



# Team Report



# Promotion Team

## with Education Contributions



# Deliverable 1: Declaration



## Aviation Community Declaration

**ACTION:** Draft complete

– Need supporting one-pager - IATA to take lead

- When/Where?

**ACTION:** Target Paris Air Show - June

**Target Date:** “Package” complete by March

## **Implementing Performance Based Navigation**

**We, as representatives of the air transportation community,**

Affirming our joint responsibility to seek continual improvements to the safety, access, capacity, efficiency and environmental sustainability of the air transportation system,

Recognizing that Performance Based Navigation provides the catalyst for these improvements to air traffic operations, while enabling a seamless and cost effective solution throughout the entire flight,

Recognizing the work of ICAO in formulating and publishing a single set of globally harmonized Area Navigation (RNAV) and Required Navigation Performance (RNP) Standards, now known as Performance Based Navigation (PBN),

Recalling that Resolution 36/23 of the 36<sup>th</sup> ICAO General Assembly whereby States are urged to implement PBN procedures in accordance with the established timetable,

**We resolve:**

To support the timetable set out by ICAO for the global implementation of PBN,

To collectively work to ensure that our respective disciplines do all that is necessary to facilitate the implementation of PBN, and

To assist States and regions in their development and execution of a complete PBN implementation plan.

**Therefore:**

Our declaration and petition to all leaders of the air navigation system, for the reasons stated above, is from this day forward to fully support air navigation that abides by the ICAO global standard and schedule for PBN.

# Signatures

## Top Page

### International Organizations

- ICAO
- IATA
- CANSO
- IFALPA
- IFATCA
- IBAC
- ACI
- ICCAIA
- FSF
- IFHA

## Invitation

- Regional Associations
- CAA's
- ANSP's
- Operators
- Industry
- Airframe manufacturers
- Avionic Manufacturers
- Procedure Design
- Training Institutions
- Etc.



# Deliverable 1: Declaration



## Aviation Community Declaration

**ACTION:** Draft complete

– Need supporting one-pager - IATA to take lead

- When/Where?

**ACTION:** Target Paris Air Show - June

**Target Date:** “Package” complete by March



# Deliverable 2: Promote PBN



## BC - ANSP's/CAA's

- Key messages
  - High level definition - what is PBN
  - Use safety, environment and efficiency arguments that will meet State obligations
  - Cost/benefit for infrastructure (navaids are on the way OUT)
  - ICAO AGM resolution and Industry resolution
  - PBN is today - it's doable and is the long term solution
  - Go Team and other commercial solutions are available
- Follow-up needs: will need **education** on how to properly plan airspace concept, budget & train

**ACTION: CANSO (with volunteers)**

**Target Date: 15 March Coordination Draft / 15 April**



# Deliverable 2: Promote PBN



## BC - Airlines

- Key messages
  - High level definition - what is PBN
  - Align CFO & flt ops (underlying key msg)
  - Cost/benefit - must show real life benefits
    - Use safety, environment, access, global harmonization and efficiency arguments
  - PBN is today - it's happening (and bringing a competitive edge)
  - Go Team and other commercial solutions are available
- Follow-up needs: will need **education** to properly plan for budget, fleet equipage, ops approval and training

**ACTION: IATA (with volunteers)**

**Target Date: 15 March Coordination Draft / 15 April**



# Deliverable 2: Promote PBN



**Layman's version of PBN** (community, politicians, environmentalists, press, etc)

- Key messages
  - Very high level definition - what is PBN
  - Use safety & environment arguments
  - Include optimised 3D profile type ops as a noise abatement argument
- Follow-up needs: Forward similar supporting articles to Jeff & Dottie

## ACTION

- Jeff Williams, Dottie Hall, CANSO, IATA

Target Date: 15 March Coordination Draft / 15 April



# Deliverable 2: Promote PBN



## Dissemination

- Primary means electronic
- Hard copies (limited) - Jepp to contribute
- POC: Craig Thighe/Jepp



## Deliverable 2: Promote PBN



- Audience/Key Themes Matrix

**ACTION: Done**

- PowerPoint Presentations (web)

**ACTION: Ongoing - all to contribute and evaluate**

- White Papers (web)

**ACTION: Ongoing - all to contribute and evaluate**

- Podcasts (web)

**ACTION: Ongoing - all to contribute and evaluate**

**POC: Nichole/Dave**



## Deliverable 2: Promote PBN



### **PBN TF Newsletter** - recommend quarterly

- Declaration (first edition roll-out), information available, Go Team news, important implementations, etc.
- Newsletter distribution list to be collected from PBN TF members and by signing up for newsletter on PBN web page

### **ACTION:**

- All PBN TF as contributors,
- Chief Editor ?? (fixed or rotating?) - NAVERUS
- Jepp to assist on list management



# Deliverable 2: Promote PBN



## Web Page

- ICAO offer to host primary site (link to others)
- Include interactive Map with PP slides

## ACTION:

- Resource to design & maintain web? - ask CANSO & ICAO
- Contributors: all as opportunities arise, e.g. DL does ATL, CO does IAH, Naverus/Jepp/etc. to contribute on their projects, ICAO Implementation TF's to contribute

# Interactive Map

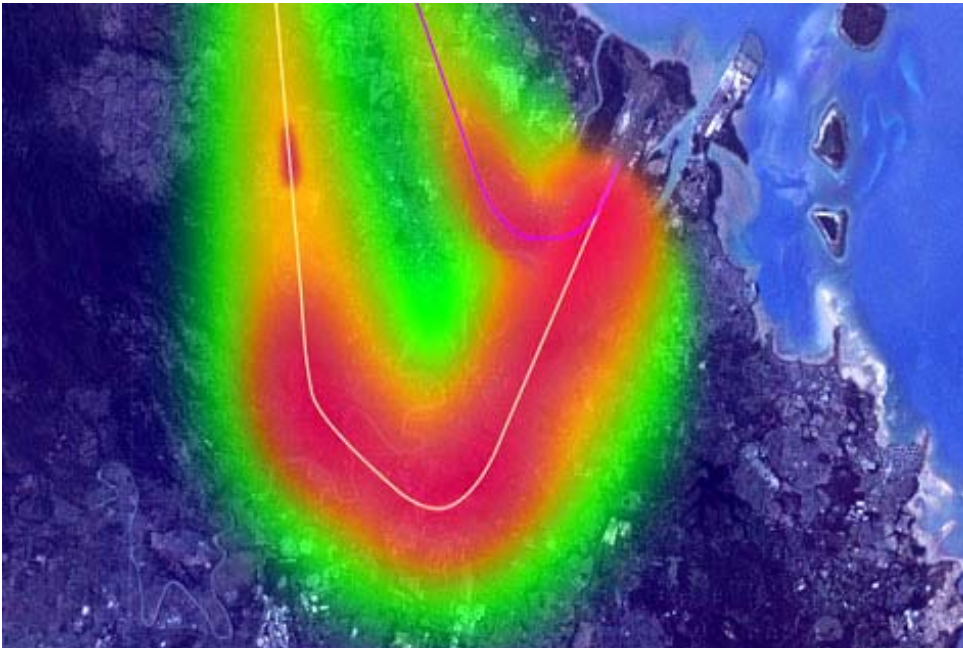
(hypothetical example)

## PBN Asia Pacific



Click on Brisbane

## Brisbane RNP Approach



### Brisbane: RNP Approach vs Traditional ILS

#### •1612 RNP IFR

#### Approaches (B737-800)

- 17,300 less track miles
- 200 tonnes fuel saved
- 650 tonnes CO2 saved



# Deliverable 2: Promote PBN



## Web Page

- ICAO offer to host primary site (link to others)
- Include interactive Map with PP slides

## ACTION:

- Resource to design & maintain web? - ask CANSO & ICAO
- Contributors: all as opportunities arise, e.g. DL does ATL, CO does IAH, Naverus/Jepp/etc. to contribute on their projects, ICAO Implementation TF's to contribute



## Deliverable 2: Promote PBN



### **PBN Database** - (document where/benefit)

- Spreadsheet

**ACTION:** ICAO/Jeppesen

- Airline data on savings

**ACTION:** IATA to solicit



## Deliverable 3: POC Database



### ACTION:

- ICAO to send State letter to CAA's
- CANSO to send letter to ANSP's
- IATA to contact airlines
- Industry to contribute via pull mechanism (off web page invite)
- Contact international and regional associations



# Show Case, Mentor and Promotion Campaign



As a means to showcase and further promote, inspire and mentor PBN, the concept is to target an airport that already has PBN ops and to work with stakeholders (airlines, ANSP, etc) to take this to the next stage with bringing new participants on board, add new efficiencies to design, etc.

–ATL

**ACTION:** DL could offer support. Vision would be CDAs, RNAV/RNP SIDs/STARs and RF to final

–MEL

**ACTION:** QF could offer support. Topic is RNP in a mixed equipage environment.

–UIO

**ACTION:** Safety and access with RNP AR.

–DEL/BOM

**ACTION:** DL/CO could offer support.

–AFI? Possibly KRT

**ACTION:** IATA, EK



# Promotional Contributions



## Successful examples

- Jump seats
- Simulators
- VIP Demonstration Flights



# Financing



- Lending institutions, e.g. World Bank, etc.

**ACTION: IATA/ICAO to introduce subject with  
WB**



# Targets of Opportunities



- Identifying conferences & tradeshow, e.g. ATM Global, ATCA, DGCA Conferences, etc.
  - Introduce papers/presentations
  - Booths

## ACTION:

- ICAO/IATA/CANSO to develop list and distribute via Core Team



# Education Needs



- ATM GM (phraseology, expectations, do's/don'ts, mixed mode operations, separation minima) needs to be developed ASAP with parallel action to develop supporting PANS-ATM amendment
  - ACTION: Implementation Support Team
- Survey of PBN training providers and collection of case studies or lessons learned
  - ACTION: ICAO. Can use newsletter and web page to promote.



# Global PBN Taskforce Implementation Support Team

## PBN guidance and education

**Erwin Lassoij**

**ICAO PBN Programme Manager**



# Objectives of the Implementation Support Team (1)

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## → Implementation guidance (checklist)

Develop the checklist for use by States and regions for implementation of PBN, e.g. WGS-84, procedure design, promulgation, etc.

## → Technical/operational guidance

Identify missing elements in the ICAO documentation that are necessary for PBN planning & implementation, and coordinate the development of such guidance or reference material, e.g. separation minimums, PANS-ATM & PANS-OPS procedures





# Objectives of the Implementation Support Team (2)

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## ✈ Education

Identify missing elements in Education for PBN planning & implementation, and coordinate the development of such education elements



# Action plans (1)

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## Assessment:

- SAM region plans deemed mature, however need a more pragmatic layout aligned with the chronological sequence of implementation.
- More detailed steps are required.
- Furthermore in order to facilitate the States, the action plan elements should be hyperlinked to supporting guidance material, tools, links etc.



# Action plans (2)

## Phase 1: Development of Basic requirement

Review/improve action plans	End February	ICAO (CAA/SA) (Add responsibility, nature of element: only one time or repeated for any addition of applications )
Provide feedback	Mid March	IST (including training, incl SAM)
Telcon to discuss feedback	End March	IST (including training, incl SAM)
Mature proposal to be finalized	Mid April	ICAO (CAA/SA)





# Action plans (3)



## Phase 2: Addition of functionality

Provide hyperlinks to supporting guidance material, tools, best practises links etc.	Mid May	ICAO (CAA/SA, FAA)
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## Phase 3: Dissemination

Publication on website phase	end April	ICAO
Publication on website phase 2	mid June	ICAO
Inform Regional PBN TF's	end April/June	(coordination with PT)
Maintain site	mid June onwards	ICAO (risk: no resource)



# Gaps in guidance/education



- IST reviewed the list of guidance/education needs
- Identified additional areas where no or insufficient guidance/education was available
- Showstoppers were identified
- For each showstopper the following was established
  - Type of guidance/education needed
  - Responsibility
  - Timelines



# Gaps in guidance (1)

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## → Languages

- ICAO to reprioritize, or if unsuccessful
- Include in Worldbank package

## → GNSS Legal

- FAA, IATA, Jeppesen
- Assess suitability of existing material
- Develop document
- Disseminate
- Date: June 2009





# Gaps in guidance (2)



## ✈️ Airspace concept and strategic objectives

- ICAO (EUROCONTROL, FAA)
- Guidance on Airspace concept
- July 2009

## ✈️ Ops Approval

- FAA, Airframe manufacturers, OEMs
- Example AC's, Job aids, JTA, Ops approval and a/c qualification documentation
- June 2009



# Gaps in guidance (3)



## ✈ Route Spacing

- SASP has developed material
- SL to be sent out by 3/2009
- Circular being produced by SASP on examples, finalized by 12/2009

## ✈ Controller Guidance, two phased approach:

- EUROCONTROL
- Short term: Best practices
- Long term: Complete guidance



# Gaps in guidance (4)

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## ✈ Charting SIDs and STARs

- FAA, IFPP, two phases:
- FAA to provide best practices: 3/2009
- IFPP to provide PANS-OPS amendment: 12/2010



# Education (1)

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## ✈ Airspace planning

- ICAO (FAA, EUROCONTROL)
- 10 workshops
- Not earlier than 9/2009

## ✈ GNSS Legal framework

- Undecided, depends on guidance development



# Education (2)

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## ✈ OPS approval

- FAA
- Courses coordinated with GO-teams
- Focus on champion States
- One per year

## ✈ Pilot training module

- To be discussed



# Education (3)

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## → Controller training

- Awaiting feedback from Eurocontrol
- Maybe FAQ's

## → Flight Validation

- FAA



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**Any questions?**





# Go Team Implementation Management



# BACKGROUND



- ICAO PBN Workshop Dec 2008
- Creation of subgroups
- Go Team Experience at IATA



# OBJECTIVES



- To agree on key PBN elements and concepts
- Identify stakeholders' contribution
- Outline “Go Team” strategies



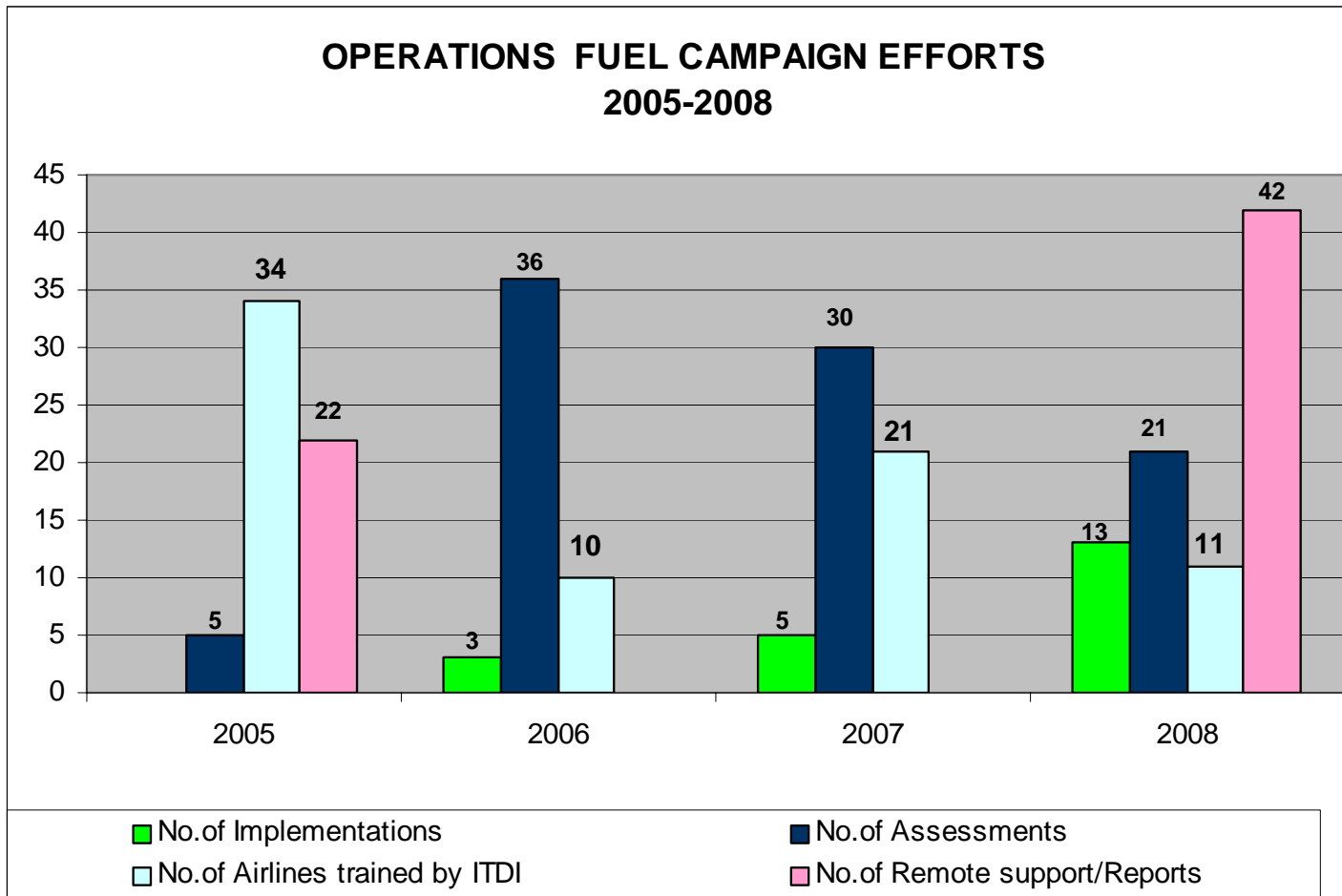
# IATA “Go Team”



- Justify industry requirement
- Identify concept and FEGA elements
- Achievements

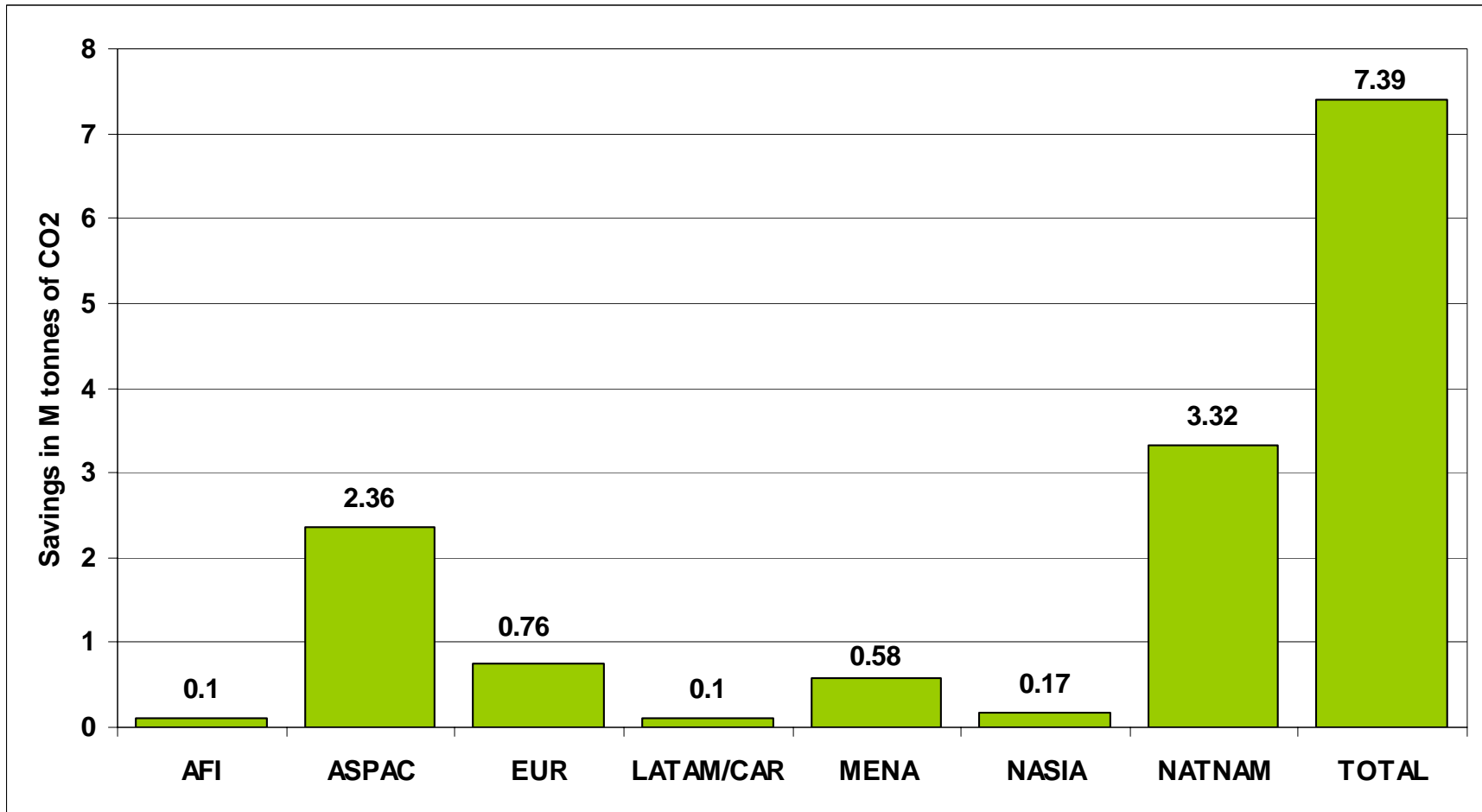


# Green Teams Events Summary 2005-2008





# Operations: achievements 2008





# PROPOSED PROCEEDINGS & WORK PLAN



- Scope of the PBN GO TEAMS
- Concept and how do we want to structure it
  - Guidance Materials
  - Questionnaires
  - On-Site-Assessments
  - Recommendations/Reports
  - Implementation support
- Stake holders
- Funding
- Coordination/Contacts (ICAO, IATA,..)



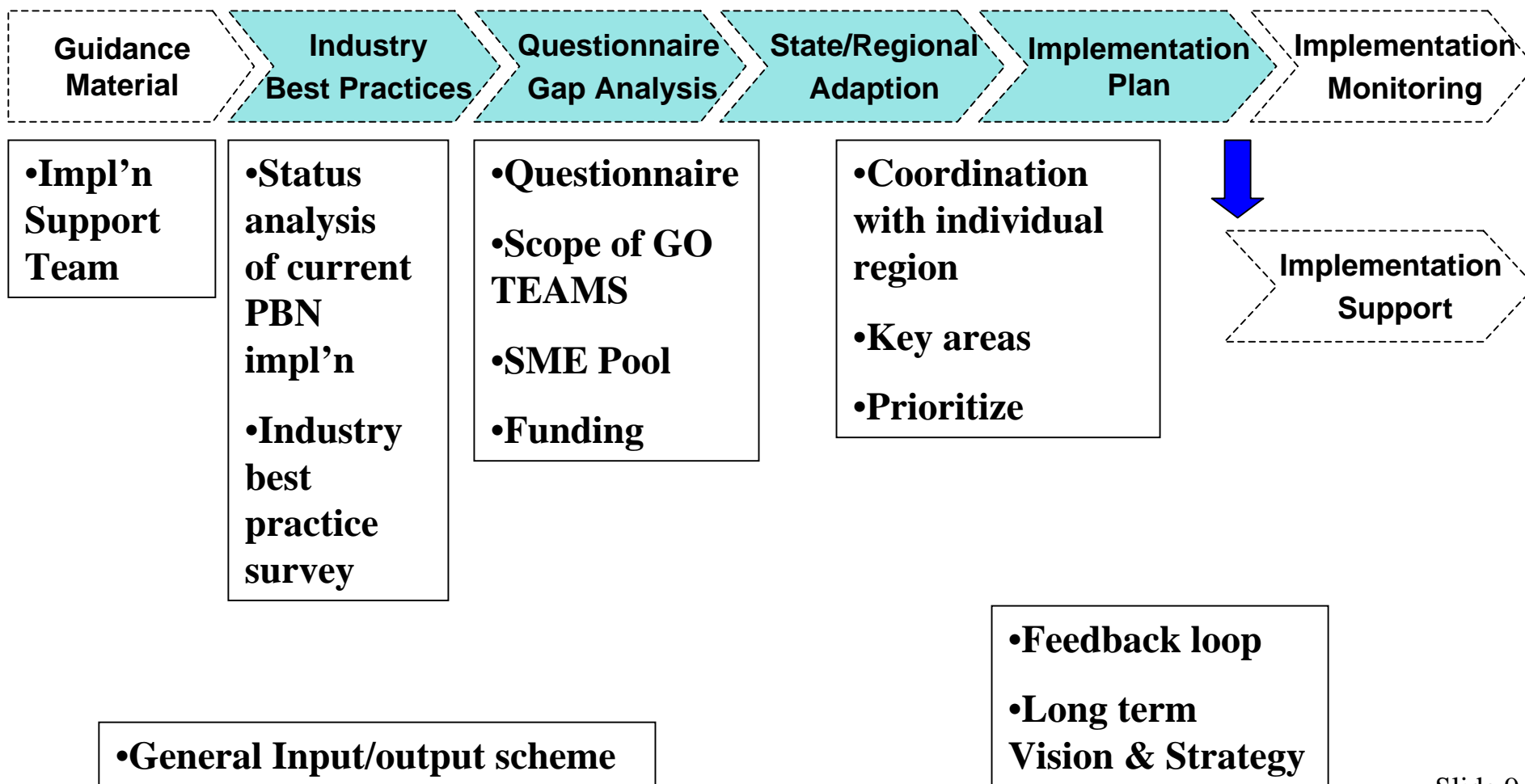
# OVER ALL OBJECTIVES FOR THE GLOBAL PBN TF



- Provide platform for global coordination of PBN initiatives to achieve a harmonized implementation
- Develop a common understanding of industry benefits
- Built on and cooperate with current activities by states and other stakeholders

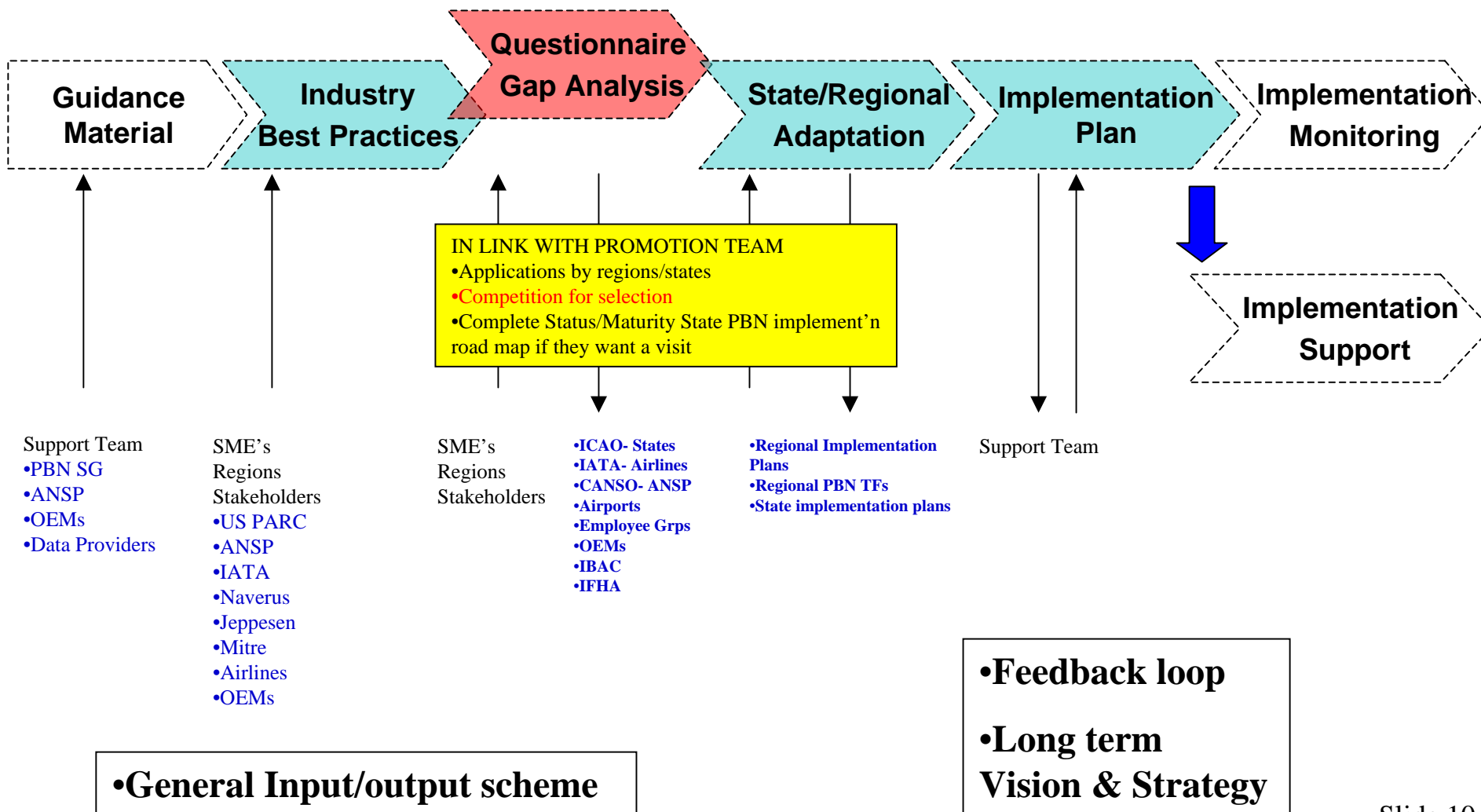


# Implementation Management





# Implementation Management



- Support Team
- PBN SG
  - ANSP
  - OEMs
  - Data Providers

- SME's  
Regions  
Stakeholders
- US PARC
  - ANSP
  - IATA
  - Naverus
  - Jeppesen
  - Mitre
  - Airlines
  - OEMs

- SME's  
Regions  
Stakeholders

- ICAO- States
- IATA- Airlines
- CANSO- ANSP
- Airports
- Employee Grps
- OEMs
- IBAC
- IFHA

- Regional Implementation Plans
- Regional PBN TFs
- State implementation plans

- Support Team



# PROPOSED PROCEEDINGS & WORK PLAN – IDENTIFIED TASKS



- Align overall GO TEAM **objectives** and **measurable targets**
  - Get states to complete their state implementation road map prior to getting “Go Team “ visits - **COMPETITION**.
  - Provide promotion team with a criteria Go Team requires so they can promote accordingly
  - Working paper to the regional PBN TF on GO Team
  - **Target** regions such as SAM, Asia Pacific, Mid-East ???? Identify them as regional leaders.
  - Target few visits to start ( ideally major regions) before end of year
  - Establish the **timeline** for the first visit including all steps which lead up to this
  - Help states improve/review existing roadmap
    - Help them focus on particular problems they are having and identify solutions
    - Verify if required **criteria** is in place i.e.: Operator Procedures, etc..



# Criteria for GO Team Application- PHASE 1



- Relevant states should be willing to be a regional leader
  - Invite others to observe/participate
  - Share knowledge/procedures/best practices
- Resource availability
  - **Funding**
  - Human Resources
    - local coordination function
    - Key personnel from local stakeholders
- Complete or relatively advanced status/maturity of National PBN implementation Roadmap.
- Key stakeholders committed to participating in project
  - Regulators
  - ANSP
  - Operators
  - Airports
  - OEMs
  - Others...
- Targets & Benefits to be derived from project (**must have a common understanding**)



# Criteria for GO Team Application cont'd



- Areas to be addressed in the attachment to the application form\*
- How are your proposed projects influencing the following:
  - Potential for Inter/Intra regional connectivity
  - Safety
  - Efficiency
  - Accessibility
  - TMA Capacity
  - Environmental
  - Economic development
  - Others...



# Criteria for GO Team Application



- Relevant states should be willing to be a regional leader
  - Invite others to observe/participate
  - Share knowledge/procedures/best practices
- Resource availability
  - Funding
  - Human Resources
    - local coordination function
    - Key personnel from local stakeholders
- National PBN implementation Roadmap completion status/maturity
- Key stakeholders committed to participating in project
  - Regulators
  - ANSP
  - Operators
  - Airports
  - OEMs
  - Others...



# PROPOSED PROCEEDINGS & WORK PLAN – IDENTIFIED TASKS



- Develop promotional material – Promotion TF
  - **Generic Promotion Material**
    - Scope of the PBN initiative
    - Clearly identify Long term/Short term targets
    - Global implementation vision
    - Align/build on current activities (States/regional plans) and provide additional boost
    - Cooperation/Harmonization plan- ICAO leadership role
    - Develop common understanding of industry benefits
  - **Standard letter to targeted States ( Developed in cooperation with GO Team)**
    - Introduction to PBN initiative and the entire campaign
    - Background material
    - Value proposition of the GO Team
    - Application form with explanation
    - Standard agreement form (contract)
  - **Parallel communication with key stakeholder community within the targeted states informing them about the initiatives as such and contact to related state**



# **PROPOSED PROCEEDINGS & WORK PLAN – IDENTIFIED TASKS**



## **Develop promotional material – Promotion TF – Cont'd**

- **Media Relations**
  - **Identify Regional achievements –Not individual Airline achievements**



# IMPLEMENTATION COMMITMENT



- Implementation continuation requirement
  - Follow up



# PROPOSED PROCEEDINGS & WORK PLAN – IDENTIFIED TASKS



- Develop criteria for SME pool
  - Volunteering
  - Consultancy
  - Area of Expertise:
  
  - Define contribution requirements
    - Duration
    - Density
    - Processes (Communication, planning , travel ....)



# PROPOSED PROCEEDINGS & WORK PLAN – IDENTIFIED TASKS



- Conduct survey on Industry Best Practices
  - Operational procedures/applications
  - Implementation management
  - Existing ICAO data & material
  - Success stories, identified obstacles



# PROPOSED PROCEEDINGS & WORK PLAN – IDENTIFIED TASKS



- Prep/Host SME Conference
  - Exchange implementation experience
  - Agree/identify best practices (long-term)
  - Outline roadmap towards implementation



# PROPOSED PROCEEDINGS & WORK PLAN – IDENTIFIED TASKS



- Identify industry benefits
  - State/Region past experiences
  - Benefits \$\$\$/ CO2 / Safety ?



# PROPOSED PROCEEDINGS & WORK PLAN – IDENTIFIED TASKS



- Conduct Status analysis on Prioritizing key areas
  - Ensure narrow focus of PBN implementation for the new “GO TEAMS”
  - Standardize
  - Harmonize
  - Etc...



# PROPOSED PROCEEDINGS & WORK PLAN – IDENTIFIED TASKS



- Define GO TEAM scope – short term
  - Operational procedures
  - Technology requirements (onboard/ground)
  - ATM environment & improvement
  - Airline application
  
  - Required expertise
  - Training for SME's



# PROPOSED PROCEEDINGS & WORK PLAN – IDENTIFIED TASKS



- Develop funding opportunities
  - Who
  - How
  - How much
  - Etc...



# PROPOSED PROCEEDINGS & WORK PLAN – IDENTIFIED TASKS



- Develop standard questionnaire
  - Existing practices
  - Current initiative
  - Technology in place
  - Education / training levels
  - .....



# PROPOSED PROCEEDINGS & WORK PLAN – IDENTIFIED TASKS



- Overview of existing Non-ICAO documents
  - Align with the support team on this
  - Etc...



# PROPOSED PROCEEDINGS & WORK PLAN – IDENTIFIED TASKS



- Develop individual/regional coordination concept
  - How to link with regional activities out there
  - ...



# PROPOSED PROCEEDINGS & WORK PLAN – IDENTIFIED TASKS



- Establish feedback loop
  - Establish this for short term/ long term goals
  - Narrow down variations
  - Etc...

### **Existing ICAO Portal Users: Group Subscription Request**

1. Log on to <http://portal.icao.int> with your secure site login credentials.
2. Click on the PROFILE link on the right hand top corner.
3. A new window pops up, click on GROUP SUBSCRIBE/UNSUBSCRIBE in the left side menu.
4. Enter the group name you are requesting access for in the SUBSCRIBE TO field and the JUSTIFICATION for your request.
5. Click the SUBMIT CHANGES button.

### **New ICAO Portal Users: Account Creation**

Please follow the instructions below to gain access to the online site and subscribe to a group.

1. Access the ICAO Portal at the following link: <http://portal.icao.int/>
2. Since you do NOT have a Portal username/password, click the REQUEST AN ACCOUNT option and follow steps 2.1 to 2.5:
  - 2.1 Click the OK button on the pop-up message to indicate this is your first Portal account.
  - 2.2 In the pop-up window, enter the group name GPBNTF (all caps and no space) in PLEASE ENTER A GROUP NAME YOU WISH TO SUBSCRIBE.
  - 2.3 Click the OK button.
  - 2.4 Enter the necessary information in the New User Account form.
  - 2.5 Click the SUBMIT REQUEST button.
3. When steps 1 and 2 are completed, you will receive shortly a confirmation that you have been granted access along with your username and password.



International  
Civil Aviation  
Organization



International  
Air Transport  
Association

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**DRAFT REPORT  
OF THE GLOBAL PERFORMANCE-BASED  
NAVIGATION TASK FORCE 2 MEETING (GPBNTF/2)**

**(2 to 5 February 2009)**

## 1. Introduction

This Global Performance-based Navigation Task Force Meeting (GPBNTF) was opened jointly on 2 February 2009 by Ms. Nancy Graham, Director of the International Civil Aviation Organization (ICAO) Air Navigation Bureau and Mr. Guenther Matschnigg, Senior Vice President, Safety, Operations and Infrastructure of the International Air Transport Association (IATA). Seven States, six international organizations and 13 industry representatives were in attendance. The opening remarks focused on the need for closer cooperation and partnership between all stakeholders, including regulators, service providers, airspace users and related industry. The key leadership role ICAO must assume in PBN implementation was also highlighted.

The meeting's objectives were to build upon the global and regional structures, which have already been put in place for PBN implementation, and to produce tools and enablers to facilitate and expedite the work.

The report of the first Global PBN task Force was approved.

The meeting was then reminded about the goal of this meeting:

- Develop the work programme for the PBN Task Force Teams including:
  - scope definition; and
  - establishment of timelines.

A presentation was provided on related activities since GPBN/TF1. The main activity was the organization of the taskforce by means of four separate teams, supported by a coordinating core team:

- Promotion Team
  - Develop and execute a strategy to promote PBN, both at the policy/decision making level and at the working level; and
  - Develop an Industry Declaration supporting PBN.
- Support Team
  - Develop a model action plan for implementation of PBN, e.g. WGS-84, procedure design, promulgation, etc.; and
  - Identify and coordinate development of guidance or reference material that may not be available e.g. Operational Approval Guidance Material.
- Education Team
  - Develop, plan and schedule training and workshops to support PBN implementation.
- Go Team
  - Develop the organizational/administrative mechanisms and financial means to provide direct assistance to ANSPs, CAAs and airlines, and develop options for their modus operandi, e.g. develop "Go Teams" and coordination with the ICAO Flight Procedure Programme Office.

Each of the rapporteurs of the four Teams provided the objectives to be achieved at the meeting. The meeting agreed to rename the Support Team as Implementation Support Team (IST). It was also decided to merge the Education Team into the IST.

## 2. Promotion Team

The goal of the Promotion Team is to develop and execute a strategy to promote PBN, both at the policy/decision making and at the working level. The Promotion Team was tasked with the following issues:

1. Aviation Community Declaration
2. PBN promotional kits
3. POC data base

A draft of the PBN aviation community declaration was completed. This statement affirms the joint responsibility of the aviation community to fully support air navigation that abides by the ICAO global standard and schedule for PBN. The declaration also resolves to provide assistance to States and regions in their development and execution of a complete PBN implementation plan. This community statement highlights the urgency to seek continual improvements to the safety, access, capacity, efficiency, and environmental sustainability of the air transportation system, while recognizing that PBN provides the catalyst for these improvements to air traffic operations.

Participants agreed that the following international organizations should be primary “front page” signatories: ICAO, IATA, CANSO, IFALPA, IFATCA, IBAC, ACI, ICCAIA, FSF, IFHA.

Additionally, regional associations, CAAs, ANSPs, operators, airframe and avionics manufacturers, training institutions, and other members of the industry will have an open invitation to endorse the declaration.

To complete the community declaration package, IATA will take the lead in drafting a supporting one-pager document with assistance from the rest of the Promotion Team. The meeting recommended presenting the community declaration package at the Paris Air Show in June 2009, marking the launch of the PBN promotional campaign.

The PBN promotional campaign will be an on-going effort and will target a wide range of audiences, including the aviation community at large, funding organizations, politicians and lobbying groups, environmental activists, press, and the general public. The key elements of this campaign include:

- High Level Brochures
- PBN Global Task Force Newsletter
- Web Page

The high-level brochures will include Business Cases for airlines, ANSPs and CAAs as well as a Layman’s version of PBN. Participants agreed that brochures need to provide a high-level definition of PBN and should leverage on the safety, environment, and efficiency arguments to show tangible benefits. Equally important is to highlight that PBN is a solution available today and for the long-term.

The rest of the promotional kit (webpage, newsletter, and data base) will be living sources updated regularly with the objective of making PBN information available, disseminating Go-Team efforts, and highlighting implementation successes and lessons learned. The newsletter will be published quarterly and will be distributed electronically to PBN TF members and to any others who sign up to receive it on the PBN Web Page.

Financing institutions (e.g. World Bank, etc.) were identified as a direct target for PBN promotion. It was recognized that these institutions are not interested in 2-3 million dollar projects. Their vision is focused on a wider scope, at the level of achieving significant environmental benefits, increasing safety, promoting national GDP growth and saving the ailing air transportation industry. In order to facilitate financing, PBN will be promoted as a package of benefits rather than trying to showcase only one attribute. IATA and ICAO will collaborate to introduce subject with the World Bank.

As a means to showcase and further promote, inspire, and mentor PBN, the team discussed the possibility to target an airport that either already has PBN operations or in on the verge of implementation, in order to work with stakeholders (e.g. airlines, ANSPs, etc.) to take implementation to the next stage, by bringing new participants on board and adding new efficiencies. Some of the target airports could be ATL, MEL, UIO, DEL/BOM, and an airport on the African continent.

The Promotion Team also agreed to find targets of opportunity to move forward with the promotion of PBN at conferences, tradeshows, and other relevant forums (e.g. ATM Global, Paris Air Show, ATCA, DGCA conferences, etc.). Other promotional contributions discussed to specifically target key high-level stakeholders included jump seats rides on the flight deck, use of simulators to demonstrate PBN and VIP demonstration flights.

After securing buy-in, the Promotion Team identified a follow-up need to educate stakeholders on how to properly plan for airspace concept/ fleet equipage, budget, training, and ops approval.

### **3. Implementation Support Team (IST)**

The implementation support team was tasked with the following issues:

- Develop a model Action Plan for implementation of PBN, e.g. WGS-84, procedure design, promulgation, etc.;
- Identify and coordinate development of guidance or reference material that may not be available or currently in development e.g. Operational Approval Guidance Material; and
- Develop, plan and schedule training and workshops to support PBN implementation .

The IST reviewed model action plans from the South American Region (SAM) as a basis for a globally applicable model action plan. The IST agreed that a globally applicable model action plan should designate actions in chronological order when feasible (e.g., “Preplanning activities”, “Implementation Planning Activities” etc). The IST added additional detail to the SAM action plans, differentiating one-time activities that apply to formulation and implementation of a full scale airspace concept, and recurring activities that recur for specific, smaller-scale implementations (e.g. adding an RNAV arrival or RNP approach procedure).

A gap analysis of existing/planned guidance and reference material with additional needed material was conducted, using the steps in the action plan. Critical items that could severely impact the rate of implementation (“showstoppers”) were identified, tasked and timelines set. A summary of all tasks and volunteers addressing the issues, is attached to this report.

Most critical to the implementation of PBN was considered the availability of guidance on operational approval. There should be a clear connection between the PBN navigation specifications, availability of example AC’s, guidance on job aids and ops specs.

Another problem in implementation is a misunderstanding by some States on the legal aspects of GNSS implementation. Although there is material available, it needs to be assembled again and repackaged in such a manner that it would be accessible for State and easy to understand.

One of the first steps in implementation is the development of an airspace concept that meet the strategic objectives for the airspace. Although reference is made in the PBN manual on this topic, it was considered necessary to expand on this guidance.

Route spacing guidance is considered an indispensable element in airspace planning. Currently insufficient guidance is available, however the group was informed that a State Letter will be sent out in March 2009 containing a PANS-ATM amendment and additional guidance will be available in the form of an ICAO circular by the end of 2009.

An important element in the correct implementation of PBN and obtaining ATC acceptance, is the understanding of controllers about PBN and its benefits. In this context it also very important that phraseology and charting requirements are developed.

Regarding education, the group agreed that this topic was very much related to required guidance material and was considered an extension in cases where guidance material only would be insufficient.

Areas identified were training for ops approval, airspace planning, pilot/controller training and flight validation.

Crucial in implementation is the availability of guidance material in the official ICAO languages.

#### **4. Implementation Management (GO) Team**

The Implementation Management Team (GO Team) met for the purpose of discussing specific implementation activities that would serve to develop regional pockets of knowledge and expertise in various States, and that could serve as an example of successful implementation to other States in the region. The concept of the GO Team, as successfully used by IATA to implement fuel efficiency measures at the member airlines, was discussed in depth. The Implementation Management Team agreed that this concept could be adapted to the PBN implementation efforts of the Global PBN TF.

The group drafted a purpose statement for the GO Team:

To develop and deliver a detailed implementation plan and tool set individualized to the specific needs of the State/stakeholder in order to allow them to initiate the implementation.

In order to further define the GO Team programme, the group developed the following, which can be found in more detail in Attachment D to this report:

- Nature of Implementation Management team activities
- Criteria for a State to apply for a GO Team visit
- GO Team visit deliverables
- GO Team composition
- GO Team generic project sequence
- Project implementation after the GO Team visit
- Implementation management funding issues and funding proposal

- First GO Team visit milestones
- A list of reasons why industry should contribute to this effort

It is anticipated that the first pilot GO Team visit will be a trial or pilot, to validate the concept and procedures. The target date for this first visit is July 2009. Further visits in 2009 and beyond will be dependent on resources available.

## **5. Future tasks for the Core Team**

The meeting agreed that in order to support the work of the teams, the Core team should have the following tasks:

- Review assignments for all teams
- Identify dependent actions, critical path and coordination requirements
- Create a structured chart , picturing required interaction
- Coordinate between the teams
- Follow-up on Status of assigned tasks
- Convene meetings/telcons if and when required

## **6. Closing session**

During the closing session the reports of each of the 3 teams (see attached) were presented and reviewed. The following comments were made:

### *Promotion Team*

- The June date for the declaration was put into question and it was requested to find an earlier date.
- Question was raised about the costs and where the funding should come from.
- ICAO indicated it would build and maintain a professional PBN website.

### *Implementation Support Team*

- GNSS legal aspects. It was suggested that a site with Frequently Asked Questions and information on existing guidance will probably address this issue, since consideration for legal basis for GNSS implementation is of long standing.
- PBN Airspace planning workshops. Nancy Graham showed her appreciation to EUROCONTROL and FAA willingness to develop these workshops.
- Phraseology: ICAO indicated to hire someone to assist in the development of phraseology
- Controller training: Thales indicated willingness to assist in the controller training task, noting it had capability for ATC simulations in a PBN environment. It was further indicated that it would be important to get the controllers on board in developing this training.

The Implementation Support Team agreed to develop the model action plan as a matter of priority and see what guidance material could be made available before June, and coordinate with the Go Team and Promotion Team accordingly.

*Implementation management (Go) Team*

- Guenther Matschnigg indicated that schedule for the Go-Team was not aggressive enough. It was suggested that the target date of the first visit should be moved forward to July. In response it was indicated that an early visit would only be possible if resource were committed. Also it was indicated that it would be very important to have all the guidance material and best practices in place before the first visit

- Both Nancy Graham and Guenther Matschnigg indicated they would initiate activities to help identify funding not only for the Go Team project, but also the other activities of the Task Force

With the given direction, the Go team would determine the process and timelines to be taken, given the resources and supporting guidance available.

After the review of the work programmes of each group and based on the input provided, it was agreed that each team should now further detail its work programme. It was also agreed that the success of the Task Force is very much contingent on the funding available.

It was indicated that at this stage it was undesirable to plan for another GPBN TF meeting as it would be more efficient and cost effective that each team would work on its own. The Core Team consisting of ICAO, IATA, CANSO, IFALPA and ANC would be providing the coordination.

The Report with agreed actions and timelines can be found in the Attachments B, C and D.

**Attachments:**

- A — Participants list
- B — Report of Promotion team
- C — Report of Implementation Team
- D — Report of Implementation Management (Go) team

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**ATTACHMENT A**

**Second Meeting of the Global Performance-based  
Navigation (PBN) Task Force (GPTF/2)**

**ATTENDANCE LIST**

**2 to 6 February 2009**

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