Improvement Area



JAMAICA'S AVIATION SYSTEM BLOCK UPGRADE (ASBU) IMPLEMENTATION

Four Blocks:

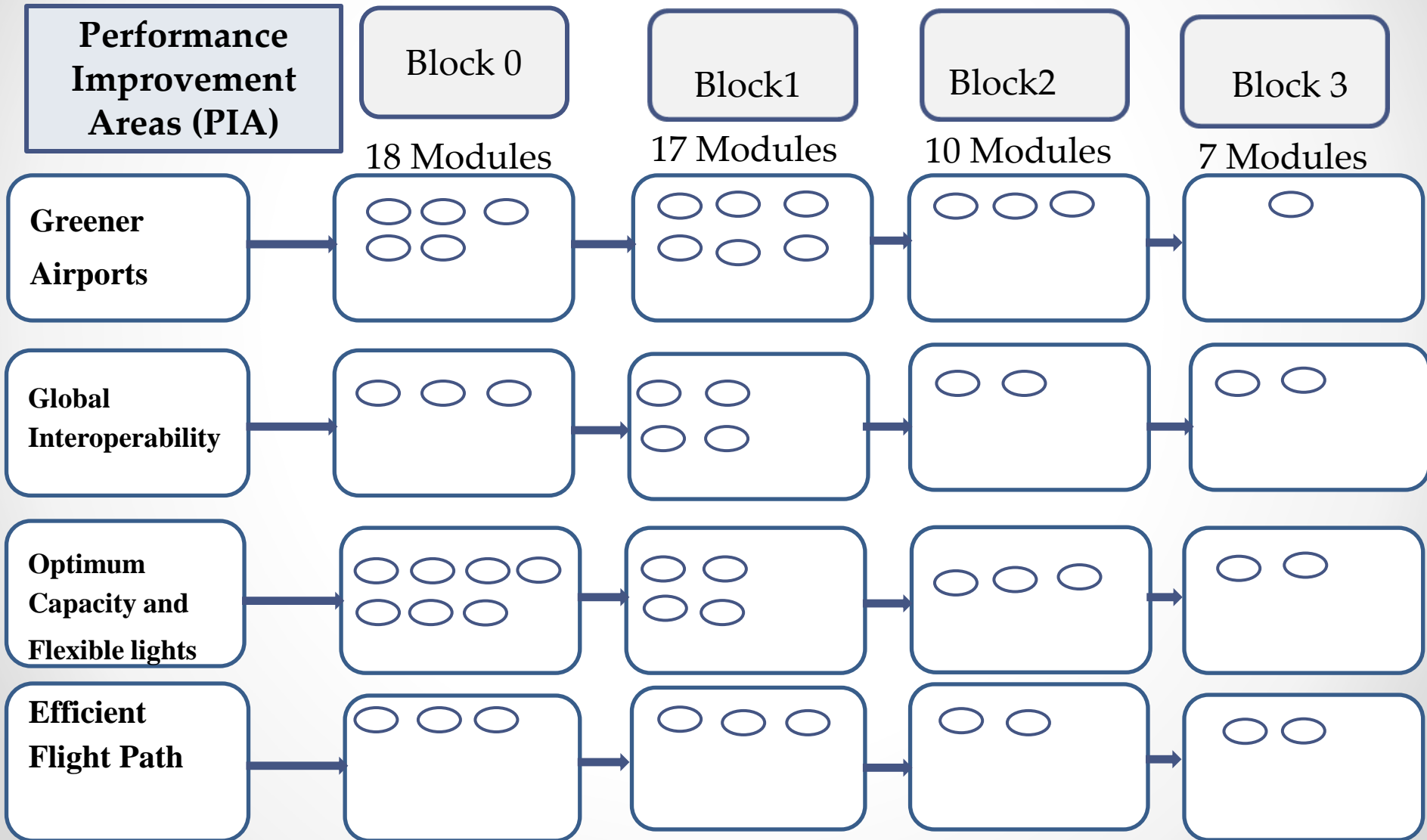
- Block 0 2013-2019
- Block 1 2020-2026
- Block 2 2027-2033
- Block 3 2034-2040

Four PIAs

- Greener Airports
- Global Interoperable system and Data
- Optimum Capacity and Flexible Flights
- Efficient Flight Path



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Modules of Block 0

PIAs

Greener Airports

- B0-15- RSEQ Runway Sequencing
- B0-65- APTA Airport Accessibility
- B0-70- WAKE Turbulence Separation
- B0-75- SURF Surface Operations
- B0-80-ACDM Airport Collaborative Decision Making

Global Interoperability systems and Data

- **B0-25** - FICE FF/ICE
- **B0-30**- DAIM Digital Aeronautical Management
- **B0-105**- AMET Advanced Meteorological Information



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Modules of Block 0

PIAs cont'd

Optimum Capacity and Flexible Flights

- B0-10-FRTO Free Route Operations
- B0-35- NOPS Network Operations
- B0-84- ASUR Alternative Surveillance
- B0-85- ASEP Airborne Separation
- B0-86-OPFL Optimum Flight Levels
- B0-101-ACAS Airborne Collision Avoidance Systems
- B0-102-SNET Ground-Based Safety Nets

Efficient Flight Paths

- B0-05- CDO Continuous Descent Operations
- B0-20-CCO Continuous Climb Operations
- B0-40- TBO Trajectory-Based Operations



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Jamaica's Block 0 modules and status

PIA -Greener Airports

B0-15-Improved Runway Traffic Flow, through Sequencing (AMAN/DMAN)

Time-based metering to sequence departing and arriving flights.

- This is for airport operator. It is currently being done, but on a rudimentary level'

B0-65 - Optimization of Approach Procedures including Vertical Guidance

This is the first step toward universal implementation of GNSS-based approaches. Element RNAV approach.

- RNAV approaches for both international airports were introduced last years with work currently being done to introduce BARO VNAV



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PIA- Greener Airports

B0-70-Increased Runway Throughput through, Wake Turbulence Separation

Improved throughput on departure and arrival runways through the revision of current ICAO wake vortex separation minima and procedures.

-This is not being considered at this time, as it is not warranted by the volume of traffic currently moving into and out of the airports. We are still using the old wake turbulence separation standards

B0-75-Improved Runway Safety (A-SMGCS) Airport surface surveillance for ANSP

-Simplicity of local operations and low traffic density at our airports does not require the JCAA to implement this module.

B0-80-Improved Airport Operations through ACDM

Airport operational improvements through the way operational partners at airports work together

-Already implemented through collaboration of airport operator expansion and development plans with the JCAA's ANS Master Plan



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PIA-Global Interoperability systems and Data

B0-25-Increased Interoperability, Efficiency and Capacity through Ground-Ground Integration

Supports the coordination of ground-ground data communication between ATSU based on ATS Inter-facility Data Communication (AIDC) defined by ICO Document 9694

-AIDC is currently being tested in the KATCC with Cuba and Panama and the test thus far are very successful. When the testing is completed with Cuba and Panama testing with other adjacent Flight Information Regions (FIRs) will commence. Full implementation will take place once testing with all the adjacent FIRs are completed.

B0-30- Service Improvement through Digital Aeronautical Information Management

Initial introduction of digital processing and management of information, by the implementation of AIS/AIM making use of AIXM, moving to electronic AIP and better quality and availability of data

-The process of transition to AIM has commenced with Phase 1 almost completed. Phase 2(Going digital)has commenced with a contract for the supply and installation of AIM equipment by the end on January 2019. The contractors are currently in the island to commence installation of the equipment.



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PIA-Global Interoperability systems and Data

B0-105 – Meteorological information supporting enhanced operational efficiency and safety

This module includes meteorological information supporting automated decision processes or aids such as meteorological information translation, ATM decision support. This module enables the reliable identification of applicable ATM solutions when meteorological conditions are impacting (observed) or expected to impact (forecast) aerodromes or

-Responsibility of the Met Office.



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PIA-Global Interoperability systems and Data

B0-84 – Initial surveillance capability ADS-B Out, MLAT

Ground surveillance supported by ADS-B OUT and/or wide area multilateration systems will improve safety, especially search and rescue and capacity through separation reductions

.-Will not be implemented by Jamaica

B0-102 – Baseline Ground-based Safety Nets

To monitor the operational environment during airborne phases of flight, the alerts such as Short Term Conflict Alert, Area Proximity Warnings and Minimum Safe Altitude Warnings. are proposed in this module.

- Already implemented and including Medium Term Conflict Alert with all other alerts mentioned above.



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PIA-Global Interoperability systems and Data

B0-10: Improved Operations through Enhanced En-Route Trajectories

Implementation of performance-based navigation (PBN concept) and flex tracking to avoid significant weather and to offer greater fuel efficiency, flexible use of airspace (FUA) through special activity airspace allocation, airspace planning and time-based metering, and collaborative decision-making (CDM) for en-route airspace with increased information exchange among ATM stakeholders.

Phase I (PFA 1) of PBN was implemented in October of 2017. Phase 2 (PFA 2) is being work on.

B0-85: Air Traffic Situational Awareness (ATSA)

ATSA provides a cockpit display of a graphical depiction of traffic to assist the pilot in out-the-window visual acquisition of traffic:

-This is a matter for airlines.



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PIA-Global Interoperability systems and Data

B0-86: Improved access to Optimum Flight Levels through Climb/Descent Procedures using ADS-B

The use of In Trail Procedure (ITP) facilitates en-route climb or descent to enable better use of optimal flight levels in environments where a lack of ATC surveillance and/or the large separation minima currently implemented is a limiting factor.

ITP not applicable to Jamaica at this time.

B0-35: Improved Flow Performance through Planning based on a Network-Wide view

Collaborative ATFM measure to regulate peak flows involving departure slots, managed rate of entry into a given piece of airspace for traffic along a certain axis, requested time at a waypoint or an FIR/sector boundary along the flight

An ATFM unit has been established in the KATCC. Four additional persons were recently trained in Atlanta to assist the original four controllers with the management of ATFM. Plans are being made for all controllers to be trained in ATFM



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PIA-Global Interoperability systems and Data

B0-101 ACAS Improvements

This addresses short term improvements to the performance of the existing airborne collision avoidance systems (ACAS)

-The burden rest with the airlines to enhance their airborne avoidance systems. However the new Topsy equipment has enhanced collision avoidance alerts. Collision avoidance has expanded from short term conflict alert to medium term conflict alert



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PIA-Efficient Flight Paths

B0-05 Improved Flexibility and Efficiency in Descent Profiles (CDOs)

Deployment of performance-based airspace and arrival procedures that allow the aircraft to fly their optimum aircraft profile taking account of airspace and traffic complexity with continuous descent operations (CDOs)

-Already implemented in the north sector with Havana from Sangster Airport. More complex situations are being developed.

B0-40 Improved Safety and Efficiency through the initial application of Data Link En-Route

Implementation of an initial set of data link applications for surveillance and communications in ATC-

The new equipment has the capability to provide Controller Pilot Data Link Communication (CPDLC) and will be implemented on a phased basis.



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PIA-Efficient Flight Paths

B0-20 -Improved Flexibility and Efficiency in Departure Profiles

Deployment of departure procedures that allow the aircraft to fly their optimum aircraft profile taking account of airspace and traffic complexity with continuous climb operations (CCOs)

-Same as CDO. Only northbound flights out of Sangster Airport in effect. Other more complex situation being worked on.



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The End