



SIP/2008-WP/8  
Business case

# **Global ATM System**

## **~ Performance framework ~**

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**Workshop on the Development of Business Case  
for the Implementation of CNS/ATM Systems  
(Lima, 10-14 November 2008)**

# Overview

- Performance framework
- ICAO guidance material
- Transition strategy
- Way forward

# Performance framework -Principles

- Focus on results through adoption of performance objectives and targets
- Collaborative decision making driven by the results
- Reliance on facts and data for decision making
- Assessment of achievements is checked through a performance review, which in turn requires adequate performance measurement and data collection capabilities

# Performance framework -Advantages

- **Result oriented, transparent and promotes accountability**
- **Shift from prescribing solutions to specifying desired performance**
- **Employs quantitative and qualitative methods**
- **Avoids a technology driven approach**
- **helps decision makers to set priorities, makes the most appropriate trade-offs, and allows optimum resource allocation**

# **Performance framework - Global/Regional/National**

- **Transition from systems based to performance based**
- **What ICAO is doing:**
  - **Based on 11 expectations of ATM community identifying key performance areas (KPAs) such as safety, efficiency, capacity, flexibility, security etc**
  - **Determining key performance indicators, such as tonnes of fuel consumed, etc**
  - **Developing System performance: Communications, Navigation and Surveillance ( RCP, PBN, RSP)**
- **What Regions and States can do:**
  - **Develop Regional/National performance objective and Performance framework forms**
  - **Identify performance targets and measurement**
  - **Determine the gaps and implement projects that would meet targets**

## ICAO documentation structure ...

Document	Description	Objective	Role	Guidance
<p><b>ATM Operational Concept (Doc 9854)</b> (Available on ICAONET)</p>	<p>The ATM Operational Concept (ATMOC) presents the ICAO vision of an integrated, harmonized global air traffic management system. The planning horizon is up to and beyond 2025.</p>	<p>To achieve an interoperable global air navigation system, for all users during all phases of flight, that meets agreed levels of safety, provides for optimum economic operations, is environmentally sustainable and meets national security requirements.</p>	<p><b>Vision</b></p>	<p>ATM System Requirements document (Doc 9882) (Available on ICAONET), will ensure that all ATM related standards making and industry work will be in support of the operational concept</p>

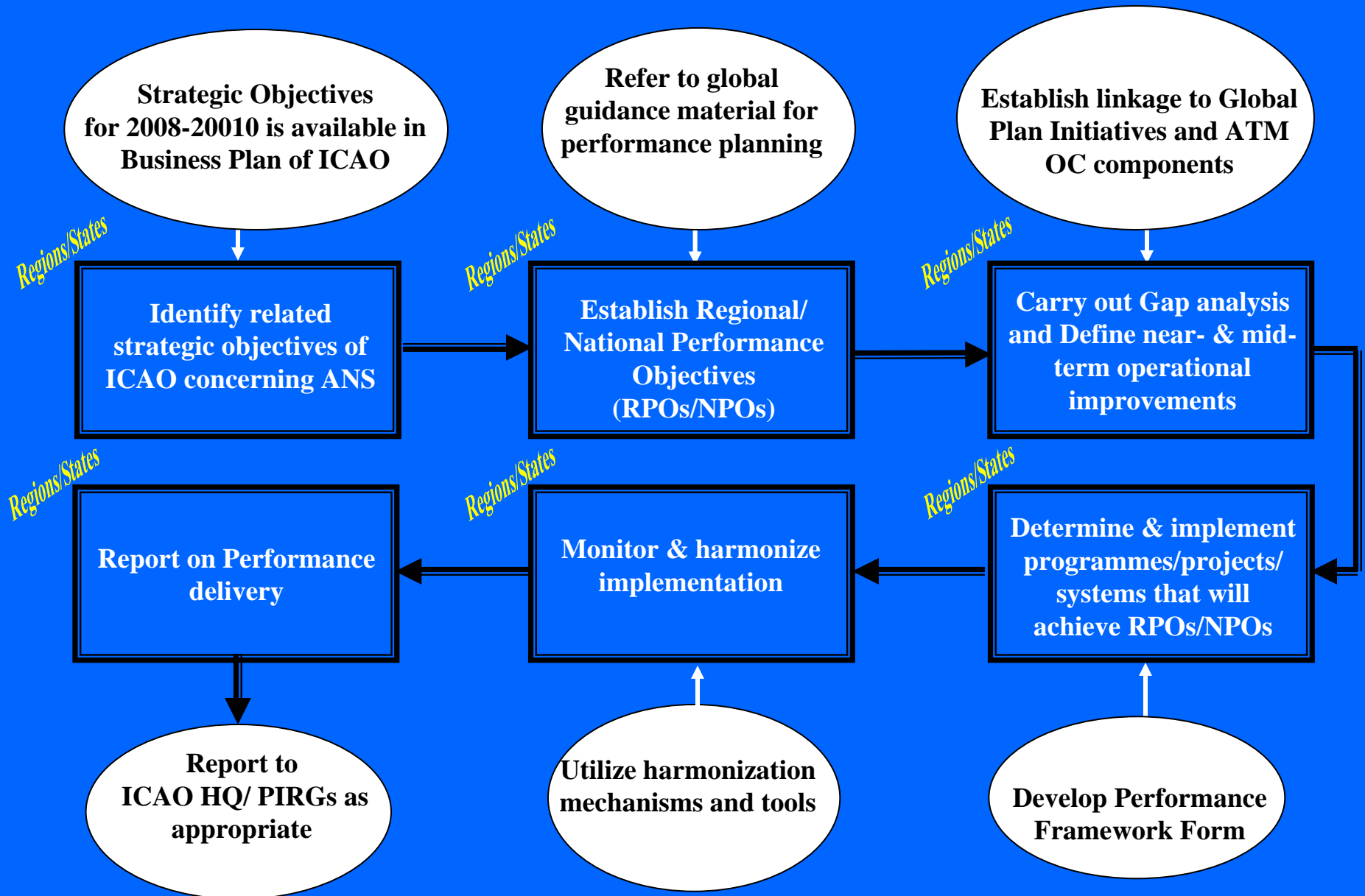
## ICAO documentation structure ...

Document	Description	Objective	Role	Guidance
<b>Global Air Navigation Plan</b> (Doc 9750) (Available on ICAONET)	Strategic document that describes the methodology for global air navigation harmonization.	Establishes the focus for near and medium term activities	Strategy	Manual on Global Performance of the Air Navigation System (Doc 9883) (available on ICAONET). Part I provides a comprehensive understanding of the intent, expected benefits and delivery mechanisms of the performance-based air navigation system and provides guidance on measuring and evaluating ATM performance; Part II provides transition strategies and and supports the Global Plan as a transition planning document.
<b>Global Plan Initiatives</b> (Part of Global Plan)	A set of implementation methodologies derived from operational environment	Measurable progress towards the implementation of the ATMOC	Tactical	

## ICAO documentation structure

Document	Description	Objective	Role	Guidance
<b>Regional Plans</b> (Available on ICAONET)	Regional work programmes including the planning and monitoring of the detailed activities and their timelines which, inter alia, lead to the realization of a global air traffic management system as envisaged in the operational concept.	Contains the performance directives and associated requirements for facilities and services, established through regional air navigation agreements, in support of the global air navigation infrastructure.	Action	ICAO Business Plan ICAO Strategic Objectives (Available on ICAONET)

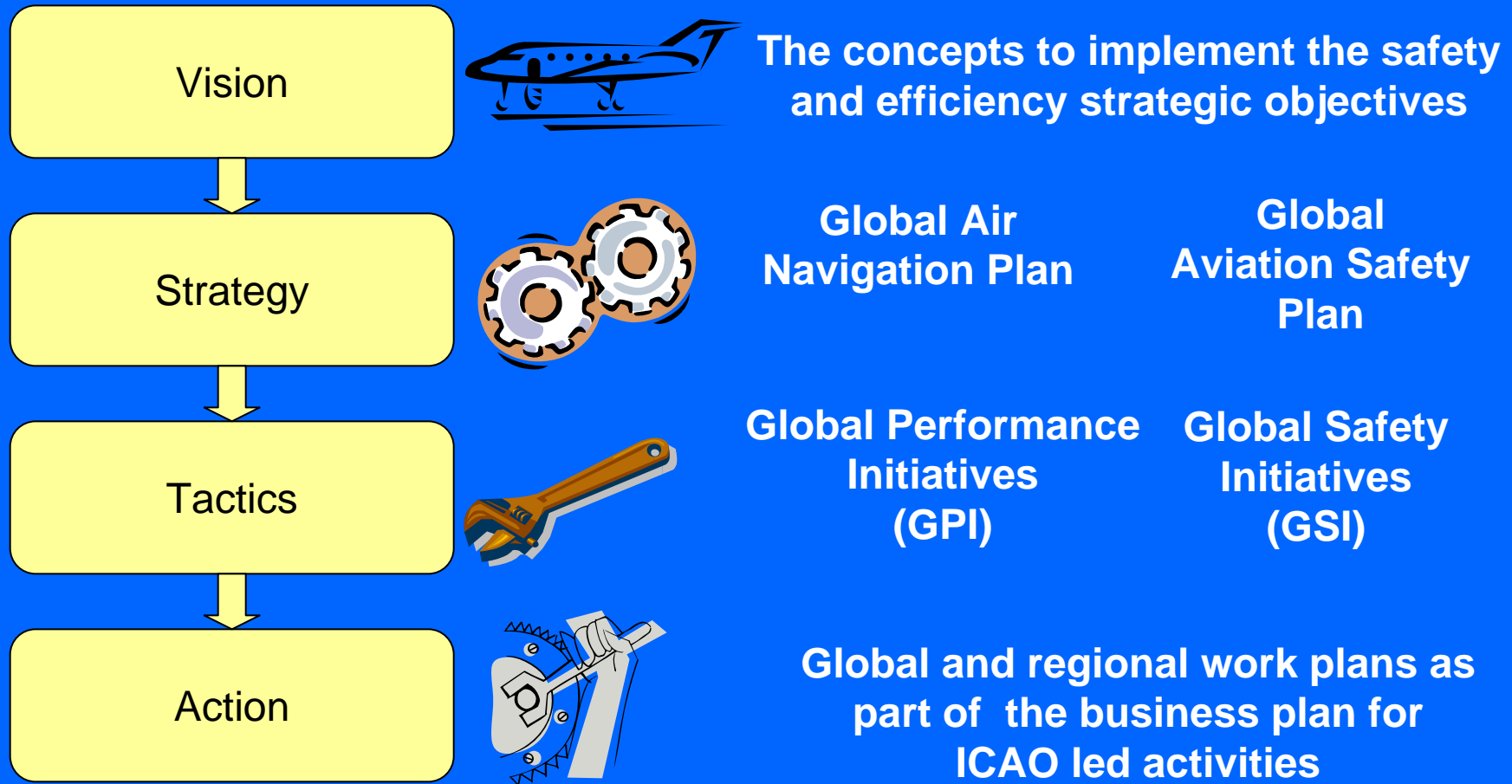
# REGIONAL/NATIONAL PERFORMANCE FRAMEWORK FOR AIR NAVIGATION SYSTEMS — PLANNING PROCESS



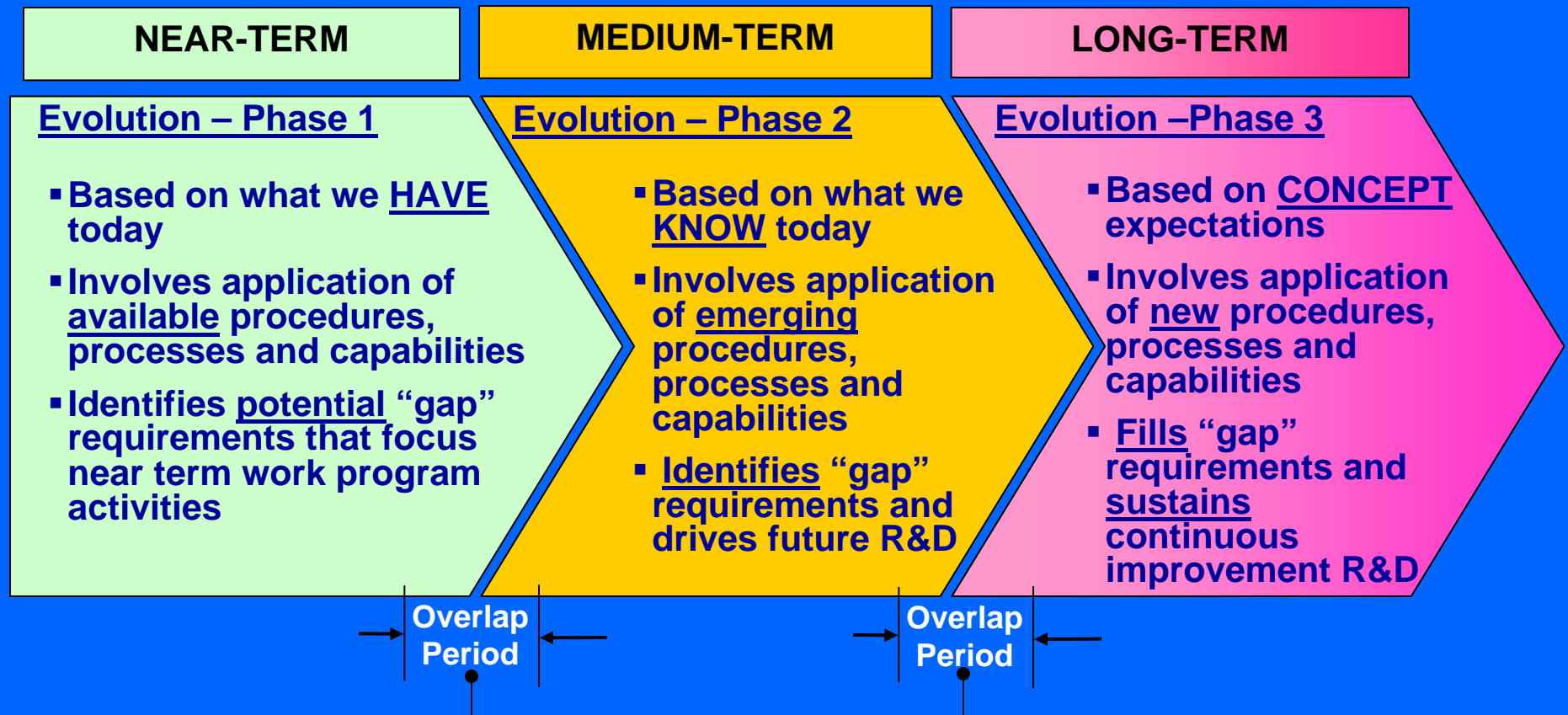
# Performance Framework Form

REGIONAL PERFORMANCE OBJECTIVES /NATIONAL PERFORMANCE OBJECTIVES — OPTIMIZE THE ATS ROUTE STRUCTURE IN EN-ROUTE AIRSPACE				
Benefits				
Environment: Efficiency		<ul style="list-style-type: none"> <li>•reductions in fuel consumption;</li> <li>•ability of aircraft to conduct flight more closely to preferred trajectories;</li> <li>•increase in airspace capacity;</li> <li>•facilitate utilization of advanced technologies (e.g., FMS based arrivals) and ATC decision support tools (e.g., metering and sequencing), thereby increasing efficiency.</li> </ul>		
Strategy Short term (2010) Medium term (2011 - 2015)				
ATM OC COMPONENTS	TASKS	TIMEFRAME START-END	RESPONSIBILITY	STATUS
AOM	<i>En-route airspace</i> <ul style="list-style-type: none"> <li>• analyze the en-route ATS route structure and implement all identifiable improvements;</li> <li>• implement all remaining regional requirements (e.g. RNP 10 routes); and</li> <li>• finalize implementation of WGS-84</li> <li>• monitor implementation progress</li> <li>• develop a strategy and work programme to design and implement a trunk route network, connecting major city pairs in the upper airspace and for transit to/from aerodromes, on the basis of PBN and, in particular, RNAV/5, taking into account interregional harmonization;</li> <li>• monitor implementation progress</li> </ul>	2005-2008		
linkage to GPs	GPI/5: performance-based navigation, GPI/7: dynamic and flexible ATS route management, GPI/8: collaborative airspace design and management, GPI/11: RNP and RNAV SIDs and STARs and GPI/12: FMS-based arrival procedures.			

# The ICAO Process

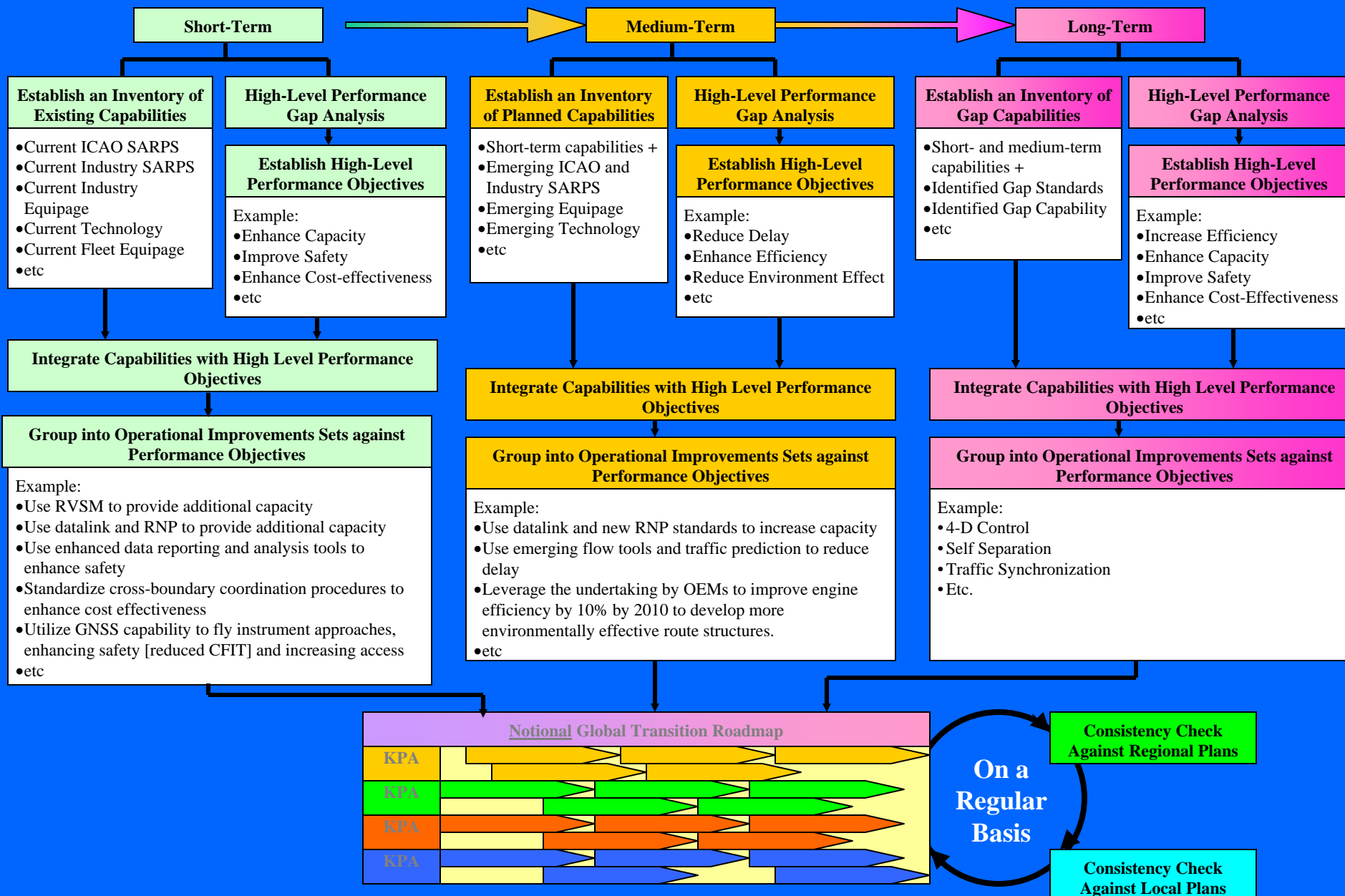


# Transition Strategy



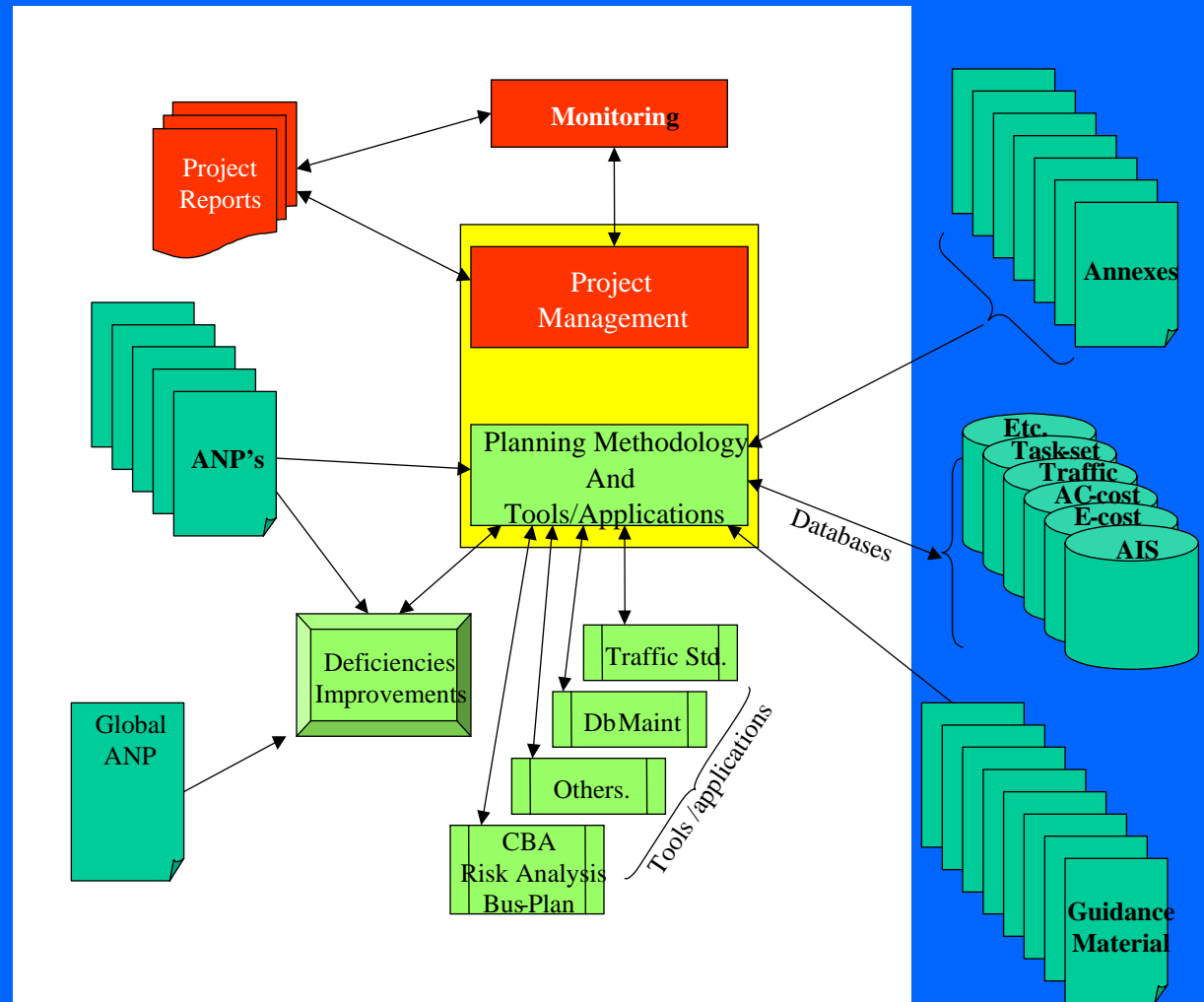
The “Overlap Period” indicates that there is no set date by which the objectives of each transition should be met – other than within a time band of perhaps 2-3 years. It also recognizes that some States or Regions may not have a specific performance requirement that would need the application of changes identified in the transition maps at the same time as another State or Region.

# Transition Roadmap



# Interactive planning

- Interactive planning tools to support implementation will require common databases with data integrity.
- A common planning methodology and business planning process should provide an efficiency synergy by allowing Regions and States to share lessons learned and reduce duplication of effort.
- implementation is still based on validated Regional requirements.



# Way forward

- **Need to have a clearly defined strategy to implement ATM systems as well as align work programmes of the States, regions and ICAO Headquarters**
- **adopt a performance framework on the basis of ICAO guidance material and ensure their alignment with the regional performance objectives, the regional air navigation plan and the Global ATM Operational Concept**
- **The performance framework should include identification of regional/national performance objectives and completion of regional/national performance framework forms**

# Summary

- **Discussed the performance framework, its principles and advantages**
- **Noted transition strategy and the guidance material available in ICAO**
- **Recognized the way forward**

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