

SIP/2008 - WP/09

Business case

***REGIONAL PERSPECTIVE***  
***IMPLEMENTATION OF***  
***CNS/ATM SYSTEMS***



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**ICAO SAM Office**

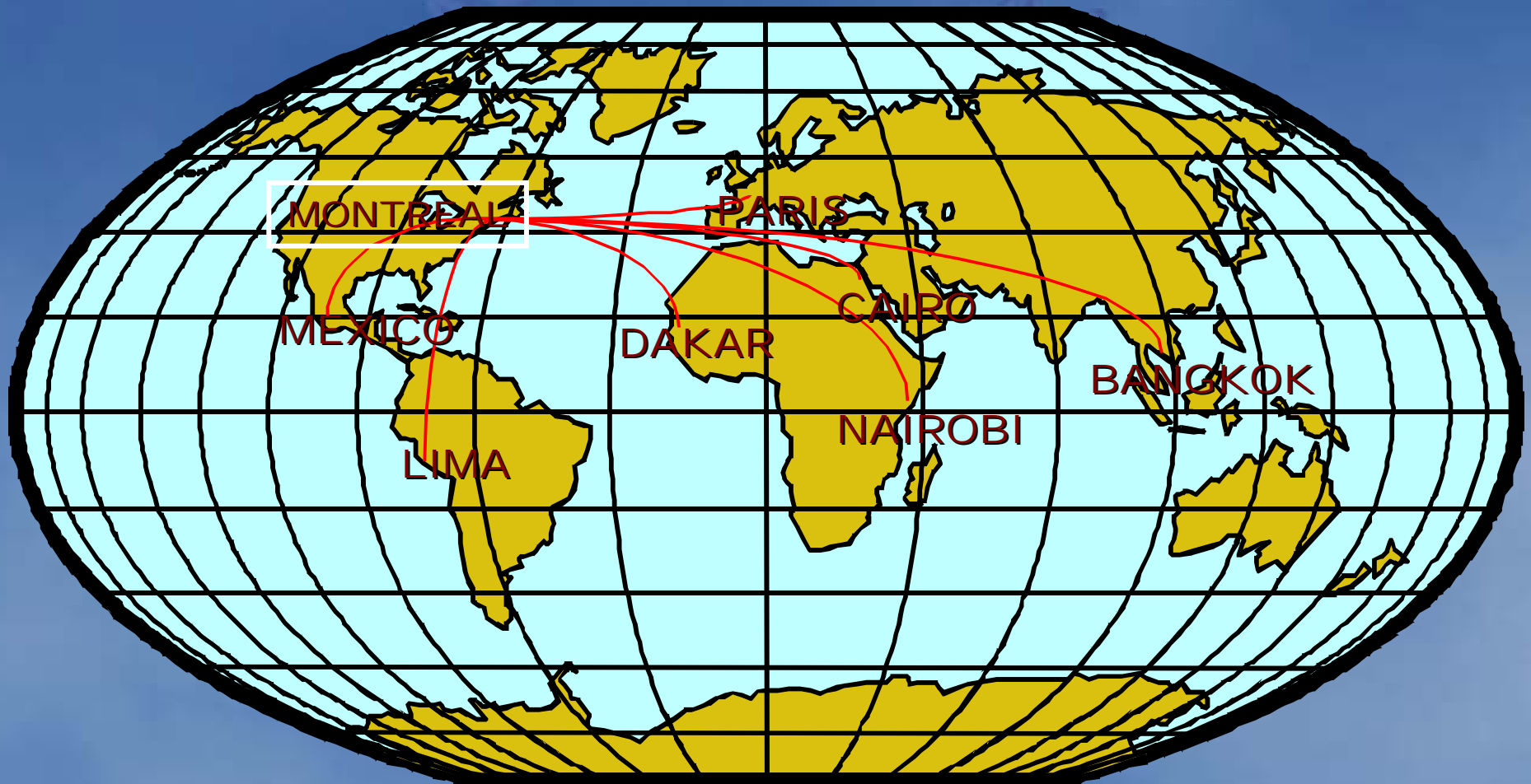
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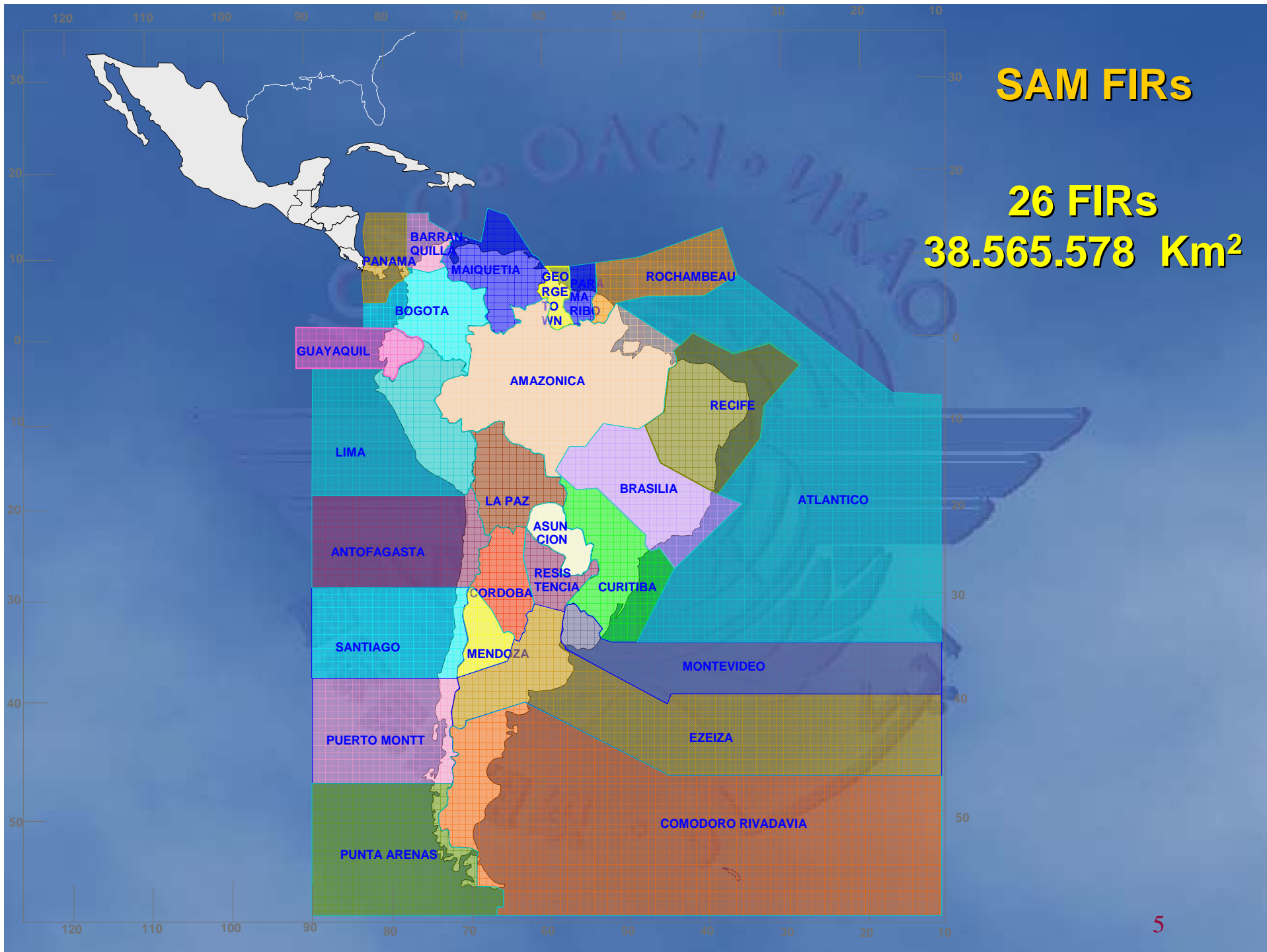
- ***ICAO REGIONAL OFFICES - OBJECTIVE***
- ***REGIONAL AIR NAVIGATION PLAN***
- ***IMPLEMENTATION MECHANISMS***
- ***DEVELOPMENTS OF CNS/ATM SYSTEMS***
- ***CONCLUSIONS***



***ICAO REGIONAL OFFICES -  
OBJECTIVE***

# ICAO OFFICES





***The objective of Regional Offices is identical to that of the Organization as a whole***

“Meet the needs of the peoples of the world for safe, regular, efficient and economical air transport (Art. 44, Convention of Chicago)”

- ***Share the Organization’s vision and mission***
- ***Represent ICAO Secretary General to the States to which they are accredited.***
- ***Conduct regional programmes maintaining continuous communication with States and Regional Organizations for the implementation of policies, SARPs and regional air navigation plans.***



***REGIONAL AIR  
NAVIGATION PLAN***

***CAR/SAM ANP, Doc. 8733***

- **Document published under the authority of the Secretary General**
- **Contains in detail the facilities, services and procedures to be provided by States according to Art. 28 to the Convention of Chicago.**
- **Formulated by the Regional Air Navigation Meetings (RAN) in two Volumes:**

#### **Vol I – BASIC ANP**

**Permanent principles within planning horizon**

#### **VOL II – FASID**

**Requirements subject to the dynamic of the implementation process (GEN, AGA, AIS/MAP, ATM, CNS, MET y SAR)**


- **In current process of integration with the Global Air Navigation Plan (GANP) - eANP**

# Global Air Navigation Plan (GANP) (Doc.9750)

*Document of global planning in support to the development of ICAO Strategic Objectives, related to the efficiency of air operations, which presents a strategy to achieve a transition towards global ATM in an evolutionary and harmonized manner.*

- ✓ Covers all aspects contemplated in air navigation services
- ✓ Was developed in coordination with the industry and the States
- ✓ Contains 23 operational initiatives (GPIs) which allow to support the planning/implementation of ATM improvements at short and medium term.
- ✓ Will integrate current CNS/ATM regional plans
- ✓ Harmonized with the GASP
- ✓ Regional planning/implementation tool-**PIRGs**

**GREPECAS**



***IMPLEMENTATION  
MECHANISMS OF THE  
REGIONAL OFFICE***

# **IMPLEMENTATION MECHANISMS AVAILABLE**

## **1. Internal**

**Correspondence, Meetings, Seminars, Workshops/Courses, Special Implementation Projects (SIPs), assistance on multinational systems.**

## **2. Use of ICAO technical cooperation**

**Regional Projects, National Projects**


## **3. Support to Planning and Implementation Groups (PIRGs)**

**GREPECAS**

**Consultations and dissemination of information through the Organizations' and Regional Offices' web sites ([www.lima.icao.int](http://www.lima.icao.int))**

# GREPECAS – CURRENT STRUCTURE (GREPECAS/15)



The background features a large, faint watermark of the International Civil Aviation Organization (ICAO) logo. The logo consists of a globe with latitude and longitude lines, surrounded by a laurel wreath. The text 'ICAO' is written in English at the top and in Chinese characters at the bottom of the globe.

***DEVELOPMENT OF  
REGIONAL CNS/ATM  
SYSTEMS***

# REGIONAL AIR NAVIGATION SYSTEM

## 1. THE CURRENT SYSTEM COMPRISE

### Conventional systems

AFTN, ATS oral circuits,  
VOR/DME/ILS/NDB, SSR

Mostly manual procedures

Low degree of automation

An increasing development of CNS/ATM systems  
(data link, GPS procedures, development of RNAV,  
RVSM, RNP10 routes)

## 2. THE FUTURE SYSTEM WILL COMPRISE

Progressive use of the GANP GPIs towards a  
performance standards based system, in  
accordance with the ATM operational concept

## 3. IMPLEMENTATION HORIZON

25 years starting in 2000

# ACHIEVEMENTS IN THE IMPLEMENTATION OF CNS/ATM TECHNOLOGY

## CNS technology

- ✓ **Regional Digital Networks – REDDIG, MEVA and COCESNA as multinational systems**
- ✓ **National Digital Networks**
- ✓ **AMHS**
- ✓ **Air/Ground and ATIS-D data links**
- ✓ **SBAS trial platform and results of ionosphere studies. GBAS trials**
- ✓ **Radar data exchange**
- ✓ **ATM automation programme**

## ATM achieved improvements

- ✓ **Review of ATS routes structure**
- ✓ **Implementation of RNAV, RNP10 and RVSM routes**

# SHORT AND MEDIUM TERM FUTURE PLANNING

## ➤ Strategy

- ✓ Use of Global Air Navigation Plan and harmonized Regional Plans - eANP
- ✓ Events of disclosure and instruction- PBA
- ✓ Technical Cooperation
- ✓ Multinational Systems Implementation (OMR)

## ➤ Regional Operational Initiatives

- ✓ Air Traffic Flow Management (ATFM)
- ✓ Performance Based Navigation (PBN)

## ➤ Technology support

- ✓ Progressive implementation of CAR/SAM ATN Plan
- ✓ Data link between ATS dependencies (AMHS, AIDC)
- ✓ Air/ground data link and CPDLC/ADS-C/B applications
- ✓ ATM/AIM automation
- ✓ Use/implementation of GNSS – ABAS, GBAS technology

## GOALS PROPOSED TO BEGIN WITH THE IMPLEMENTATION TOWARDS GLOBAL ATM IN THE REGION

### ➤ **Proposed horizon for the next 5 years**

PBN - RNAV-5

Strategic ATFM - ATFM in airports

MET/AIM - (Quality Management System) QMS

COMMUNICATIONS - AMHS

Argentina, Brazil, Peru, Colombia, Ecuador, Paraguay

ATM AUTOMATION

Radar data interchange, AIDC/OLDI

REDDIG STRENGTHENING

Satellital segment increase,

MEVA II/REDDIG interconnection.

OMR IMPLEMENTATION IN THE SAM REGION

### ➤ **Main tools - RLA/06/901, RLA/03/902**

### ➤ **Cost/benefit studies**

# CONCLUSIONS

- With an horizon of 25 years, the implementation/transition process towards a global ATM system is being developed by the ATM world community. ICAO leads this process
- ICAO prepares the eANP, which will allow the integration of regional planning processes with the GANP, offering a tool available on line.
- GREPECAS reconfigures progressively to develop its work on a performance based focusing (PBA).
- Significant CNS/ATM improvements have already been achieved in the CAR/SAM regions; some World Plan initiatives have been identified as well, in order to continue progressing towards the global ATM.
- ICAO Regional Offices have developed an implementation programme for the CAR/SAM Regions, with technical cooperation tools established for advising States in matters of CNS/ATM implementation towards global ATM.

The background features a large, faint watermark of the ICAO logo. The logo is circular, with the acronym 'ICAO' at the top and 'OACI' at the bottom. The Chinese characters '国际民航组织' are also visible, along with a globe and wings.

***THANK YOU  
VERY MUCH !!!***