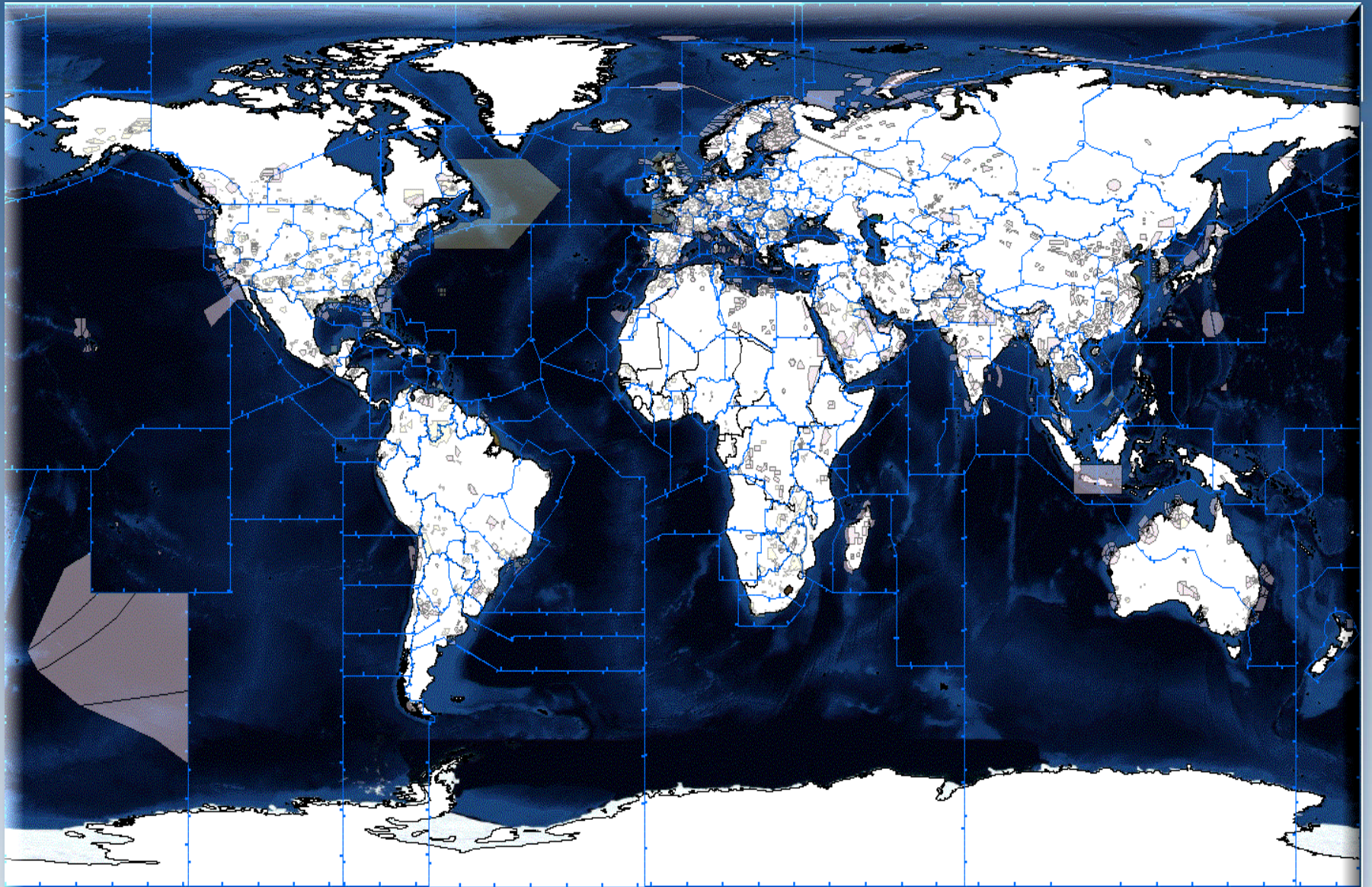**canso**
civil air navigation services organisation

YOU
&
ASBU

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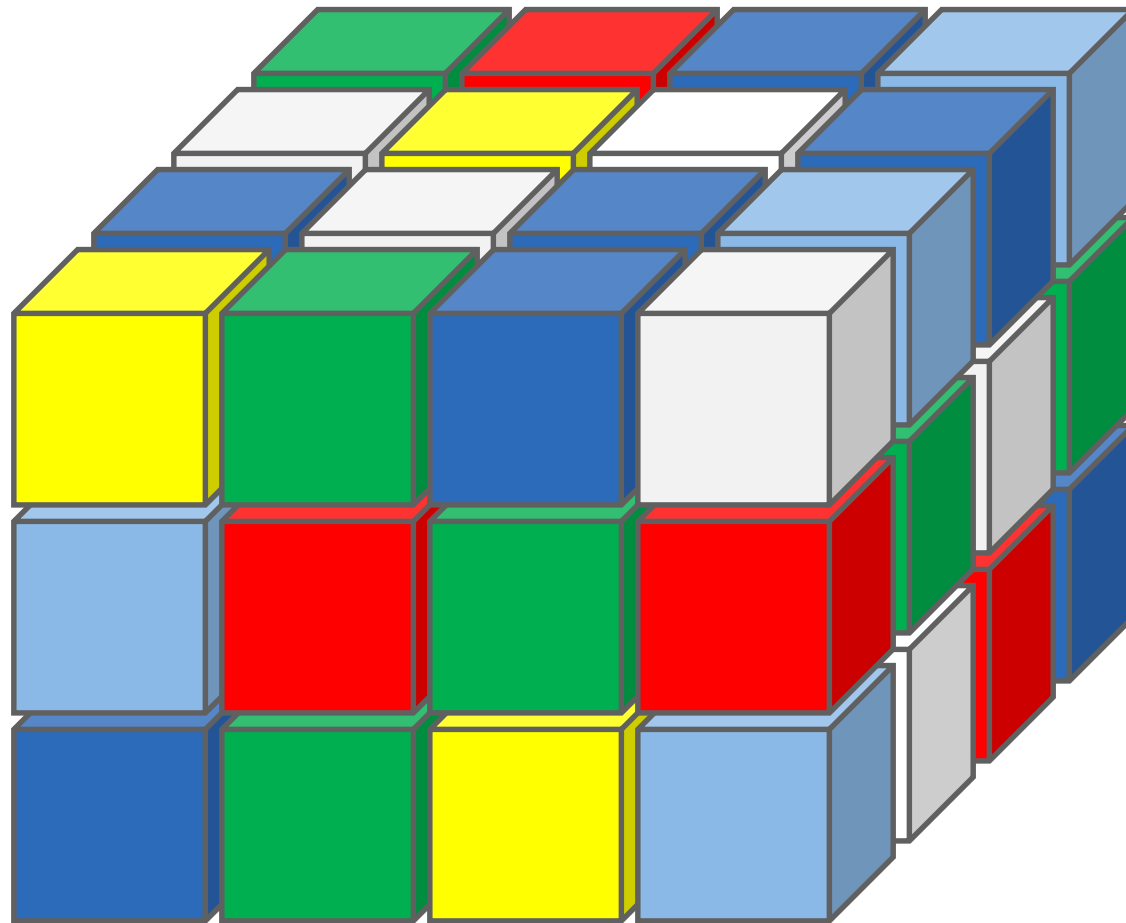
Miles
ICAO Copyright

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THE REALITY OF OUR SYSTEM TODAY

MITRE

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A Look at Block 0

Performance Improvement Areas	Block 0 (2013)
Greener Airports	
Globally Interoperable Systems and Data	
Optimum Capacity and Flexible Flights	
Efficient Flight Path	
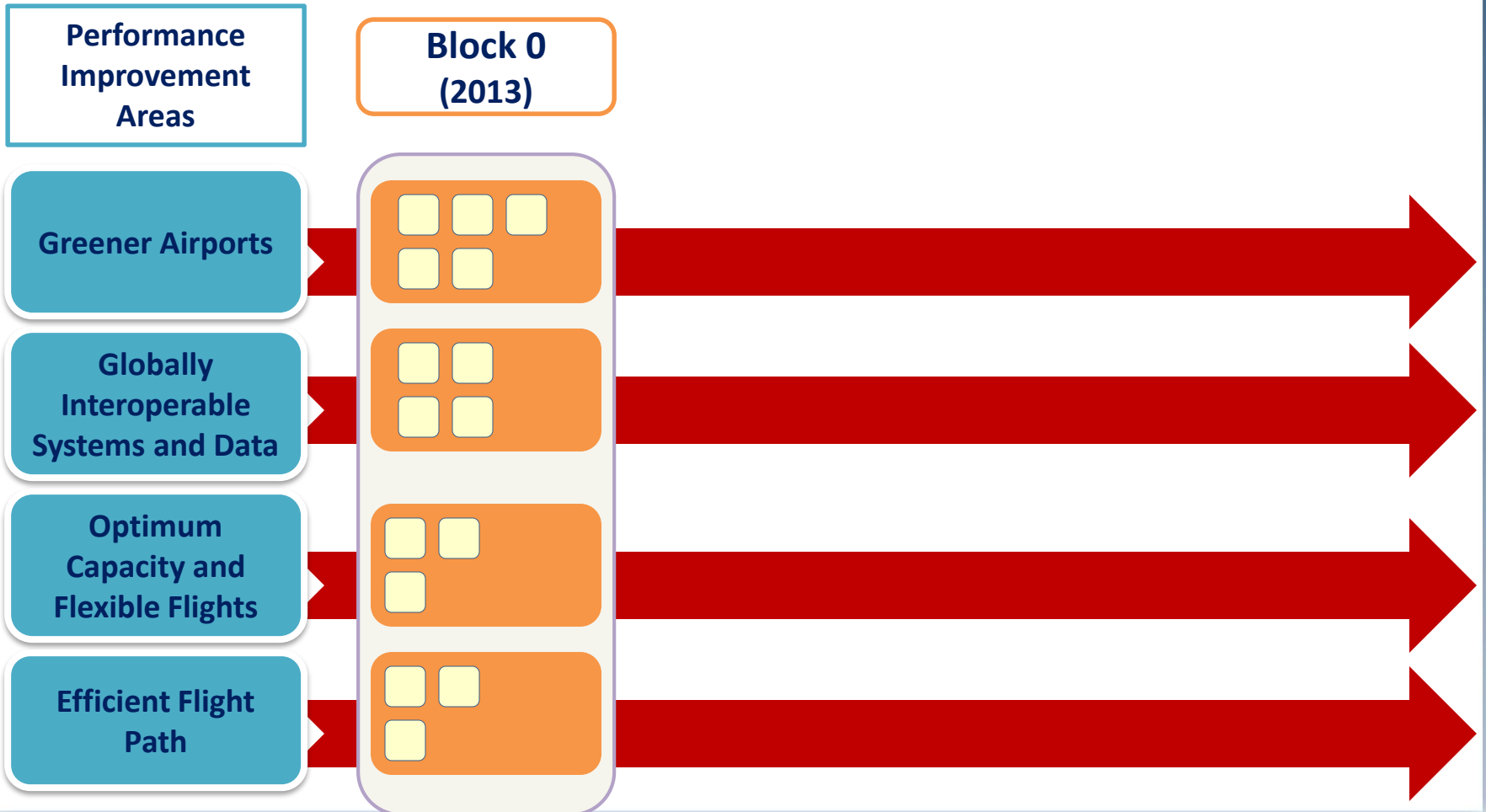
A Look at Block 0

Performance Improvement Areas (PIA):

Airport Operations

Globally Interoperable Systems and Data

Block 0   Block 1

5 Modules

3 Modules
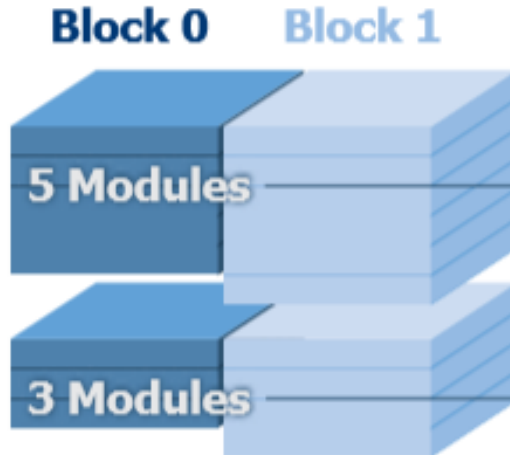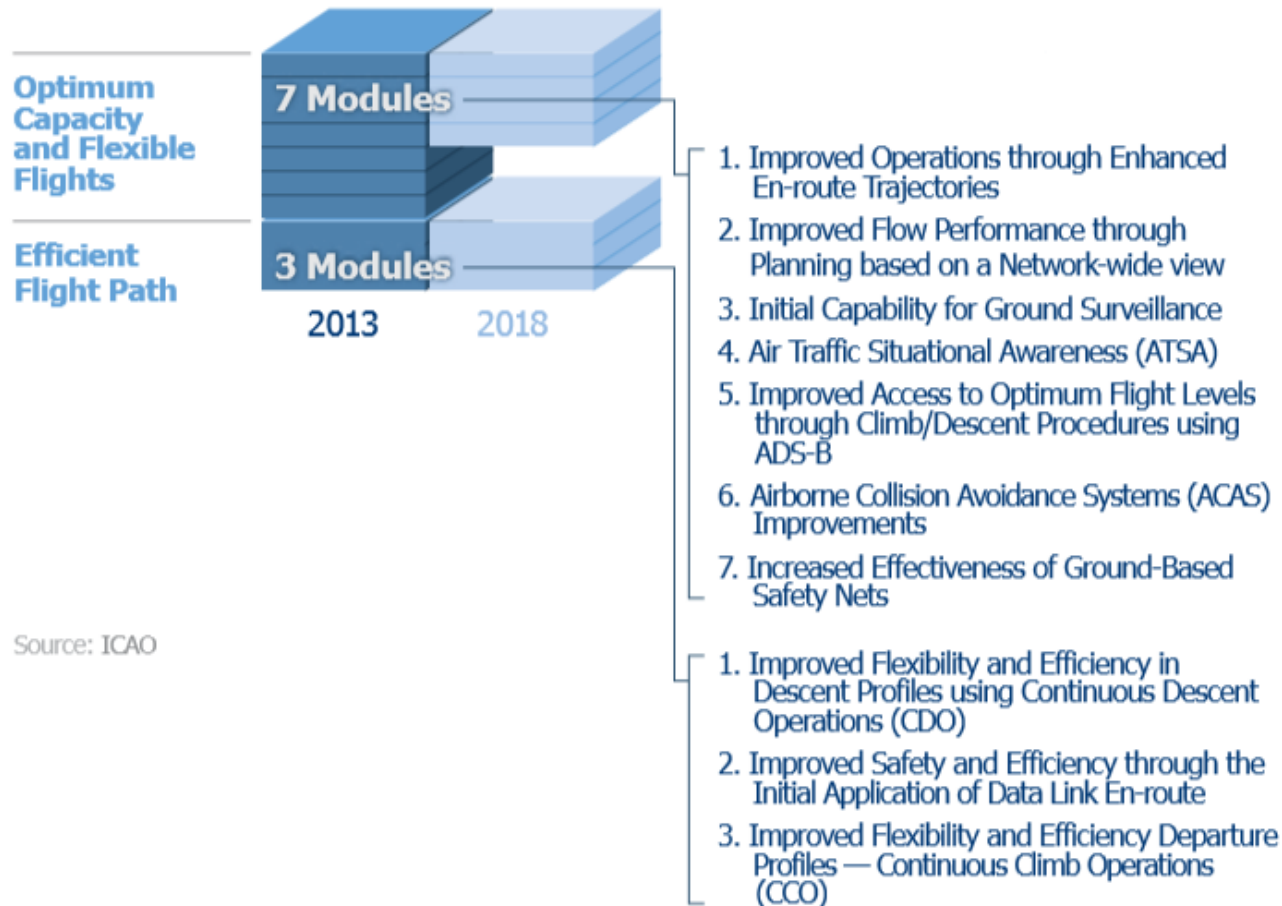
1. Optimised Approach Procedures including Vertical Guidance
2. Increased Runway Throughput through Optimised Wake Turbulence Separation
3. Safety and Efficiency of Surface Operations (A-SMGCS level 1-2)
4. Improved Airport Operations through Airport-CDM
5. Improve Traffic Flow through Sequencing (AMAN/DMAN)

1. Increased Interoperability, Efficiency and Capacity through Ground-Ground Integration
2. Service Improvement through Digital Aeronautical Information Management
3. Meteorological Information Supporting Enhanced Operational Efficiency and Safety

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A Look at Block 0

Optimum Capacity and Flexible Flights

Efficient Flight Path

7 Modules

3 Modules

2013   2018

Source: ICAO

1. Improved Operations through Enhanced En-route Trajectories
2. Improved Flow Performance through Planning based on a Network-wide view
3. Initial Capability for Ground Surveillance
4. Air Traffic Situational Awareness (ATSA)
5. Improved Access to Optimum Flight Levels through Climb/Descent Procedures using ADS-B
6. Airborne Collision Avoidance Systems (ACAS) Improvements
7. Increased Effectiveness of Ground-Based Safety Nets

1. Improved Flexibility and Efficiency in Descent Profiles using Continuous Descent Operations (CDO)
2. Improved Safety and Efficiency through the Initial Application of Data Link En-route
3. Improved Flexibility and Efficiency Departure Profiles — Continuous Climb Operations (CCO)

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Boundary-oriented to Business-oriented

Paradigm shift to a business model changes disparate national systems into a universal one*

Block 0 2013 | Block 1 2018 | Block 2 2023 | Block 3 2028+
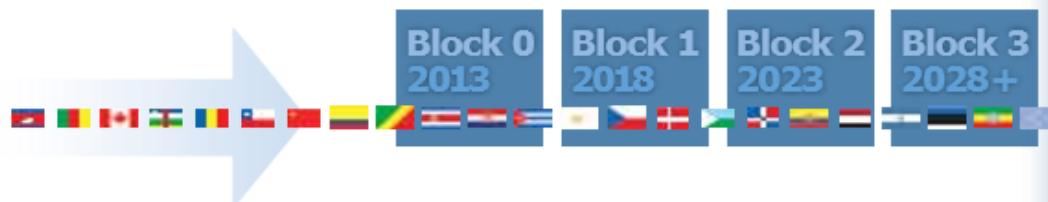
Boundary-oriented		Business-oriented
Non-optimum	**Traffic Flow**	Optimum
Inefficient	**Ground service for airlines and passengers**	Efficient
Non-optimum	**Flight profiles**	Optimised
Limited	**Utilisation of aircraft capabilities**	Maximum
Air Traffic Control	**Intervention from ground systems**	Air Traffic Management
Unpredictable	**Airport access**	Predictable

*Countries' flags displayed are notional and not indicative of status in the ASBU process.

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Strategic Planning for ASBU Modules Implementation

- Strategic Plan for Block 1 Modules Implementation
- Business Case Development/ CBA
- Impact Analysis for Block 1 Modules Prioritisation
- NDA for Block 1 Modules Needs
- Block 1 Modules Selection
- Block 0 Modules Implementation Plan
- Business Case Development/CBA
- Gap Analysis
- NDA for Block 0 Modules Needs
- Block 0 Modules Selection

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Needs and Dependency Analysis (NDA)

- **Identify –** ASBU modules that align with the ANSP´s strategic objectives
- **Identify -** Specific needs defined within those candidate modules
- **Define -** Dependencies with other ASBU modules
- **Assess –** Current system capability to meet the needs of the candidate modules
- **Higlight –** The gaps that exist between current capabilities and the ASBU module needs
- **Analyse -** The impact of different means and timingof closing those gaps to meet to ICAO vision for global interoperability
- **Investigate –** The linkage between modules
- **Determine –** The problems for delaying essential capabilities beyond the recommended Block time frame
- **Establish –** The requirements for the new/upgraded modules
- **Assess –** Current ability of the ANSPs existing aviation system and identifies gap and shorfalls
- **Identify –** Areas for improvement
- **Examine –** Lessons learned, and documents to validate shortfalls

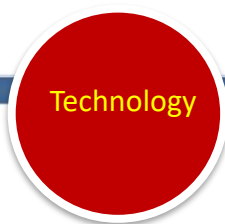**TRANSFORMING**
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Gap and Impact Analyses

Four level of impact

➤ **No Impact:** There is no contribution to achieving the desired improvements over the intended time period

➤ **Limited impact:** There is a limited improvement to meet the desired objectives int he selected time period

➤ **High impact:** Offers satisfactory improvement to meet the desired objectives within the expected timeframe

➤ **Redundant impact:** Provides improvement in proficiency beyond what is needed for the planned time period

Business Case

Although the appropriate selection of mínimum path required modules is necessary, it is not sufficient without a justification based on Cost/Benefit Analysis (CBA) to support the development of a business case
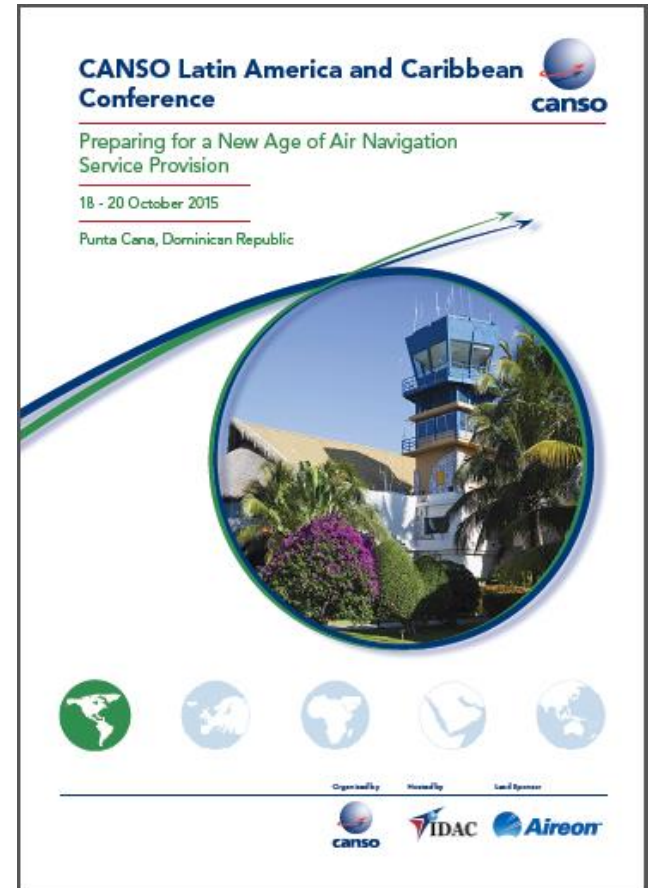
Approval Plan · Procedures · Technology · Transition Strategy · Business case · Regulatory approvals · Operational Trial

Performance improvements

Module

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Punta Cana, Dominican Republic (October 2015)

➤ ACDM Workshop

➤ RPAS panel discussion

➤ **ASBU Workshop**

➤ ATFM Workshop

CANSO Latin America and Caribbean Conference

Preparing for a New Age of Air Navigation Service Provision

18 - 20 October 2015

Punta Cana, Dominican Republic

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CANSO's ASBU Workshop

➤ The Aviation System Block Upgrades (ASBU) Workshop assists participants in their preparation of both State and Regional Air Navigation Plans and associated reporting as they follow the ASBU approach to modernise and harmonise their aviation systems.

Port-of-Spain Declaration

Regional Air Navigation Targets

- ➤ PBN
- ➤ ATFM
- ➤ AIM

PBN is GANP's Top Priority

➤ CANSO has published the CANSO *Performance-Based Navigation Best Practice Guide for ANSPs*.

The document provides practical guidance on performance-based navigation (PBN) as it applies primarily to the terminal and approach environments. It highlights the need for a clear and concise set of design requirements, and focuses on the areas that ANSPs most commonly identified as areas of concern: knowledge, regulation, avionics equipage, resources, and training.

The Guide describes the expertise and partners needed in the design process. It shows ANSPs how to identify and allocate resources and subject matter experts, and to predict, understand and prepare for managing the changes inherent in PBN implementation.

CADENA to Implement ATFM

CANSO **A**TFM **D**ata **E**xchange **N**etwork for the **A**mericas

➤ ATFM belongs to the NOPS thread in ASBU Performance Improvement Area (PIA) 3: Optimum Capacity and Flexible Flights – Through Global Collaborative ATM

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ATFM means…

➤ There are many ways to implement ATFM: From simple human-to-human conversation followed by actions to big and sophisticated technological solution

➤ CADENA seeks both approaches with the end state of virtual ATFM node solution – big and sophisticated technological solution with CDM principles
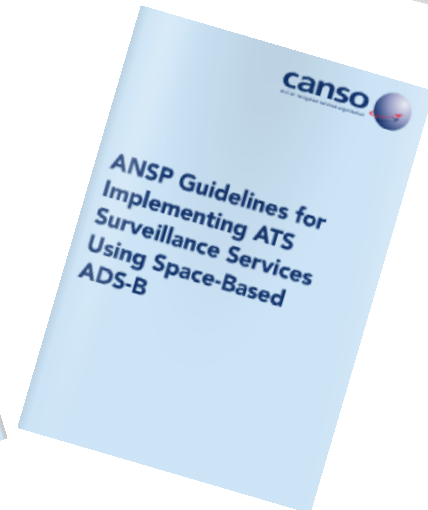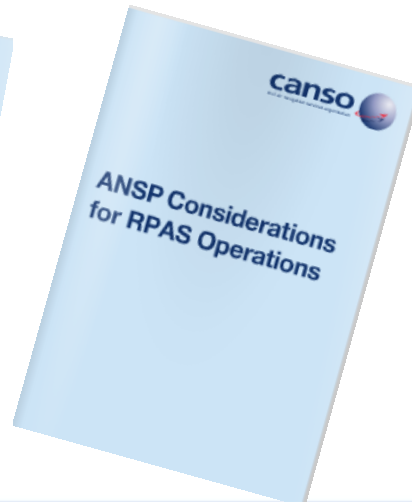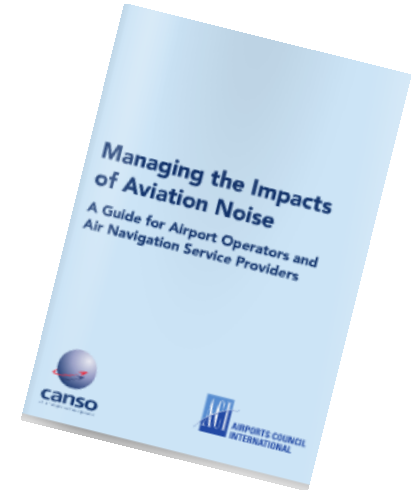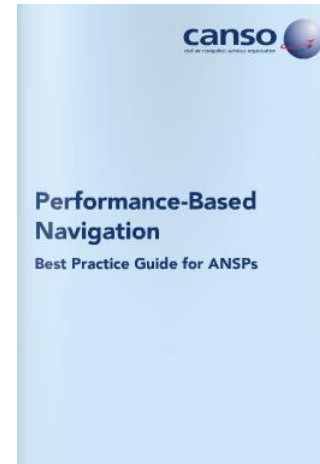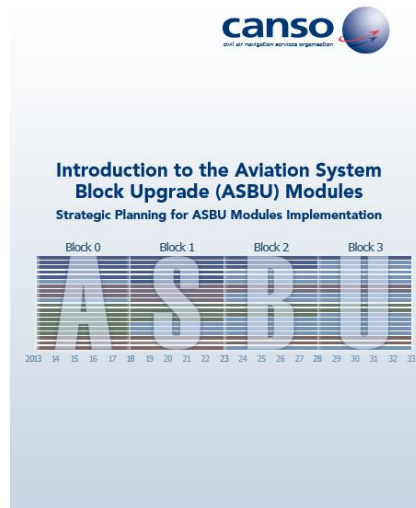
CADENA's End State
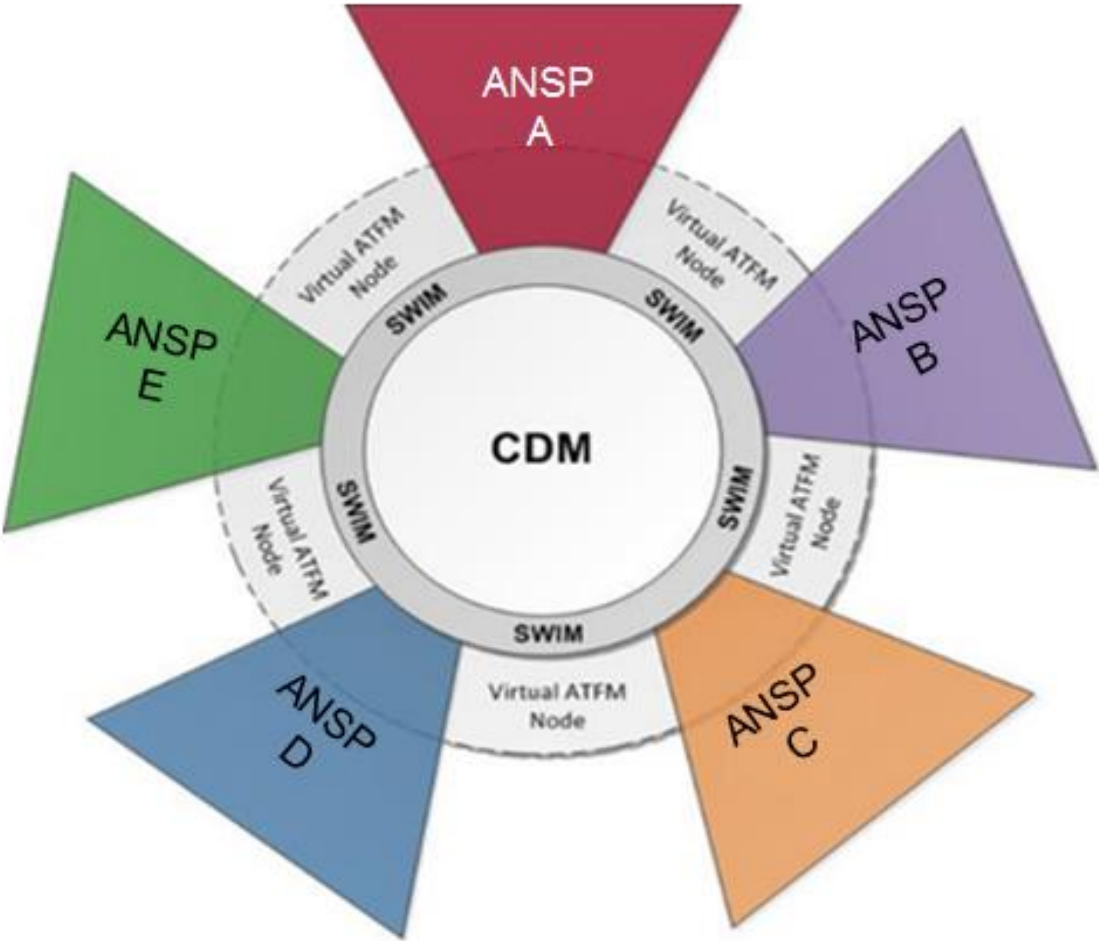
Good things happen

➤ Implementation of SWIM and/or SWIM access capability is necessary to exchange flight data to establish common situational awareness for ATFM

➤ SWIM is an ASBU module. SWIM is also identified as Information Management enabler in the GANP Technology Roadmap

➤ SWIM supports ASBU modules such as DATM, FICE, AMET, and SWIM

https://www.canso.org/publications

Airport Collaborative Decision-Making: Optimisation through Collaboration
An Introductory Guide for Air Navigation Service Providers

Introduction to the Aviation System Block Upgrade (ASBU) Modules
Strategic Planning for ASBU Modules Implementation

Block 0   Block 1   Block 2   Block 3

ASBU

2013 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33

Performance-Based Navigation
Best Practice Guide for ANSPs

Managing the Impacts of Aviation Noise
A Guide for Airport Operators and Air Navigation Service Providers

Recommended Key Performance Indicators for Measuring ANSP Operational Performance

ANSP Considerations for RPAS Operations

Automation Interface Between Flight Information Regions
Best Practice Guide for ANSPs

ANSP Guidelines for Implementing ATS Surveillance Services Using Space-Based ADS-B

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PARTNERSHIP

"You give me half the fish, and I'll tell my mom to let you live."

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Thank you!