Saint Lucia Block 0 Status Summary Table (December 5 2016)

Module	Elements	Need Analysis				Implementation Status (if Element is needed)			
		Not Started	In Progress	Need	N/A	Planning	Developing	Partially Implemented	Implemented
Performance Improvement Area 1: Airport Operations									
ACDM	1. Airport CDM procedures					✓			
	2. Airport CDM tools					✓			
	3. Collaborative departure queue management					✓			
APTA	1. PBN Approach Procedures with vertical guidance (LPV, LNAV/VNAV minima, using SBAS and Baro VNAV)								✓
	2. PBN Approach Procedures without vertical guidance (LP, LNAV minima; using SBAS)								✓
	3. GBAS Landing System (GLS) Approach procedures			✓					
RSEQ	1. AMAN via controlled time of arrival to a reference fix				✓				
	2. AMAN via controlled time of arrival at the aerodrome				✓				
	3. Departure management				✓				
	4. Departure flow management				✓				
	5. Point merge				✓				
SURF	1. A-SMGCS with at least one cooperative surface surveillance system				✓				
	2. Including ADS-B APT as an element of A-SMGCS				✓				
	3. A-SMGCS alerting with flight identification information				✓				
	4. Airport vehicles equipped with transponders				✓				
WAKE	1. New PANS-ATM wake turbulence categories and separation minima				✓				
	2. Dependent diagonal paired approach procedures for parallel runways with centrelines spaced less than 760 meters (2,500 feet) apart				✓				
	3. Wake independent departure and arrival procedures for parallel runways with centrelines spaced less than 760 meters (2,500 feet) apart				✓				
	4. Wake turbulence mitigation for departures procedures for parallel runways with centrelines spaced less than 760 meters (2,500 feet) apart				✓				
	5. 6 wake turbulence categories and separation minima				✓				
AMET	1. WAFS								✓
	2. IAVW				✓				
	3. TCAC forecasts								✓
	4. Aerodrome warnings							✓	
	5. Wind shear warnings and alerts							✓	
	6. SIGMET				✓				
	7. Other OPMET information (METAR, SPECI and/or TAF)								✓
	8. QMS for MET							✓	
DATM	1. Aeronautical Information Exchange Model (AIXM)	✓							
	2. eAIP								✓
	3. Digital NOTAM	✓							
	4. eTOD	✓							
	5. WGS-84								✓
	6. QMS for AIM						✓		
FICE	1. AIDC to provide initial flight data to adjacent ATSUs				✓				
	2. AIDC to update previously coordinated flight data				✓				

Module	Elements	Need Analysis				Implementation Status (if Element is needed)			
		Not Started	In Progress	Need	N/A	Planning	Developing	Partially Implemented	Implemented
	3. AIDC for control transfer				✓				
	4. AIDC to transfer CPDLC logon information to the Next Data Authority				✓				
ACAS	1. ACAS II (TCAS version 7.1)	✓							
	2. Auto Pilot/Flight Director (AP.FD) TCAS				✓				
	3. TCAS Alert Prevention (TCAP)				✓				
ASEP	1. ATSA-AIRB				✓				
	2. ATSA-VSA				✓				
ASUR	1. ADS-B					✓			
	2. Multilateration (MLAT)				✓				
FRTO	1. CDM incorporated into airspace planning				✓				
	2. Flexible Use of Airspace (FUA)				✓				
	3. Flexible route system				✓				
	4: CPDLC used to request and receive re-route clearances				✓				
NOPS	1. ATFM						✓		
OPFL	1. ITP using ADS-B				✓				
SNET	1. Short Term Conflict Alert implementation (STCA)	✓							
	2. Area Proximity Warning (APW)	✓							
	3. Minimum Safe Altitude Warning (MSAW)	✓							
	4. Medium Term Conflict Alert (MTCA)	✓							
CCO	1. Procedure changes to facilitate CCO				✓				
	2. Route changes to facilitate CCO				✓				
	3. PBN SIDs						✓		
CDO	1. Procedure changes to facilitate CDO				✓				
	2. Route changes to facilitate CDO				✓				
	3. PBN STARs								✓
TBO	1. ADS-C over oceanic and remote areas				✓				
	2. Continental CPDLC				✓				
	Total	**08**	**0**	**01**	**36**	**04**	**03**	**03**	**08**

Saint Lucia ASBU Air Navigation Reporting Form (ANRF)					
PIA	1	**Block - Module**	B0 - ACDM	**Date**	December 5, 2016

Module Description: Implements collaborative applications that will allow the sharing of surface operations data among the different stakeholders on the airport. This will improve surface traffic management reducing delays on movement and manoeuvring areas and enhance safety, efficiency and situational awareness.

Element Implementation Status

1	**Element Description:** Airport CDM procedures	**Date Planned/Implemented** October 1, 2017	**Status** Planning
	Status Details Currently this is being done but in an ad hoc manner. It is expected that it will be developed during the first half of next year and implementation to follow.		
2	**Element Description:** Airport CDM tools	**Date Planned/Implemented** October 1, 2017	**Status** Planning
	Status Details There is very little automation currently. It is expected that as it develops there will be full automation of the process. Exploring what works and what is best practice		
3	**Element Description:** Collaborative departure queue management	**Date Planned/Implemented** October 1, 2017	**Status** Planning
	Status Details We will explore what works and what is best practice to improve processes		

Achieved Benefits

Access and Equity
Elements 1 to 3: Customer Service and Airport stakeholder satisfaction levels will be enhanced.

Capacity
Element 1 to 3: Will improve capacity

Efficiency: Elements 1 to 3: We have limited apron parking and airport terminal area space. With projected increase traffic, CDM will be useful in managing these constraints and collaborating with our stakeholders for smoother operations

Environment
No report

Safety Elements 1 to 3: If we manage this well, it will improve overall safety

Implementation Challenges

Ground system Implementation
None

Avionics Implementation
None

Procedures Availability
None

Operational Approvals
None

Notes
None

Saint Lucia ASBU Air Navigation Reporting Form (ANRF)					
PIA	1	**Block - Module**	B0 - APTA	**Date**	December 5, 2016

Module Description: The use of Performance-based Navigation (PBN) and ground-based augmentation system (GBAS) landing system (GLS) procedures to enhance the reliability and predictability of approaches to runways, thus increasing safety, accessibility and efficiency. This is possible through the application of basic global navigation satellite system (GNSS), Baro-vertical navigation (VNAV), satellite-based augmentation system (SBAS) and GLS. The flexibility inherent in PBN approach design can be exploited to increase runway capacity.

Element Implementation Status

1	**Element Description:** PBN Approach Procedures with vertical guidance (LPV, LNAV/VNAV minima, using SBAS and Baro VNAV)	**Date Planned/Implemented** August 2010	**Status** Implemented
	Status Details All approaches can be carried out with the exception of LPV		
2	**Element Description:** PBN Approach Procedures without vertical guidance (LP, LNAV minima; using SBAS)	**Date Planned/Implemented** August 2010	**Status** Implemented
	Status Details PBN Approaches are currently operational for both airports TLPL/TLPC		
3	**Element Description:** GBAS Landing System (GLS) Approach procedures	**Date Planned/Implemented** TBD	**Status** Need
	Status Details Exploratory in collaboration with ECCAA and the wider region		

Achieved Benefits

Access and Equity
Element s 1 and 2: The implementation of PBN Approaches has catered to and fulfilled the operational requirements of the modern (NextGen) aircraft operating into Saint Lucia.

Capacity
Elements 1 and 2:Airport arrival rate has increased

Efficiency
Elements 1 and 2: Operational efficiency has improved

Environment
No report

Safety
Elements 1 and 2: have improved safety especially in marginal weather conditions

Implementation Challenges

Ground system Implementation
Element 3: GBAS implementation is dependent on a collaborative and regional approach

Avionics Implementation
None

Procedures Availability
None

Operational Approvals
None

Notes
None

Saint Lucia ASBU Air Navigation Reporting Form (ANRF)					
PIA	1	**Block - Module**	B0 - RSEQ	**Date**	December 5, 2016

Module Description: Manage arrivals and departures (including time-based metering) to and from a multi-runway aerodrome or locations with multiple dependent runways at closely proximate aerodromes, to efficiently utilize the inherent runway capacity.

Element Implementation Status

1	**Element Description:** AMAN via controlled time of arrival to a reference fix	**Date Planned/Implemented** NA	**Status** NA
	Status Details NA		
2	**Element Description:** AMAN via controlled time of arrival at the aerodrome	**Date Planned/Implemented** NA	**Status** NA
	Status Details NA		
3	**Element Description:** Departure management	**Date Planned/Implemented** NA	**Status** NA
	Status Details NA		
4	**Element Description:** Departure flow management	**Date Planned/Implemented** NA	**Status** NA
	Status Details NA		
5	**Element Description:** Point merge	**Date Planned/Implemented** NA	**Status** NA
	Status Details NA		

Achieved Benefits

Access and Equity
NA

Capacity
NA

Efficiency
NA

Environment
NA

Safety
NA

Implementation Challenges

Ground system Implementation
NA

Avionics Implementation
NA

Procedures Availability
NA

Operational Approvals
NA

Notes
None

Saint Lucia ASBU Air Navigation Reporting Form (ANRF)					
PIA	1	**Block - Module**	B0 - SURF	**Date**	December 5, 2016

Module Description: Basic advanced-surface movement guidance and control systems (A-SMGCS) provides surveillance and alerting of movements of both aircraft and vehicles at the aerodrome, thus improving runway/aerodrome safety.

Automatic dependent surveillance-broadcast (ADS-B) information is used when available (ADS-B APT).

Element Implementation Status

1	**Element Description:** A-SMGCS with at least one cooperative surface surveillance system	**Date Planned/Implemented** NA	**Status** NA
	Status Details NA		
2	**Element Description:** Including ADS-B APT as an element of A-SMGCS	**Date Planned/Implemented** NA	Status NA
	Status Details NA		
3	**Element Description:** **A**-SMGCS alerting with flight identification information	**Date Planned/Implemented** NA	**Status** NA
	Status Details NA		
4	**Element Description:** Airport vehicles equipped with transponders	**Date Planned/Implemented** NA	**Status** NA
	Status Details NA		

Achieved Benefits

Access and Equity
NA

Capacity
NA

Efficiency
NA

Environment
NA

Safety
NA

Implementation Challenges

Ground system Implementation
NA

Avionics Implementation
NA

Procedures Availability
NA

Operational Approvals
NA

Notes
None

[Saint Lucia] ASBU Air Navigation Reporting Form (ANRF)					
PIA	1	**Block - Module**	B0 - WAKE	**Date**	December 2, 2016

Module Description: Improved throughput on departure and arrival runways through optimized wake turbulence separation minima, revised aircraft wake turbulence categories and procedures.

Element Implementation Status

1	**Element Description:** New PANS-ATM wake turbulence categories and separation minima	**Date Planned/Implemented** NA	**Status** NA
	Status Details Awaiting regional decision/development on matter		
2	**Element Description:** Dependent diagonal paired approach procedures for parallel runways with centrelines spaced less than 760 meters (2,500 feet) apart	**Date Planned/Implemented** NA	**Status** NA
	Status Details NA		
3	**Element Description:** Wake independent departure and arrival procedures for parallel runways with centrelines spaced less than 760 meters (2,500 feet) apart	**Date Planned/Implemented** NA	**Status** NA
	Status Details NA		
4	**Element Description:** Wake turbulence mitigation for departures procedures for parallel runways with centrelines spaced less than 760 meters (2,500 feet) apart	**Date Planned/Implemented** NA	**Status** NA
	Status Details NA		
5	**Element Description:** 6 wake turbulence categories and separation minima	**Date Planned/Implemented** NA	**Status** NA
	Status Details		

Achieved Benefits

Access and Equity
NA

Capacity
NA

Efficiency
NA

Environment
NA

Safety
NA

Implementation Challenges

Ground system Implementation
NA

Avionics Implementation
NA

Procedures Availability NA
Operational Approvals NA
Notes None

Saint Lucia ASBU Air Navigation Reporting Form (ANRF)					
PIA	2	**Block - Module**	B0 - AMET	**Date**	December 5, 2016

Module Description: Global, regional and local meteorological information:

a) forecasts provided by world area forecast centres (WAFC), volcanic ash advisory centres (VAAC) and tropical cyclone advisory centres (TCAC);

b) aerodrome warnings to give concise information of meteorological conditions that could adversely affect all aircraft at an aerodrome including wind shear; and

c) SIGMETs to provide information on occurrence or expected occurrence of specific en-route weather phenomena which may affect the safety of aircraft operations and other operational meteorological (OPMET) information, including METAR/SPECI and TAF, to provide routine and special observations and forecasts of meteorological conditions occurring or expected to occur at the aerodrome.

This information supports flexible airspace management, improved situational awareness and collaborative decision making, and dynamically optimized flight trajectory planning.

This module includes elements which should be viewed as a subset of all available meteorological information that can be used to support enhanced operational efficiency and safety.

Element Implementation Status

1	**Element Description:** WAFS	**Date Planned/Implemented** January. 2000	**Status** Implemented
	Status Details Fully Operational		
2	**Element Description:** IAVW	**Date Planned/Implemented** NA	**Status** NA
	Status Details NA		
3	**Element Description:** TCAC forecasts	**Date Planned/Implemented** January 2000	**Status** Implemented
	Status Details Fully Operational		
4	**Element Description:** Aerodrome warnings	**Date Planned/Implemented** July 2013	**Status** Partially Implemented
	Status Details Work in progress		
5	**Element Description:** Wind shear warnings and alerts	**Date Planned/Implemented** July 2013	**Status** Partially Implemented
	Status Details Work in progress		
6	**Element Description:** SIGMET	**Date Planned/Implemented** NA	**Status** NA
	Status Details NA		
7	**Element Description:** Other OPMET information (METAR, SPECI and/or TAF)	**Date Planned/Implemented** January 2000	**Status** Implemented
	Status Details Fully operational		
8	**Element Description:** QMS for MET	**Date Planned/Implemented** July 2013	**Status** Partially Implemented

	Status Details Full implementation expect in July of 2018
Achieved Benefits	
Access and Equity No report	
Capacity No report	
Efficiency Element 1, 3, 4, 5, 7 Has improved efficiency with timely information assisting in sound decision making where Airport operations are concerned. Element 4 and 5 critical information available in a timely manner Element 8, improvement in the overall service to ATC, Flight crew, and Airport community.	
Environment No report	
Safety Elements 1,3, 4,5 7 has improved on the safety of aviation by having timely and more accurate analysis of weather information available	
Implementation Challenges	
Ground system Implementation No report	
Avionics Implementation No report	
Procedures Availability No report	
Operational Approvals No report	
Notes NA	

Saint Lucia ASBU Air Navigation Reporting Form (ANRF)					
PIA	2	**Block - Module**	B0 - DATM	**Date**	December 5, 2016

Module Description: The initial introduction of digital processing and management of information through, aeronautical information service (AIS)/aeronautical information management (AIM) implementation, use of aeronautical exchange model (AIXM), migration to electronic aeronautical information publication (AIP) and better quality and availability of data.

Element Implementation Status

1	**Element Description:** Aeronautical Information Exchange Model (AIXM)	**Date Planned/Implemented** TBD	**Status** Not started
	Status Details Saint Lucia intends to discuss this with regional partners on a regional approach		
2	**Element Description:** eAIP	**Date Planned/Implemented** 2012	**Status** Implemented
	Status Details AIPs are currently made available electronically		
3	**Element Description:** Digital NOTAM	**Date Planned/Implemented** TBD	**Status** Not started
	Status Details Implementation would be based on a regional approach through Piarco AIS/ Notam Office which is the International Notam Office for the ECAR Region		
4	**Element Description:** eTOD	**Date Planned/Implemented** TBD	**Status** Not started
	Status Details Still assessing need		
5	**Element Description:** (Identified by NACC) WGS-84	**Date Planned/Implemented** 1993	**Status** Implemented
	Status Details Has been implementation for over twenty years		
6	**Element Description:** QMS for AIM	**Date Planned/Implemented** March 31, 2017	**Status** Developing
	Status Details Saint Lucia is working under the Piarco AIS QMS umbrella; LOAs and other related docs have been completed and submitted.		

Achieved Benefits

Access and Equity
No report

Capacity
Element 6: As part of the Piarco AIS QMS umbrella has and will allow us to operate and achieve even with limited staffing

Efficiency
Element 6: It is anticipated that there will be greater efficiency and attention to detail in the service provided.

Environment
No report

Safety
Element 6: Improvements in safety and regularity are anticipated.

Implementation Challenges

Ground system Implementation None
Avionics Implementation none
Procedures Availability None
Operational Approvals none
Notes None

Saint Lucia ASBU Air Navigation Reporting Form (ANRF)					
PIA	2	**Block - Module**	B0 - FICE	**Date**	December 5, 2016

Module Description: Improves coordination between air traffic service units (ATSUs) by using ATS interfacility data communication (AIDC) defined by the ICAO Manual of Air Traffic Services Data Link Applications (Doc 9694). The transfer of communication in a data link environment improves the efficiency of this process, particularly for oceanic ATSUs.

Element Implementation Status

1	**Element Description:** AIDC to provide initial flight data to adjacent ATSUs	**Date Planned/Implemented** NA	**Status** NA
	Status Details		
2	**Element Description:** AIDC to update previously coordinated flight data	**Date Planned/Implemented** NA	**Status** NA
	Status Details NA		
3	**Element Description:** AIDC for control transfer	**Date Planned/Implemented** NA	**Status** NA
	Status Details NA		
4	**Element Description:** AIDC to transfer CPDLC logon information to the Next Data Authority	**Date Planned/Implemented** NA	**Status** NA
	Status Details NA		

Achieved Benefits

Access and Equity
NA

Capacity NA
NA

Efficiency
NA

Environment
NA

Safety
NA

Implementation Challenges

Ground system Implementation
NA

Avionics Implementation
NA

Procedures Availability
NA

Operational Approvals
NA

Notes
NONE

Saint LuciA ASBU Air Navigation Reporting Form (ANRF)					
PIA	3	**Block - Module**	B0 - ACAS	**Date**	December 5, 2016

Module Description: Provides short-term improvements to existing airborne collision avoidance systems (ACAS) to reduce nuisance alerts while maintaining existing levels of safety. This will reduce trajectory deviations and increase safety in cases where there is a breakdown of separation.

Element Implementation Status

1	**Element Description:** ACAS II (TCAS version 7.1)	**Date Planned/Implemented** TBD	**Status** Not started
	Status Details Awaiting decision by ECCAA for the States under its jurisdiction on this matter		
2	Element Description: Auto Pilot/Flight Director (AP/FD) TCAS	Date Planned/Implemented NA	**Status** NA
	Status Details NA		
3	**Element Description:** TCAS Alert Prevention (TCAP)	**Date Planned/Implemented** NA	**Status** NA
	Status Details NA		

Achieved Benefits

Access and Equity
Element 1: No report

Capacity
Element 1 : No report

Efficiency
Element 1 : No report

Environment
Element 1 : No report

Safety
Element 1 : No report

Implementation Challenges

Ground system Implementation
Element 1: No report

Avionics Implementation
Element 1: No report

Procedures Availability
Element 1: No report

Operational Approvals
Element 1: No report

Notes
None

Saint Lucia ASBU Air Navigation Reporting Form (ANRF)					
PIA	3	**Block - Module**	B0 - ASEP	**Date**	December 5, 2016

Module Description: Two air traffic situational awareness (ATSA) applications which will enhance safety and efficiency by providing pilots with the means to enhance traffic situational awareness and achieve quicker visual acquisition of targets:
a) AIRB (basic airborne situational awareness during flight operations).
b) VSA (visual separation on approach).

Element Implementation Status

1	**Element Description:** ATSA-AIRB	**Date Planned/Implemented** NA	**Status** NA
	Status Details NA		
2	**Element Description:** ATSA-VSA	**Date Planned/Implemented** NA	**Status** NA
	Status Details NA		

Achieved Benefits

Access and Equity
NA

Capacity
NA

Environment
NA

Safety
NA

Implementation Challenges

Ground system Implementation
None

Avionics Implementation
None

Procedures Availability
None

Operational Approvals
None

Notes
None

Saint Lucia ASBU Air Navigation Reporting Form (ANRF)					
PIA	3	**Block - Module**	B0 - ASUR	**Date**	December 5, 2016

Module Description: Provides initial capability for lower cost ground surveillance supported by new technologies such as ADS-B OUT and wide area multilateration (MLAT) systems. This capability will be expressed in various ATM services, e.g. traffic information, search and rescue and separation provision.

Element Implementation Status

1	**Element Description:** ADS-B	**Date Planned/Implemented** TBD	**Status** Planning
	Status Details Saint Lucia is working on implementation in conjunction with ECCAA, as a collaborative project with all states under the ECCAA jurisdiction.		
2	**Element Description:** MLAT	**Date Planned/Implemented** NA	**Status** NA
	Status Details NA		

Achieved Benefits

Access and Equity
Element 1: No report

Capacity
Element 1: No report

Efficiency
Element 1: No report

Environment
Element 1: No report

Safety
Element 1: No report

Implementation Challenges

Ground system Implementation
Element 1: No report

Avionics Implementation
Element 1: No report

Procedures Availability
Element 1: No report

Operational Approvals
Element 1: No report

Notes
None

Saint Lucia ASBU Air Navigation Reporting Form (ANRF)					
PIA	3	**Block - Module**	B0 - FRTO	**Date**	December 5, 2016

Module Description: Allow the use of airspace which would otherwise be segregated (i.e. Special Use Airspace) along with flexible routing adjusted for specific traffic patterns. This will allow greater routing possibilities, reducing potential congestion on trunk routes and busy crossing points, resulting in reduced flight lengths and fuel burn.

Element Implementation Status

1	**Element Description:** CDM incorporated into airspace planning	**Date Planned/Implemented** NA	**Status** NA
	Status Details Saint Lucia will be guided by the regional approach through Piarco in this area		
2	**Element Description:** Flexible Use of Airspace (FUA)	**Date Planned/Implemented** NA	**Status** NA
	Status Details NA		
3	**Element Description:** Flexible route systems	**Date Planned/Implemented** NA	**Status** NA
	Status Details NA		
4	**Element Description:** CPDLC used to request and receive re-route clearances	**Date Planned/Implemented** NA	**Status** NA
	Status Details NA		

Achieved Benefits

Access and Equity
NA

Capacity
NA

Efficiency
NA

Environment
NA

Safety
NA

Implementation Challenges

Ground system Implementation
NA

Avionics Implementation
NA

Procedures Availability
Element 1: Unknown

Operational Approvals
NA

Notes
None

Saint Lucia ASBU Air Navigation Reporting Form (ANRF)					
PIA	3	**Block - Module**	B0 - NOPS	**Date**	December 5, 2016

Module Description: Air traffic flow management (ATFM) is used to manage the flow of traffic in a way that minimizes delays and maximizes the use of the entire airspace. ATFM can regulate traffic flows involving departure slots, smooth flows and manage rates of entry into airspace along traffic axes, manage arrival time at waypoints or flight information region (FIR)/sector boundaries and re-route traffic to avoid saturated areas. ATFM may also be used to address system disruptions including a crisis caused by human or natural phenomena.

Element Implementation Status

	Element Description:	Date Planned/Implemented	Status
1	ATFM	March 31, 2017	Developing
	Status Details Saint Lucia is part of a regional phased approach on ATFM implementation in the PIARCO FIR, which is spearheaded by the ATM/ATFM Units		

Achieved Benefits

Access and Equity

Element 1: Respective States will have access to shared information which will benefit the State and the region simultaneously.

Capacity

Element 1: Airspace and Airport capacity management will be optimized

Efficiency

Element 1:Through a CDM process ATFM implementation will improve traffic management and as a result improve efficiency

Environment

No report

Safety

No report

Implementation Challenges

Ground system Implementation

None

Avionics Implementation

None

Procedures Availability

None

Operational Approvals

None

Notes

None

Saint Lucia ASBU Air Navigation Reporting Form (ANRF)					
PIA	3	**Block - Module**	B0 - OPFL	**Date**	December 5, 2016
Module Description: Enables aircraft to reach a more satisfactory flight level for flight efficiency or to avoid turbulence for safety. The main benefit of ITP is significant fuel savings and the uplift of greater payloads.					
Element Implementation Status					
1	**Element Description:** ITP using ADS-B			**Date Planned/Implemented** NA	**Status** NA
	Status Details NA				
Achieved Benefits					
Access and Equity NA					
Capacity NA					
Efficiency NA					
Environment NA					
Safety NA					
Implementation Challenges					
Ground system Implementation None					
Avionics Implementation None					
Procedures Availability **N**one					
Operational Approvals None					
Notes None					

Saint Lucia ASBU Air Navigation Reporting Form (ANRF)					
PIA	3	**Block - Module**	B0 - SNET	**Date**	December 5, 2016

Module Description: Monitors the operational environment during airborne phases of flight to provide timely alerts on the ground of an increased risk to flight safety. In this case, short-term conflict alert, area proximity warnings and minimum safe altitude warnings are proposed. Ground-based safety nets make an essential contribution to safety and remain required as long as the operational concept remains human centred.

Element Implementation Status

1	**Element Description:** Short Term Conflict Alert (STCA)	**Date Planned/Implemented** NA	**Status** NA
	Status Details NA		
2	**Element Description:** Area Proximity Warning (APW)	**Date Planned/Implemented** NA	**Status** NA
	Status Details NA		
3	**Element Description:** Minimum Safe Altitude Warning (MSAW)	**Date Planned/Implemented** NA	**Status** NA
	Status Details NA		
4	**Element Description:** Medium Term Conflict Alert (MTCA)	**Date Planned/Implemented** NA	**Status** NA
	Status Details NA		

Achieved Benefits

Access and Equity
NA

Capacity
NA

Efficiency
NA

Environment
NA

Safety
NA

Implementation Challenges

Ground system Implementation
NA

Avionics Implementation
NA

Procedures Availability
NA

Operational Approvals
NA

Notes
None

Saint Lucia ASBU Air Navigation Reporting Form (ANRF)					
PIA	4	**Block - Module**	B0 - CCO	**Date**	December 5, 2016

Module Description: Implements continuous climb operations (CCO) in conjunction with Performance-based Navigation (PBN) to provide opportunities to optimize throughput, improve flexibility, enable fuel-efficient climb profiles, and increase capacity at congested terminal areas.

Element Implementation Status

1	**Element Description:** Procedure changes to facilitate CCO	**Date Planned/Implemented** NA	**Status** NA
	Status Details NA		
2	**Element Description:** Route changes to facilitate CCO	**Date Planned/Implemented** NA	**Status** NA
	Status Details NA		
3	**Element Description:** PBN SIDs	**Date Planned/Implemented** **October 1, 2017**	**Status** Developing
	Status Details Element3: Has been flight checked, awaiting publication. SIDS will be only available at TLPL.		

Achieved Benefits

Access and Equity
Element 3: The implementation of PBN SIDS will cater to and fulfill the operational requirements of all aircraft operating into and out of Saint Lucia.

Capacity
Element 3: Will aid in improving airspace capacity for departure rates

Efficiency
Element3: Will improve ATC Operational efficiency and likely compliment CCO Procedures in adjacent airspaces

Environment
Element 3: Will reduce Carbon Dioxide emissions

Safety
Element 3: Will improve safety, arrivals will be separated from departures

Implementation Challenges

Ground system Implementation
Element 3: No report

Avionics Implementation
Element 3: No report

Procedures Availability
Element 3: No report

Operational Approvals
Element3: No report

Notes
None

Saint Lucia ASBU Air Navigation Reporting Form (ANRF)					
PIA	4	**Block - Module**	B0 - CDO	**Date**	December 5, 2016

Module Description: Performance-based airspace and arrival procedures allowing aircraft to fly their optimum profile using continuous descent operations (CDOs). This will optimize throughput, allow fuel efficient descent profiles, and increase capacity in terminal areas.

Element Implementation Status

1	**Element Description:** Procedure changes to facilitate CDO	**Date Planned/Implemented** NA	**Status** NA
	Status Details		
2	**Element Description:** Route changes to facilitate CDO	**Date Planned/Implemented** NA	**Status** NA
	Status Details NA		
3	**Element Description:** PBN STARs	**Date Planned/Implemented** August 2010	**Status** Implemented
	Status Details They have been implemented at both airports, TLPL/TLPC		

Achieved Benefits

Access and Equity
Element 3: The implementation of PBN Approaches has catered to and fulfilled the operational requirements of the modern (Next Gen) aircraft operating into Saint Lucia.

Capacity
Element 3: Has increased capacity on arrival rates

Efficiency
Element 3: Has increased efficiency and customer satisfaction

Environment
Element 3: Has reduced Carbon Dioxide emissions

Safety
Element 3: Has improved safety, arrivals and departures are separated.

Implementation Challenges

Ground system Implementation
None

Avionics Implementation
None

Procedures Availability
none

Operational Approvals
none

Notes

Saint Lucia ASBU Air Navigation Reporting Form (ANRF)					
PIA	4	**Block - Module**	B0 - TBO	**Date**	December 5, 2016
Module Description: Implements an initial set of data link applications for surveillance and communications in air traffic control (ATC), supporting flexible routing, reduced separation and improved safety.					
Element Implementation Status					
1	**Element Description:** ADS-C over oceanic and remote areas			**Date Planned/Implemented** NA	**Status** NA
	Status Details NA				
2	**Element Description:** Continental CPDLC			**Date Planned/Implemented** NA	**Status** NA
	Status Details NA				
Achieved Benefits					
Access and Equity NA					
Capacity NA					
Efficiency NA					
Environment NA					
Safety NA					
Implementation Challenges					
Ground system Implementation None					
Avionics Implementation None					
Procedures Availability None					
Operational Approvals None					
Notes None					