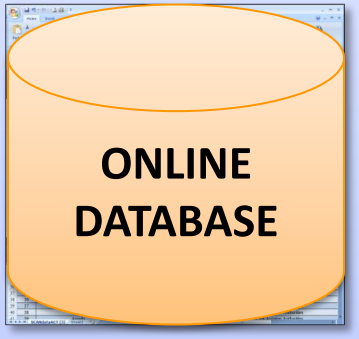
Online Reporting Cycle

REPORTS

ONLINE

DATA



ONLINE

ANALYSIS

ONLINE

Today - One Common Interface
Tomorrow – on ICAO Website

Internet Browser

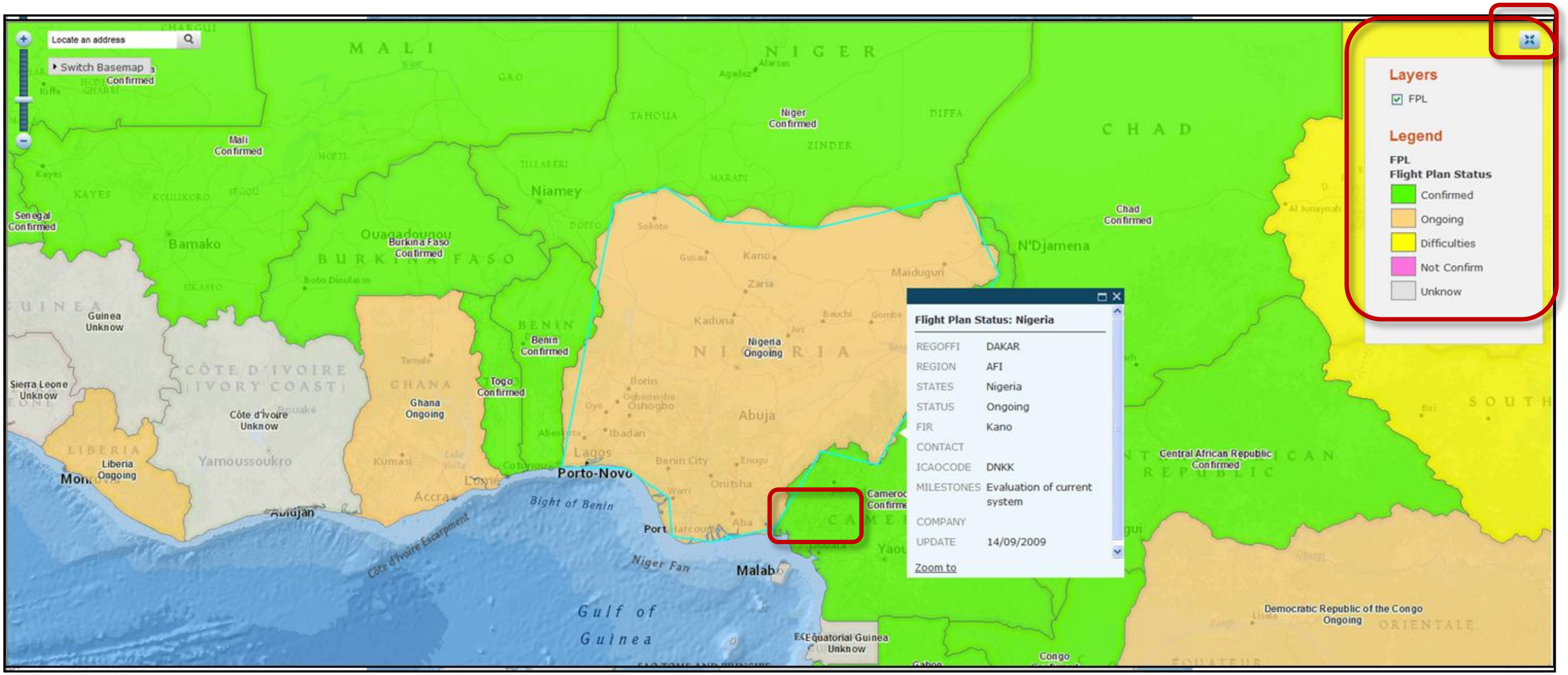
http://gis.icao.int

A Gallery of Information

Near Real-Time Results

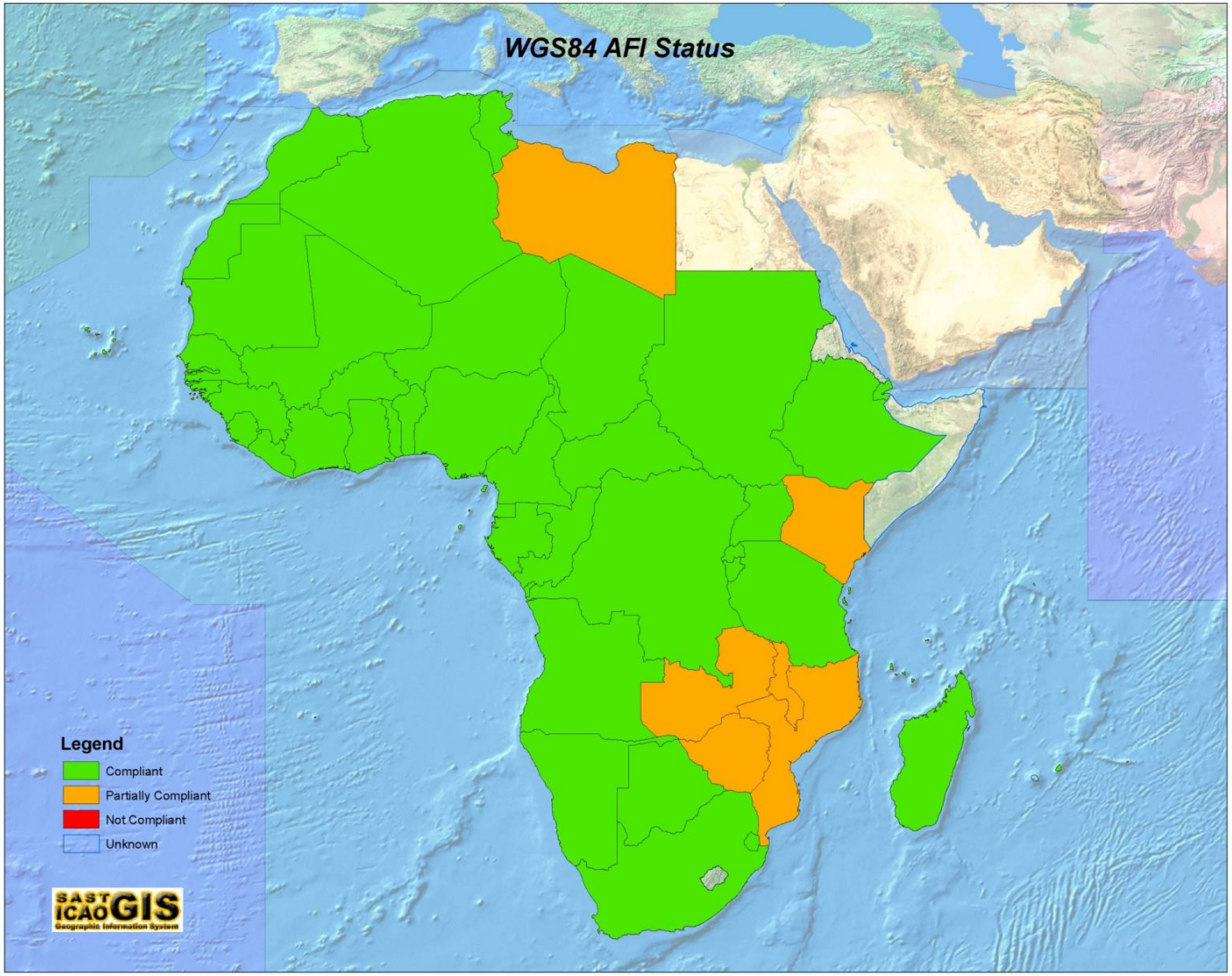
Existing Tools

ICAO Flight Plan Status



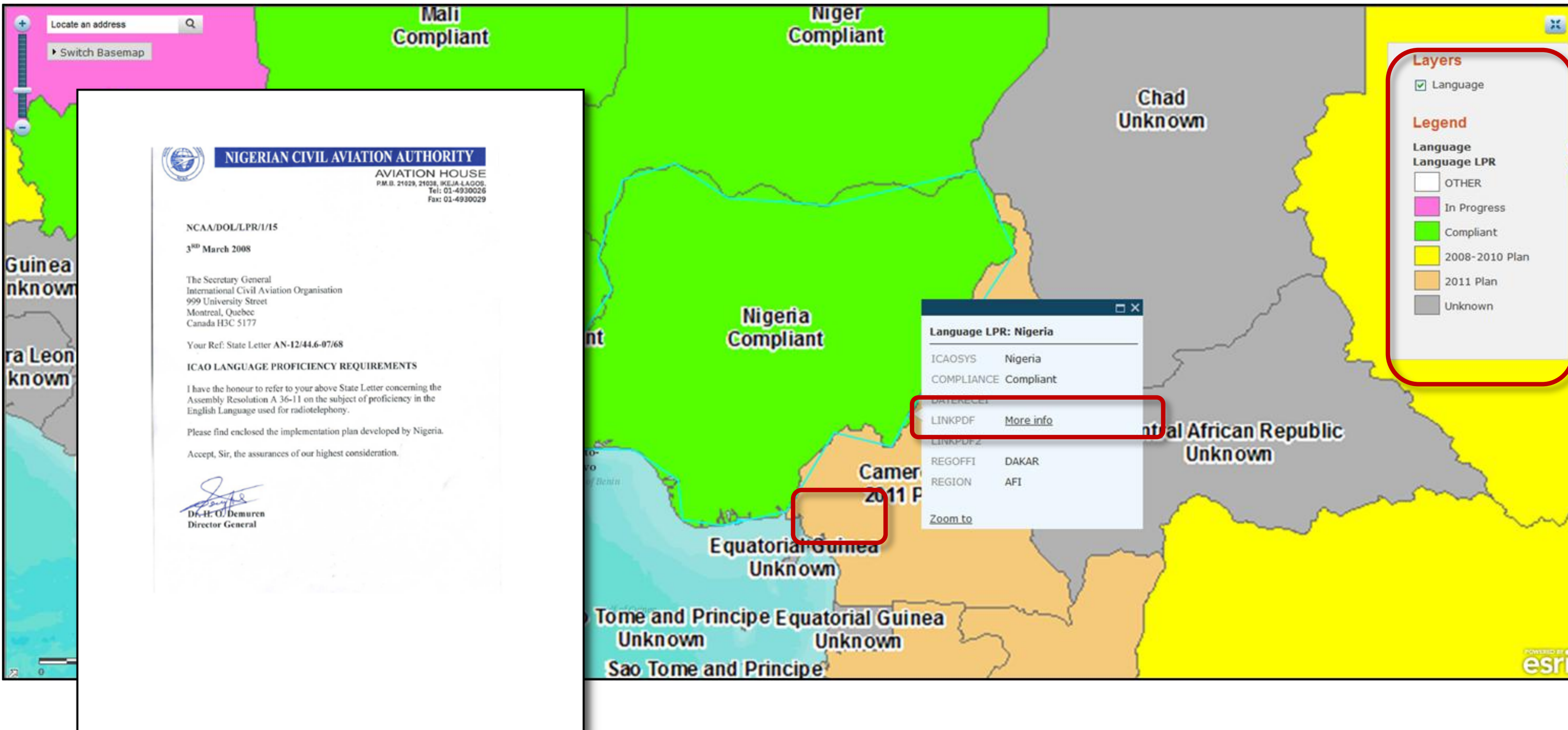
Existing Tools

WGS-84 Implementation status



Existing Tools

Language Proficiency



NIGERIAN CIVIL AVIATION AUTHORITY
AVIATION HOUSE
P.M.B. 21029, 21038, IKEJA-LAGOS.
Tel: 01-4930026
Fax: 01-4930029

NCAA/DOL/LPR/1/15

3RD March 2008

The Secretary General
International Civil Aviation Organisation
999 University Street
Montreal, Quebec
Canada H3C 5177

Your Ref: State Letter **AN-12/44.6-07/68**

ICAO LANGUAGE PROFICIENCY REQUIREMENTS

I have the honour to refer to your above State Letter concerning the Assembly Resolution A 36-11 on the subject of proficiency in the English Language used for radiotelephony.

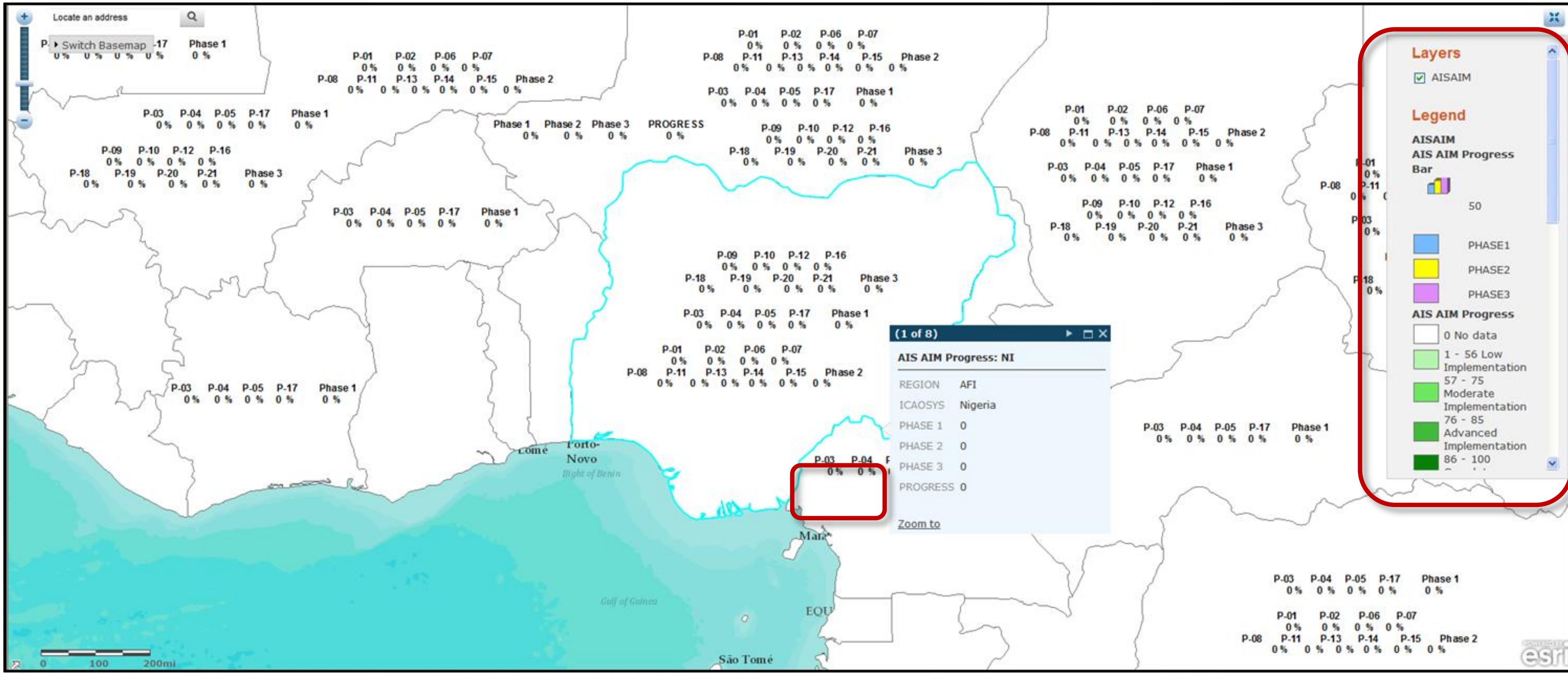
Please find enclosed the implementation plan developed by Nigeria.

Accept, Sir, the assurances of our highest consideration.

Dr. H. O. Demuren
Director General

Existing Tools

AIS AIM

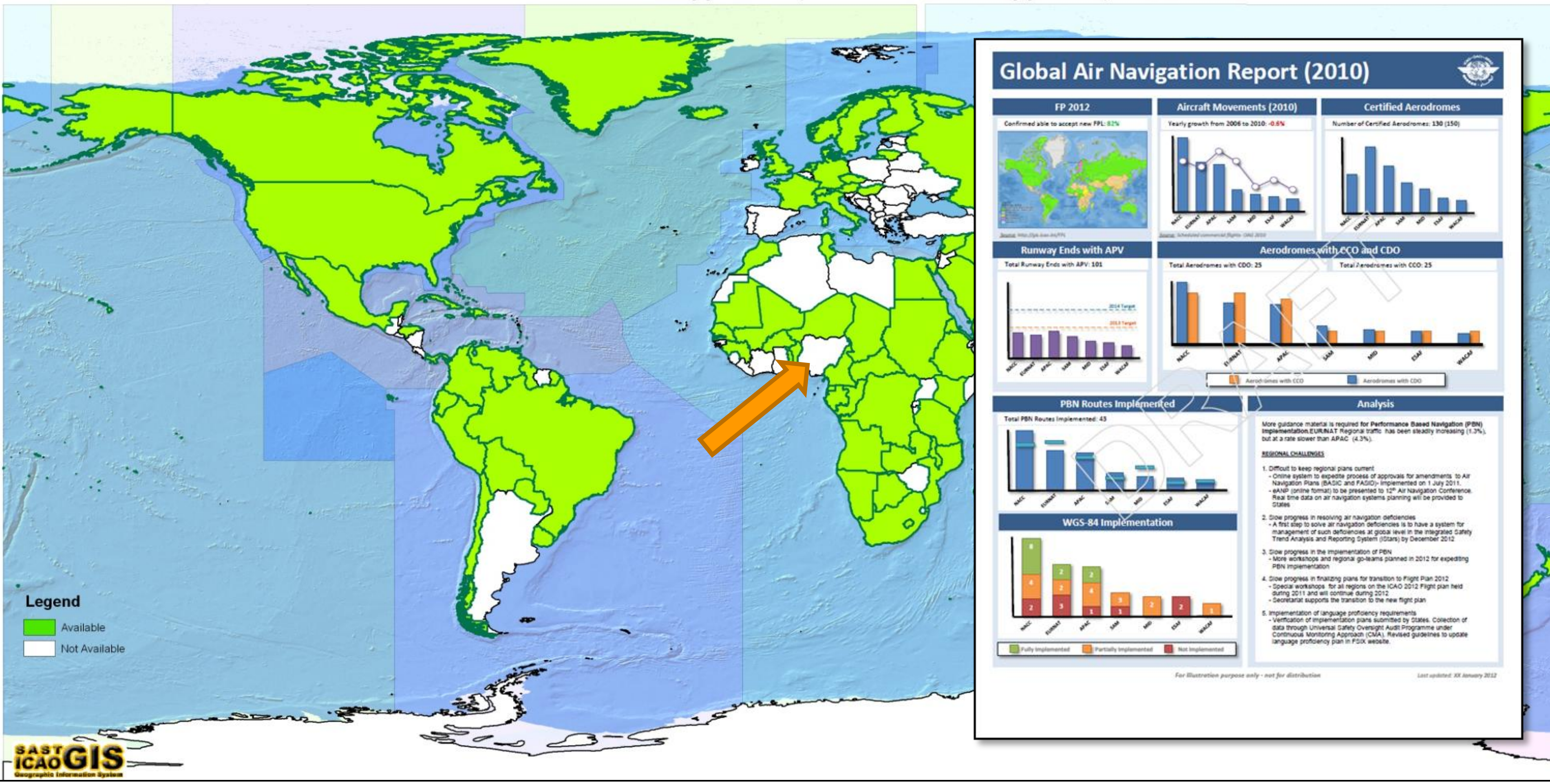


Integrating Different Information

Safety Collaborative Assistance Network

Future Tools: Integrated Reports

States with at least 1 PBN Approach



Global Air Navigation Report (2010)

FP 2012

Confirmed able to accept new FPL: 82%

Aircraft Movements (2010)

Yearly growth from 2006 to 2010: -0.6%

Certified Aerodromes

Number of Certified Aerodromes: 130 (150)

Runway Ends with APV

Total Runway Ends with APV: 101

Aerodromes with CCO and CDO

Total Aerodromes with CDO: 25

Total Aerodromes with CCO: 25

Aerodromes with CCO / Aerodromes with CDO

PBN Routes Implemented

Total PBN Routes Implemented: 43

WGS-84 Implementation

Fully Implemented / Partially Implemented / Not Implemented

NACC, EURNAT, APAC, SAM, MID, ESAF, WACAF

Analysis

More guidance material is required for **Performance Based Navigation (PBN) Implementation.EUR/NAT** Regional traffic has been steadily increasing (1.3%), but at a rate slower than APAC (4.3%).

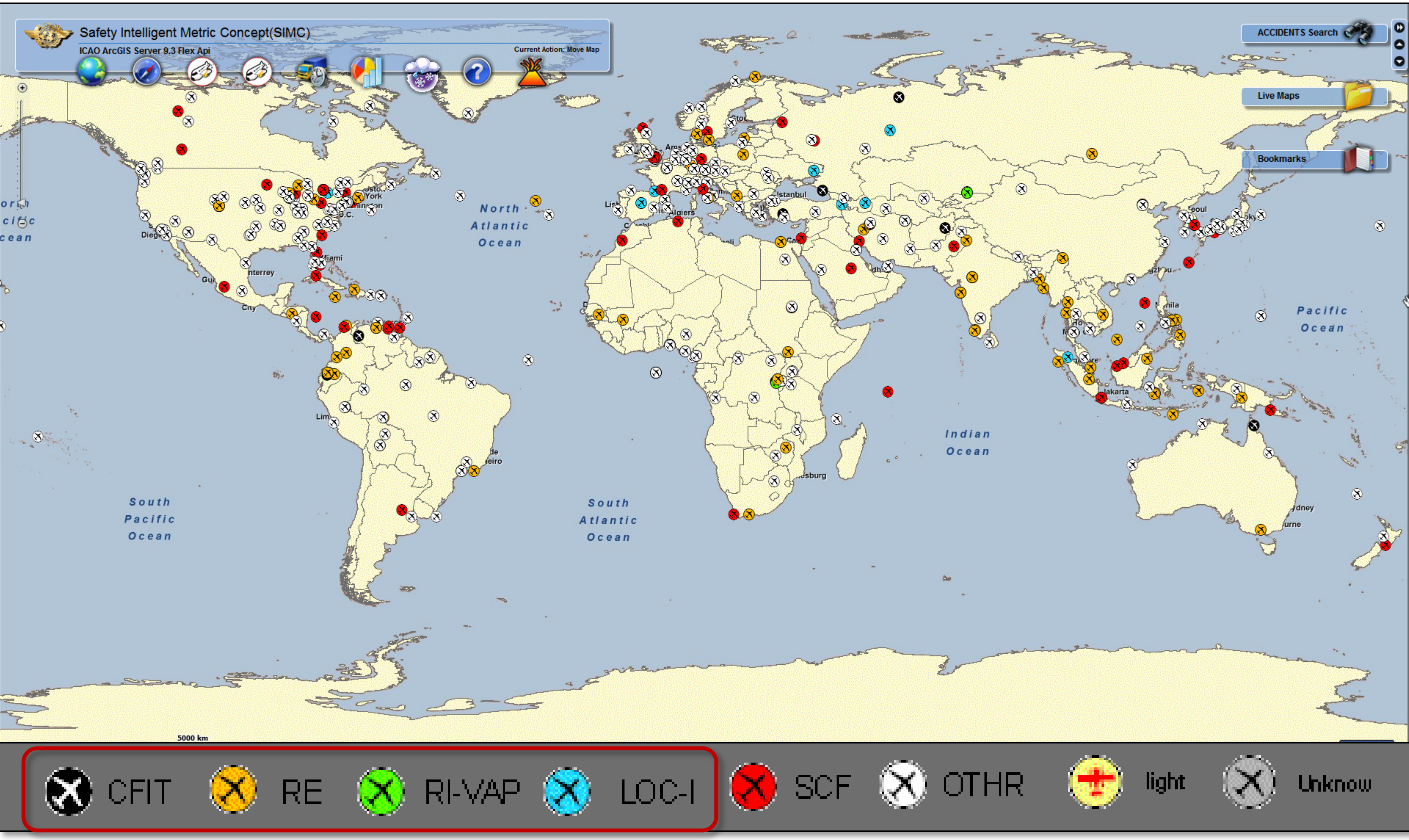
REGIONAL CHALLENGES

1. Difficult to keep regional plans current
   - Online system to expedite process of approvals for amendments to Air Navigation Plans (BASIC and FASID)- implemented on 1 July 2011.
   - eANP (online format) to be presented to 12th Air Navigation Conference. Real time data on air navigation systems planning will be provided to States
2. Slow progress in resolving air navigation deficiencies
   - A first step to solve air navigation deficiencies is to have a system for management of such deficiencies at global level in the integrated Safety Trend Analysis and Reporting System (iStars) by December 2012
3. Slow progress in the implementation of PBN
   - More workshops and regional go-teams planned in 2012 for expediting PBN implementation
4. Slow progress in finalizing plans for transition to Flight Plan 2012
   - Special workshops for all regions on the ICAO 2012 Flight plan held during 2011 and will continue during 2012
   - Secretariat supports the transition to the new flight plan
5. Implementation of language proficiency requirements
   - Verification of implementation plans submitted by States. Collection of data through Universal Safety Oversight Audit Programme under Continuous Monitoring Approach (CMA). Revised guidelines to update language proficiency plan in FSIX website.

For illustration purpose only - not for distribution

Last updated: XX January 2012

Future Tools: Safety Priorities



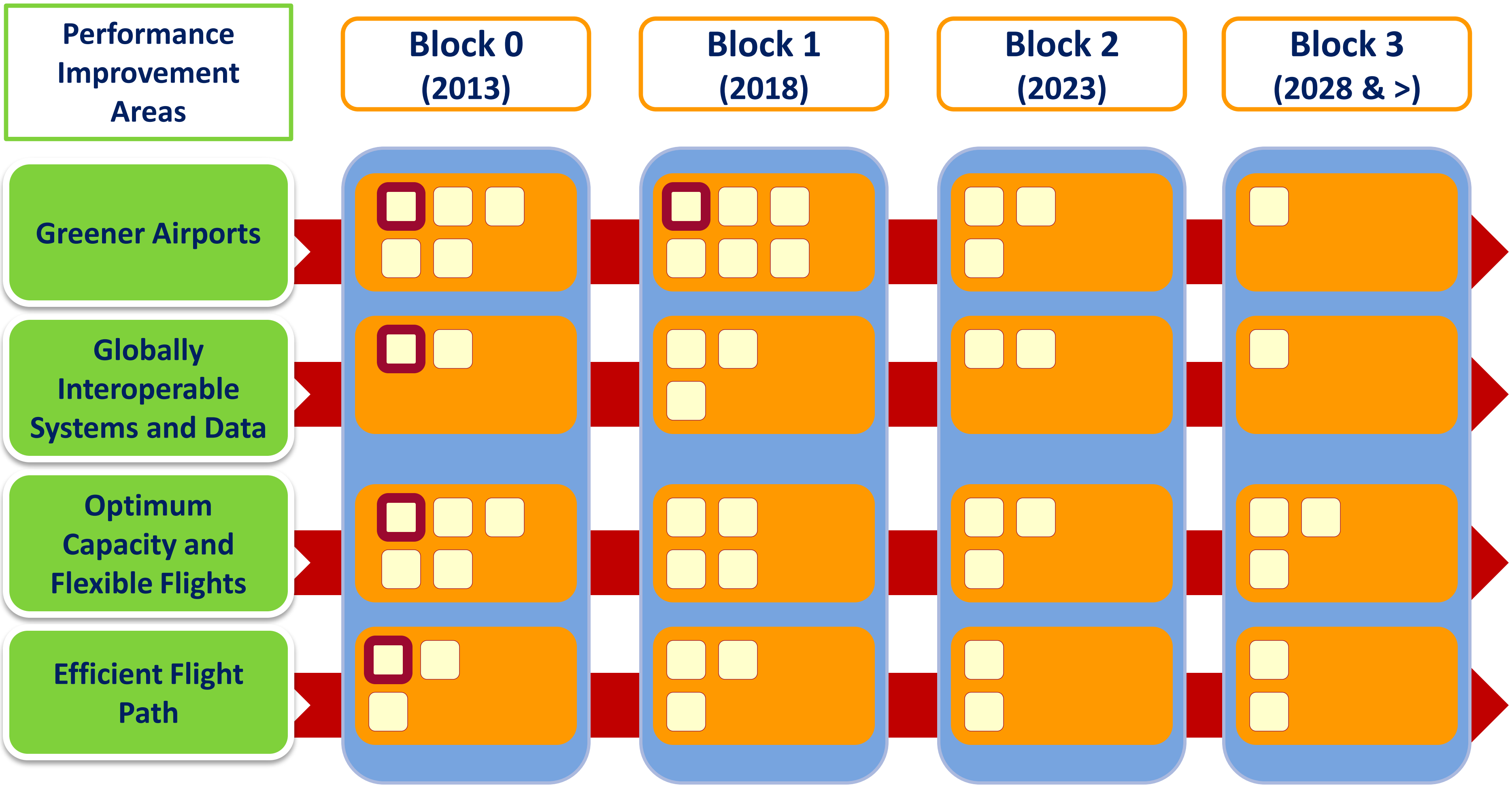
ICAO Air Navigation Report
Online Reporting and Toolkit

- Global Aviation Safety Plan (GANP) revision – 2012
  - First Safety ***REPORT was issued in December 2011***; available on the web
- Global Air Navigation Plan (GANP) revision – 2012
  - Reporting will be primarily GIS based derived from regional information
  - Dec 2012 - Regional Offices will have Region Specific GIS Map System
  - May 2013 - First set of information will be aggregated
  - First Air Navigation ***REPORT planned for 2014***
  - All States will have access

Aviation Systems for the Future
Aviation Systems Block Upgrades (ASBU's)

The 12th Air Navigation Conference

An Overview of Blocks & Modules



Air Navigation Conference Deadlines

Timeline to AN-Conf/12	
Distribution of all Conference papers (including GANP) to States from ICAO	30 June
Deadline for States' WPs (will be translated in all languages)	***30 September***
State's WPs will be accepted but <u>not</u> translated	***30 Sept - 30 October***
Deadline after which papers will <u>not</u> be accepted	***After 30 October***
Twelfth Air Navigation Conference	19-30 November 2012

Preparation for Africa

ASBU Special Implementation Projects Workshops	
Dakar	16-20 July
Nairobi	13-17 August
Cairo	30 September-04 October


ICAO
Uniting Aviation on
Safety | Security | Environment
APIRG-18, Kampala, Uganda, 27-30 March 2012

Module N° B0-65: OPTIMISATION OF APPROACH PROCEDURES INCLUDING VERTICAL GUIDANCE

Summary	This is the first step toward universal implementation of GNSS-based approaches. PBN and GLS procedures enhance the reliability and predictability of approaches to runways increasing safety, accessibility and efficiency. These can be achieved through the application of Basic GNSS, Baro VNAV, SBAS and GBAS. The flexibility inherent in PBN approach design can be exploited to increase runway capacity.	
Main Performance Impact	KPA-01 Access and Equity, **KPA-04 Efficiency**, KPA-05 Environment, KPA-10 Safety	
Operating Environment/Phases of Flight	Approach	
Applicability Considerations	This module is applicable to all instrument and precision instrument runway ends, and to a limited extent, non-instrument runway ends	
Global Concept Component(s)	AUO – Airspace User Operations AO – Aerodrome Operations	
Global Plan Initiatives (GPI)	GPI-5 RNAV and RNP (PBN) GPI-14 Runway Operations GPI-20 WGS84	
Pre-Requisites	NIL	
Global Readiness Checklist		Status (ready now or estimated date).
	Standards Readiness	
	Avionics Availability	
	Ground System Availability	
	Procedures Available	
	Operations Approvals	

1. Narrative

1.1 General

This module complements other airspace and procedures elements (CDO, PBN and Airspace Management) to increase efficiency, safety, access and predictability.

This module describes what is available and can be more widely used now.

1.1.1 Baseline

In the global context, a limited number of GNSS-based PBN have been implemented compared with conventional procedures. Some States, however, have implemented large numbers of PBN procedures. There are several GBAS demonstration procedures in place.

1.1.2 Change brought by the module

Conventional navigation aids (e.g. ILS, VOR, NDB) have limitations in their ability to support the lowest minima to every runway. In the case of ILS, limitations include cost, the availability of suitable sites for ground infrastructure and an inability to support multiple descent paths. VOR and NDB procedures do not support vertical guidance and have relatively high minima that depend on siting considerations. PBN procedures require no ground-based Nav Aids and allow designers complete flexibility in determining the final approach lateral and vertical paths. PBN approach procedures can be seamlessly integrated with PBN

Module N° B1-65: Optimised Airport Accessibility

Summary	This is the further transition in the universal implementation of GNSS-based approaches. PBN and GLS (CAT II/III) procedures enhance the reliability and predictability of approaches to runways increasing safety, accessibility and efficiency. Key aspects included: • Increased availability and reliability through Multi-Frequency/Constellation use of GNSS • GNSS-based CAT II/III approach capability Curved/segmented approaches with RNP to XLS transition
Main Performance Impact	**KPA-04 Efficiency**, KPA-05 Environment, KPA-10 Safety
Operating Environment/Phases of Flight	Approach and landing
Applicability Considerations	This module is applicable to all runway ends.
Global Concept Component(s)	AUO – Airspace User Operations AO – Aerodrome Operations
Global Plan Initiatives (GPI)	GPI-5 RNAV and RNP (PBN) GPI-14 Runway Operations GPI-20 WGS84
Pre-Requisites	B0-65

Global Readiness Checklist		**Status** (ready now or estimated date).
	Standards Readiness	Est. 2014
	Avionics Availability	Est. 2018
	Ground System Availability	√
	Procedures Available	√
	Operations Approvals	Est. 2018

1. Narrative

1.1 General

This module complements other airspace and procedures elements (CDO, PBN and Airspace Management) to increase efficiency, safety, access and predictability.

This module proposes to take advantage of the lowest available minima through the extension of GNSS-based approaches from CAT-I capability to category CAT II/III capability at a limited number of airports. It also harnesses the potential integration of the PBN STARS directly to all approaches with vertical guidance. This capability allows for both curved approaches and segmented approaches in an integrated system. The emergence of multi-frequency/constellation GNSS may start to be developed to enhance approach procedures.

This module describes what technology is expected to be available in 2018, and what operations are likely to be supported.

Module N° B0-25: Increased Interoperability, Efficiency and Capacity through Ground-Ground Integration

Summary	This module supports the coordination between Air Traffic Service Units (ATSU) based using ATS Interfacility Data Communication (AIDC) defined by ICAO Doc 9694 . It permits also the transfer of communication in data-link environment in particular for Oceanic ATSU. It is a first step in the ground-ground integration	
Main Performance Impact	KPA-02 Capacity, KPA-04 Efficiency, **KPA-07 Global Interoperability**, KPA-10 Safety	
Operating Environment/Phases of Flight	All flight phases and all type of ATS units	
Applicability Considerations	Applicable to at least 2 ACCs dealing with en-route and/or TMA airspace. A greater number of consecutive participating ACCs will increase the benefits.	
Global Concept Component(s)	CM - Conflict management IM - Information Management	
Global Plan Initiatives (GPI)	GPI-16 Decision Support Systems	
Pre-Requisites	Link with B0-40	
Global Readiness Checklist		**Status (ready now or estimated date)**
	Standards Readiness	√
	Avionics Availability	No requirement
	Ground systems Availability	√
	Procedures Available	√
	Operations Approvals	√

1. Narrative

1.1 General

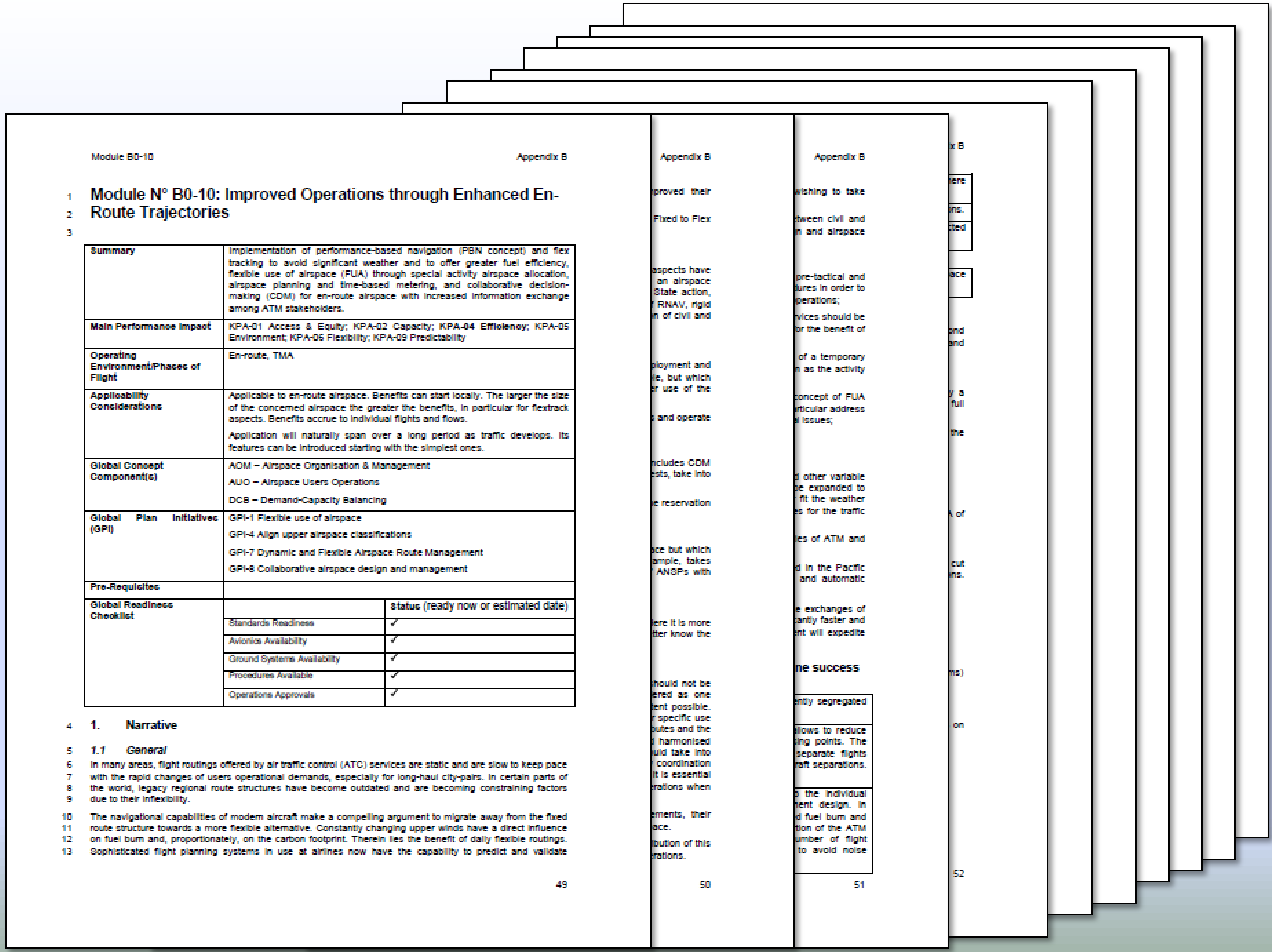
Flights which are being provided with an ATC service are transferred from one ATC unit to the next in a manner designed to ensure complete safety. In order to accomplish this objective, it is a standard procedure that the passage of each flight across the boundary of the areas of responsibility of the two units is co-ordinated between them beforehand and that the control of the flight is transferred when it is at, or adjacent to, the said boundary.

Where it is carried out by telephone, the passing of data on individual flights as part of the co-ordination process is a major support task at ATC units, particularly at Area Control Centres (ACCs). The operational use of connections between Flight Data Processing Systems (FDPSs) at ACCs replacing phone coordination (On-Line Data Interchange (OLDI)) is already proven in Europe.

This is now fully integrated into the "ATS Interfacility Data Communications" (AIDC) messages in the PANS-ATM, which describes the types of messages and their contents to be used for operational communications between ATS unit computer systems. This type of data transfer (AIDC) will be the basis for migration of data communications to the aeronautical telecommunication network (ATN).

The AIDC module is aimed at improving the flow of traffic by allowing neighbouring air traffic control units to exchange flight data automatically in the form of coordination and transfer messages.

With the greater accuracy of messages based on the updated trajectory information contained in the system and where possible updated by surveillance data, controllers have more reliable information on the



Module N° B0-10: Improved Operations through Enhanced En-Route Trajectories

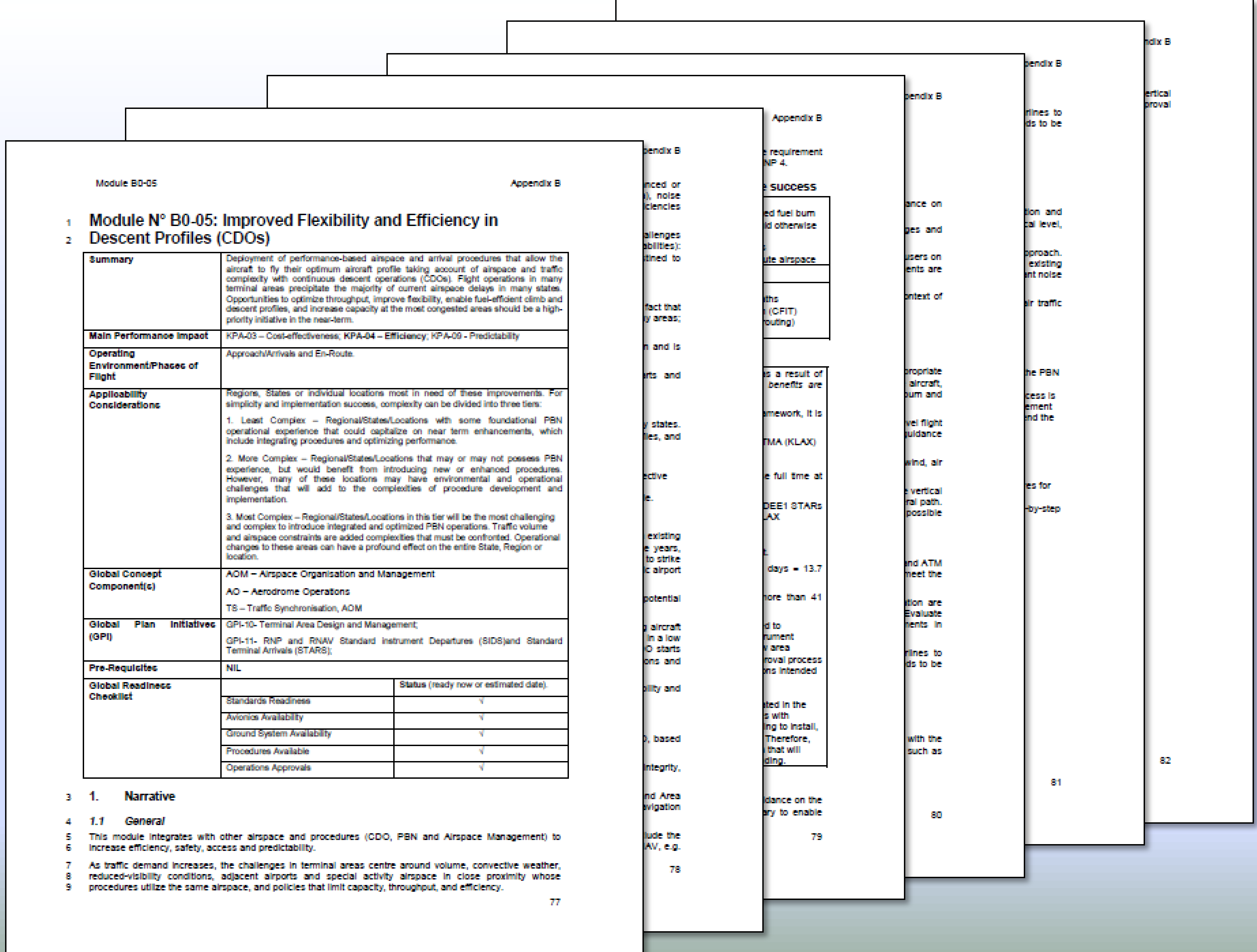
Summary	Implementation of performance-based navigation (PBN concept) and flex tracking to avoid significant weather and to offer greater fuel efficiency, flexible use of airspace (FUA) through special activity airspace allocation, airspace planning and time-based metering, and collaborative decision-making (CDM) for en-route airspace with increased information exchange among ATM stakeholders.	
Main Performance Impact	KPA-01 Access & Equity; KPA-02 Capacity; **KPA-04 Efficiency**; KPA-05 Environment; KPA-06 Flexibility; KPA-09 Predictability	
Operating Environment/Phases of Flight	En-route, TMA	
Applicability Considerations	Applicable to en-route airspace. Benefits can start locally. The larger the size of the concerned airspace the greater the benefits, in particular for flextrack aspects. Benefits accrue to individual flights and flows. Application will naturally span over a long period as traffic develops. Its features can be introduced starting with the simplest ones.	
Global Concept Component(s)	AOM – Airspace Organisation & Management; AUO – Airspace Users Operations; DCB – Demand-Capacity Balancing	
Global Plan Initiatives (GPI)	GPI-1 Flexible use of airspace; GPI-4 Align upper airspace classifications; GPI-7 Dynamic and Flexible Airspace Route Management; GPI-8 Collaborative airspace design and management	
Pre-Requisites		
Global Readiness Checklist		**Status** (ready now or estimated date)
	Standards Readiness	✓
	Avionics Availability	✓
	Ground Systems Availability	✓
	Procedures Available	✓
	Operations Approvals	✓

1. Narrative

1.1 General

In many areas, flight routings offered by air traffic control (ATC) services are static and are slow to keep pace with the rapid changes of users operational demands, especially for long-haul city-pairs. In certain parts of the world, legacy regional route structures have become outdated and are becoming constraining factors due to their inflexibility.

The navigational capabilities of modern aircraft make a compelling argument to migrate away from the fixed route structure towards a more flexible alternative. Constantly changing upper winds have a direct influence on fuel burn and, proportionately, on the carbon footprint. Therein lies the benefit of daily flexible routings. Sophisticated flight planning systems in use at airlines now have the capability to predict and validate



Module B0-05 Appendix B

Module N° B0-05: Improved Flexibility and Efficiency in Descent Profiles (CDOs)

Summary	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). Flight operations in many terminal areas precipitate the majority of current airspace delays in many states. Opportunities to optimize throughput, improve flexibility, enable fuel-efficient climb and descent profiles, and increase capacity at the most congested areas should be a high-priority initiative in the near-term.
Main Performance Impact	KPA-03 – Cost-effectiveness; **KPA-04 – Efficiency**; KPA-09 - Predictability
Operating Environment/Phases of Flight	Approach/Arrivals and En-Route.
Applicability Considerations	Regions, States or individual locations most in need of these improvements. For simplicity and implementation success, complexity can be divided into three tiers: 1. Least Complex – Regional/States/Locations with some foundational PBN operational experience that could capitalize on near term enhancements, which include integrating procedures and optimizing performance. 2. More Complex – Regional/States/Locations that may or may not possess PBN experience, but would benefit from introducing new or enhanced procedures. However, many of these locations may have environmental and operational challenges that will add to the complexities of procedure development and implementation. 3. Most Complex – Regional/States/Locations in this tier will be the most challenging and complex to introduce integrated and optimized PBN operations. Traffic volume and airspace constraints are added complexities that must be confronted. Operational changes to these areas can have a profound effect on the entire State, Region or location.
Global Concept Component(s)	AOM – Airspace Organisation and Management AO – Aerodrome Operations TS – Traffic Synchronisation, AOM
Global Plan Initiatives (GPI)	GPI-10- Terminal Area Design and Management; GPI-11- RNP and RNAV Standard Instrument Departures (SIDS)and Standard Terminal Arrivals (STARS);
Pre-Requisites	NIL

Global Readiness Checklist		**Status** (ready now or estimated date).
	Standards Readiness	√
	Avionics Availability	√
	Ground System Availability	√
	Procedures Available	√
	Operations Approvals	√

1. Narrative

1.1 General

This module integrates with other airspace and procedures (CDO, PBN and Airspace Management) to increase efficiency, safety, access and predictability.

As traffic demand increases, the challenges in terminal areas centre around volume, convective weather, reduced-visibility conditions, adjacent airports and special activity airspace in close proximity whose procedures utilize the same airspace, and policies that limit capacity, throughput, and efficiency.

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