



| ICAO

CAPACITY & EFFICIENCY

An African FPP customized for Africa by Africa

Erwin Lassoij - PBN Programme Manager - 24 March 2014



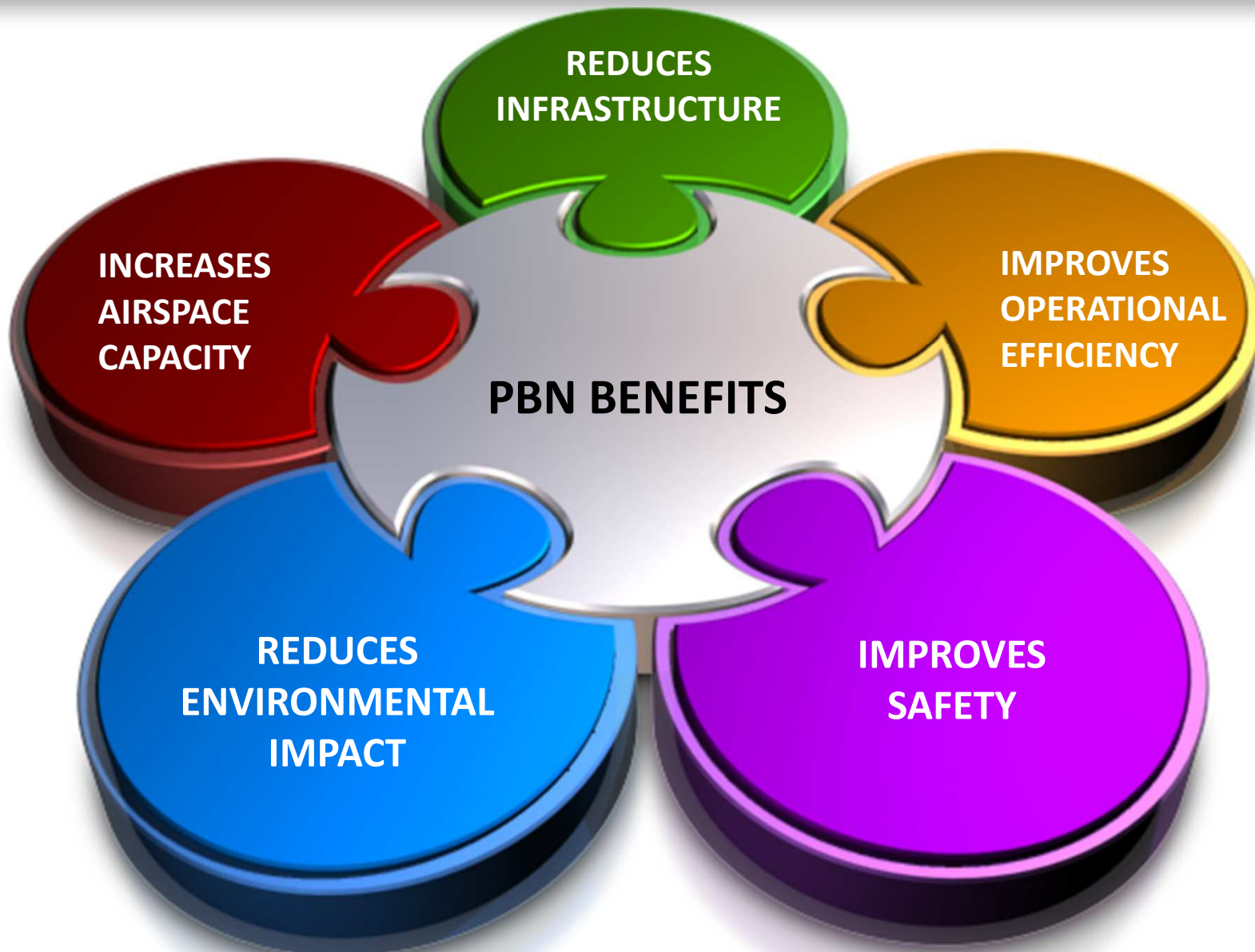
Presentation Outline

- Why PBN?
- What is PBN?
- Where are we now?
 - Global PBN implementation
 - PBN Implementations in Africa
- Why are we here?
- What is needed for Africa?
- Summary and Next Steps



Why PBN?

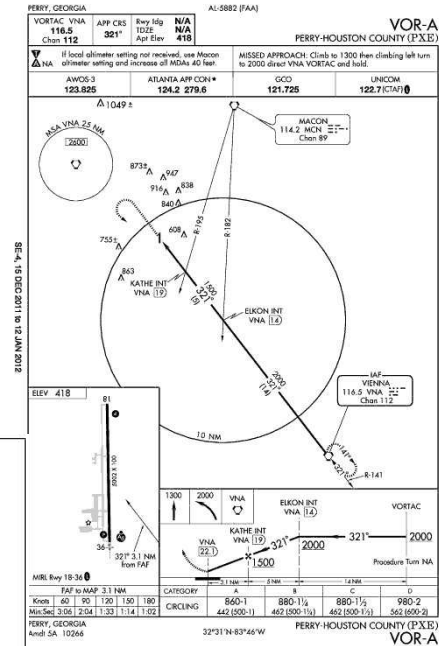
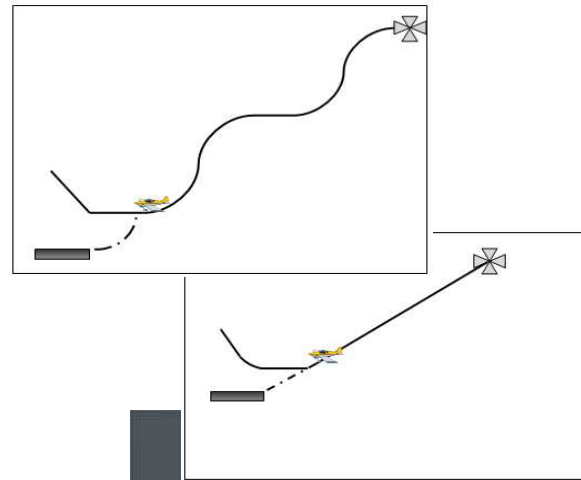






Why PBN?

- Safety
 - Approach procedures to runways that do not currently have an approach
 - Straight-in approach procedures (vice circling)
 - Approach procedures with vertical guidance (APV)
 - Back up procedures to existing conventional precision approaches



JULY 7, 2013:
ASIANA AIRLINES FLIGHT 214
CRASH LANDING IN SAN FRANCISCO
 A TIMELINE OF EVENTS

The devastating Asiana Airlines crash landing that killed two and injured nearly 200, happened in the final seconds of a 10 and a half hour flight from Seoul, South Korea, to San Francisco on July 6, 2013. The aircraft was carrying 291 passengers and 16 crew members. Here's a timeline of events.

Click on the dates below to find out more -

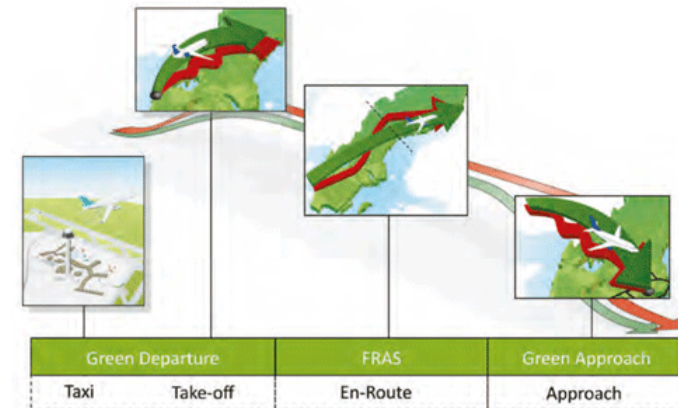
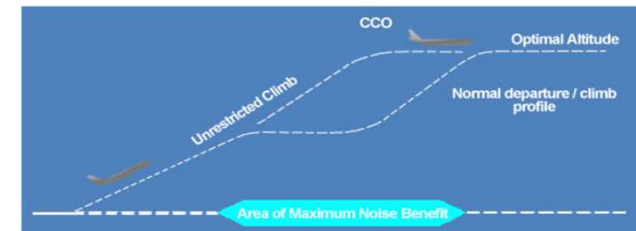
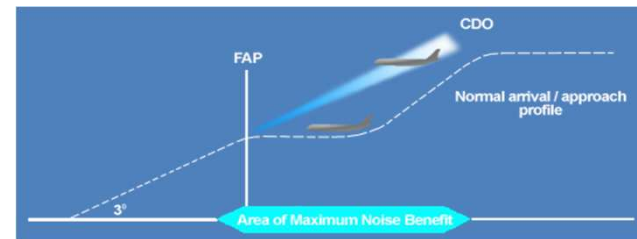
11:27 a.m. PT Plane Crashes 11:35 a.m. PT 1 p.m. PT 4:18 p.m. PT 7:47 p.m. PT Video 1 Video 2

Share Tweet 114 View BY TIMELINE BY LIST

Why PBN?

- Efficiency

- Increased airport accessibility
- Reduced infrastructure operating costs
- Reduced fuel burn and CO₂ emissions
- Avoidance of noise sensitive areas
- Continuous Descent and Climb operations
- Increased airspace capacity
- Improved and more flexible use of terminal airspace (arrivals and departures)
- User preferred routing





The PBN Concept is Mature





Documentation Framework

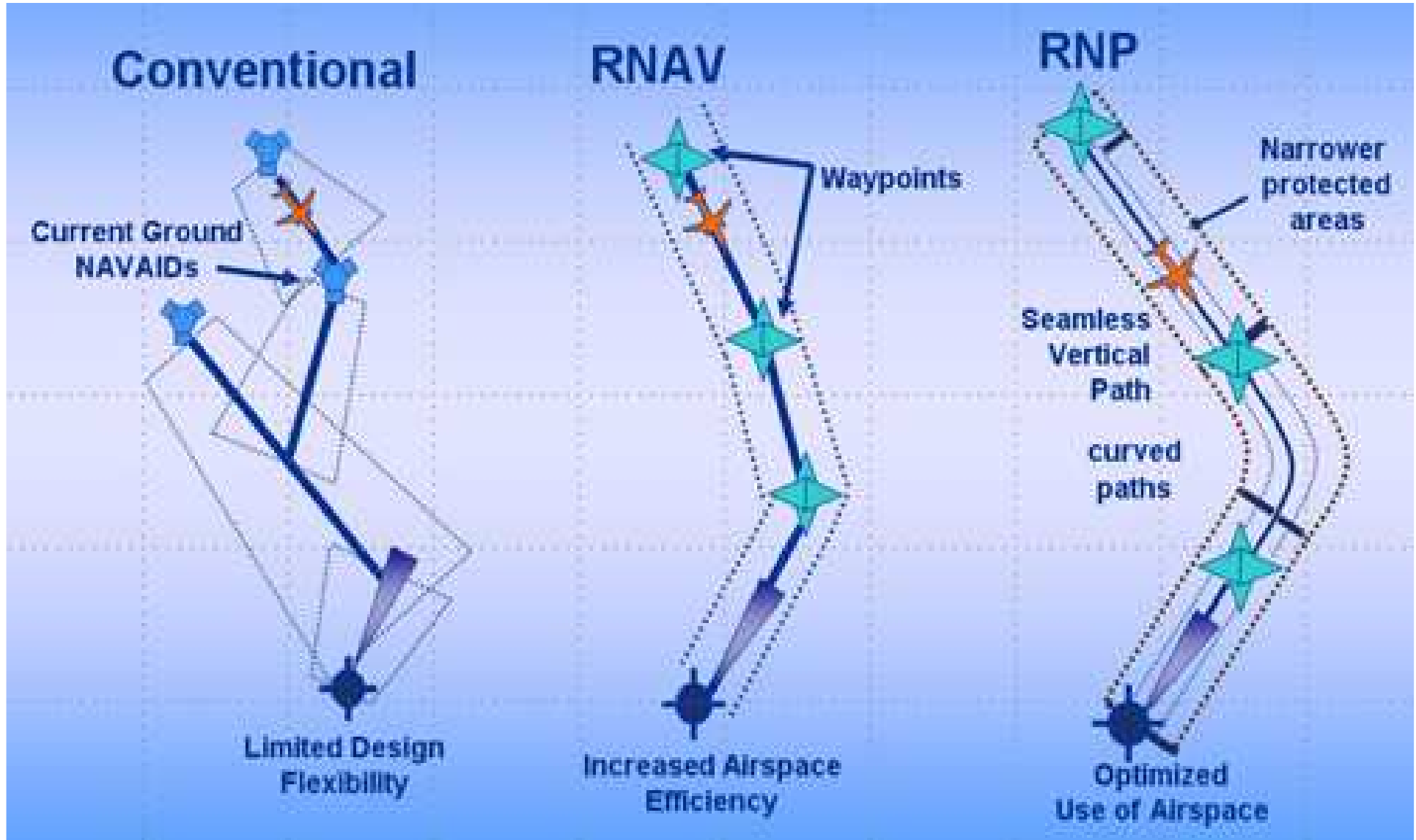


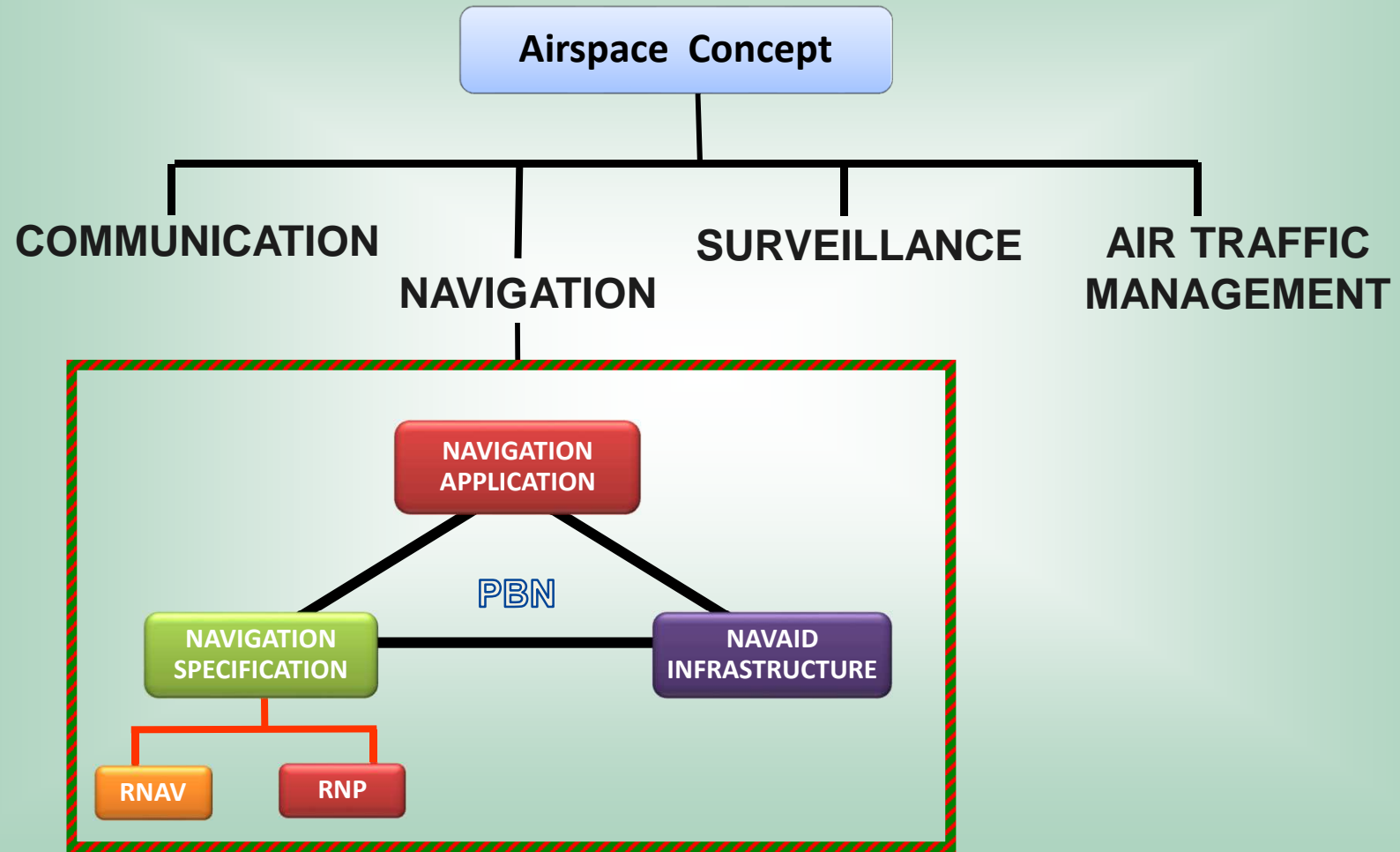
- PANS Ops Volume II
- PBN Manual (Doc 9613) 4th Edition
- RNP AR Procedure Design Manual (Doc 9905)
- PBN Ops Approval Manual (Doc 9997)
- Manual on Use of PBN in Airspace Design (Doc 9992)
- CDO Manual (Doc 9931)
- CCO Manual (Doc 9993)
- GNSS Manual (Doc 9849)
- Procedure QA Manual (Vol 1 to Vol 6) (Doc 9906)

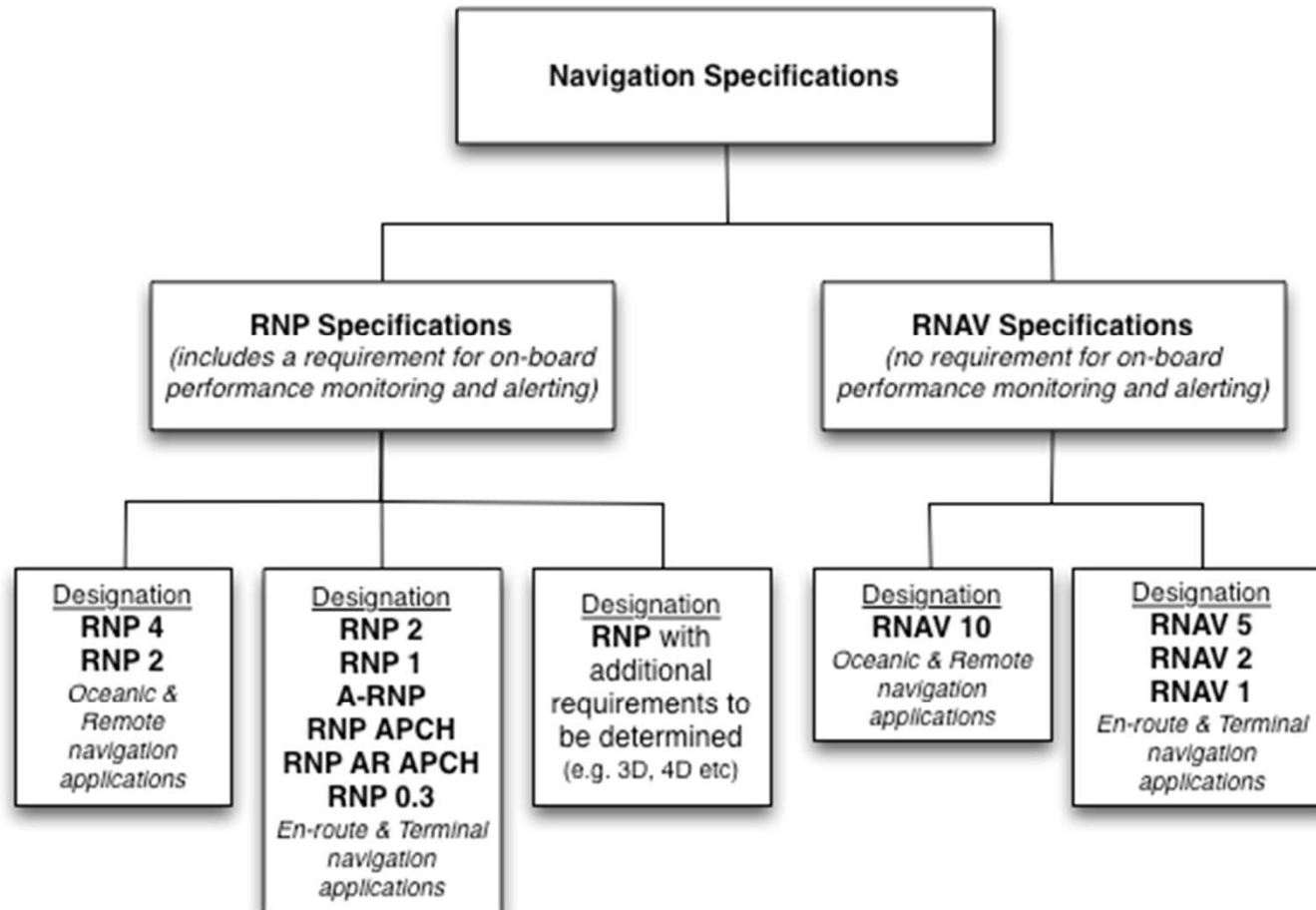


What is PBN?







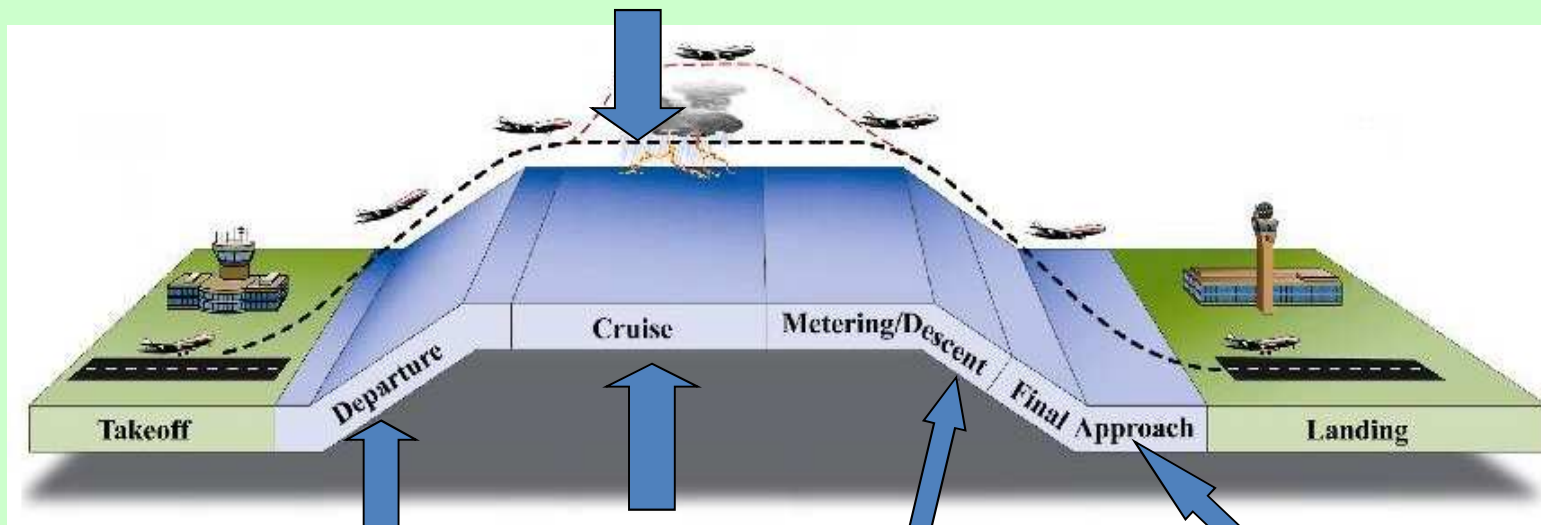


- Added Functionality**
- Radius-to-fix (RF) (terminal and approach)
 - Fixed Radius transitions (enroute)



An Example

OCEANIC and Remote – RNAV 10, RNP 4 or 2



RNAV 1/2 &
RNP1 SIDs

RNAV 5/2/1
RNP 2

RNAV 1/2 &
RNP1
STARs

RNP Approach
RNP-AR
Approach



Where are we now?



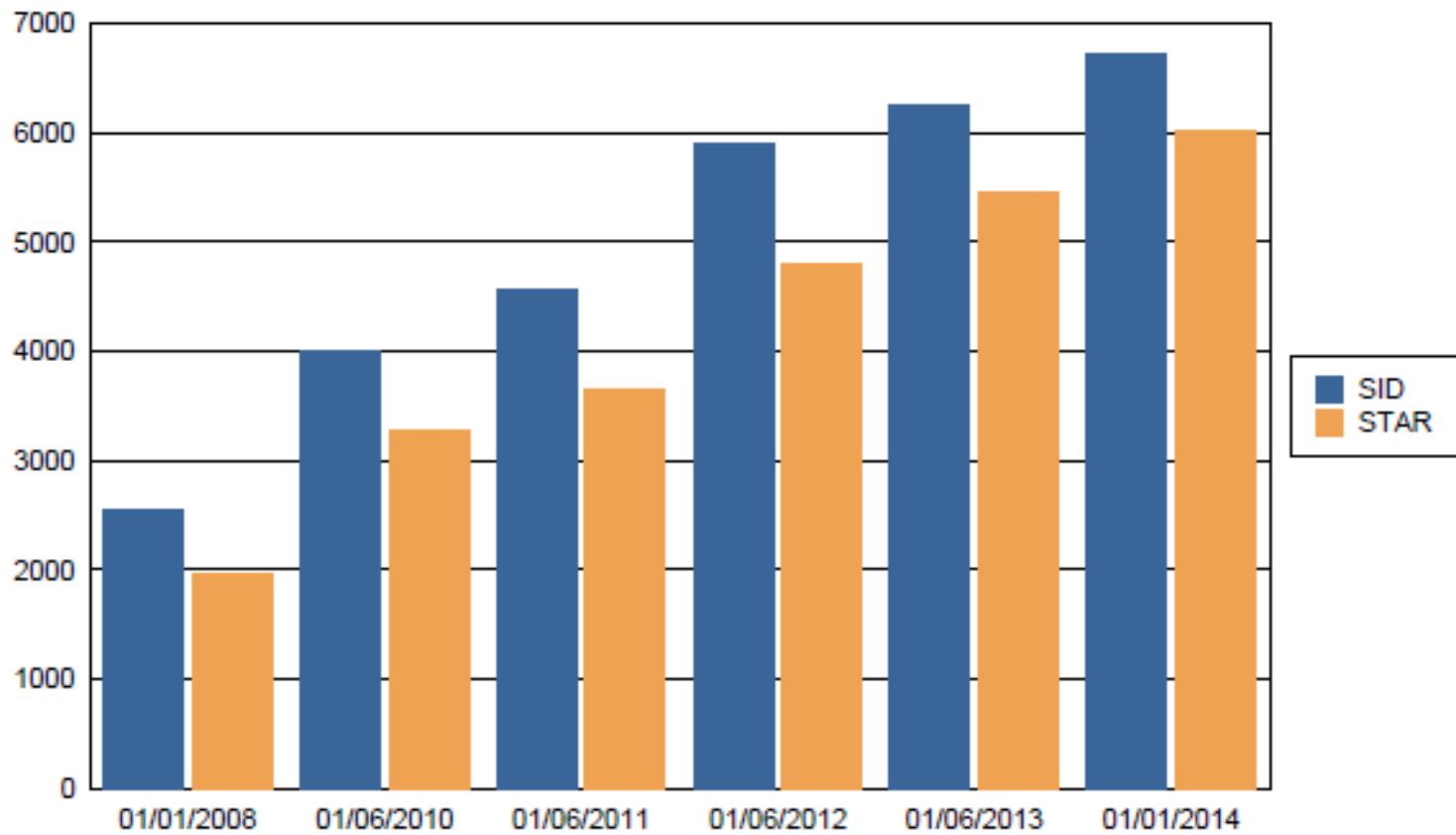


Assembly Resolution A37-11

- Urge States to have a PBN implementation plan
- Implement PBN SID, STARs and Routes where operational beneficial
- Implement PBN approach procedures with vertical guidance to all runways by 2016

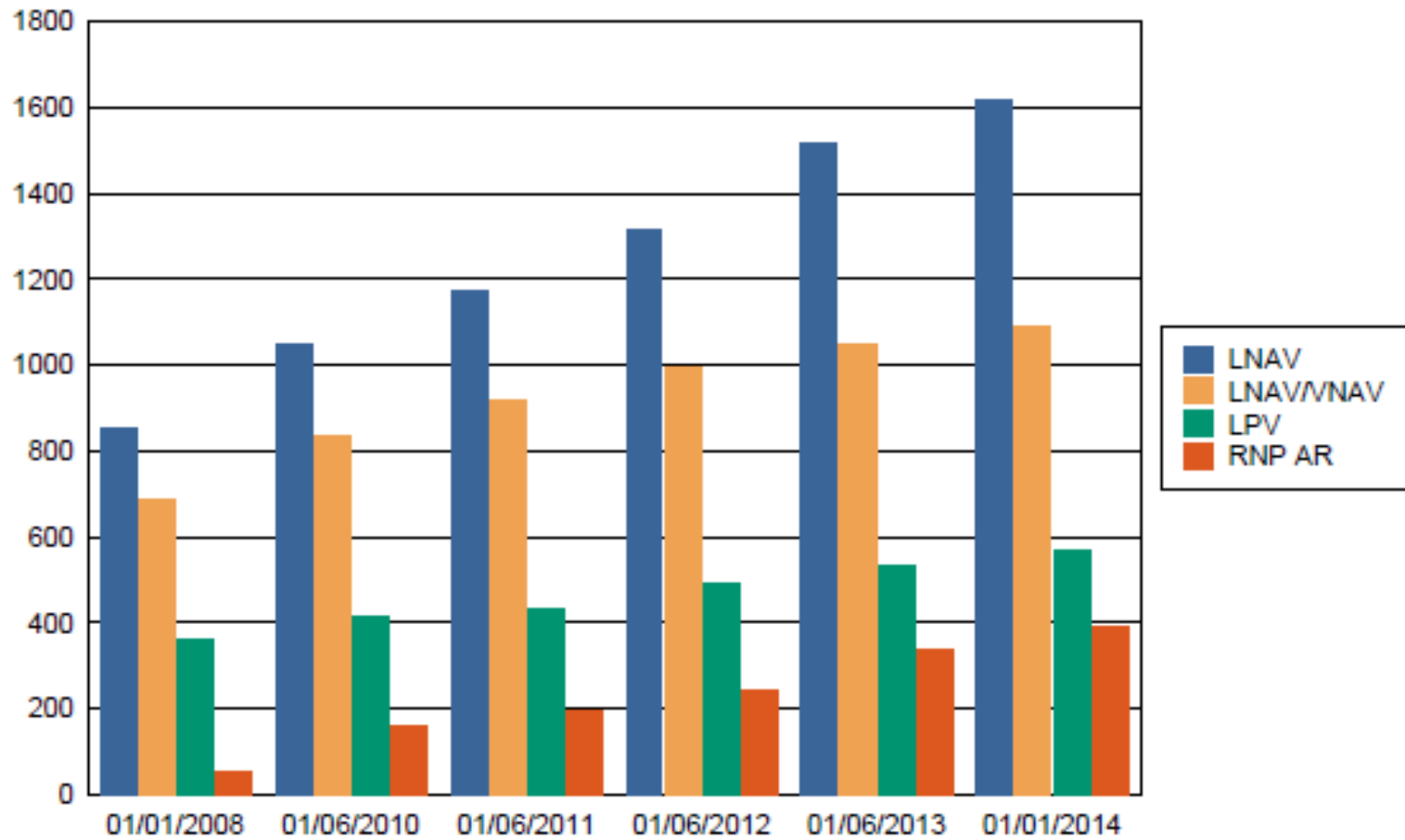


International SID & STAR – All regions



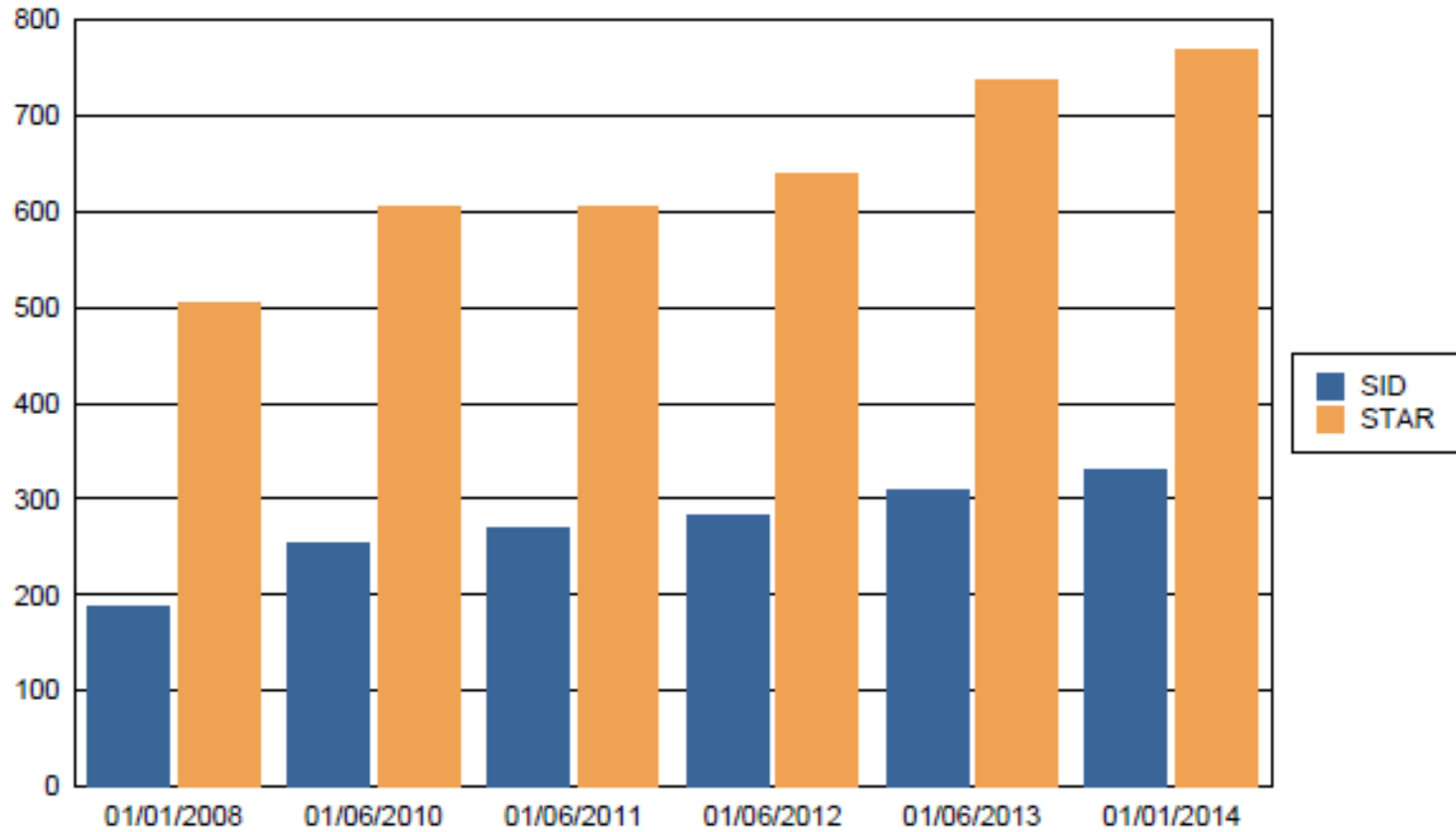


International Airport Approach Type – All regions



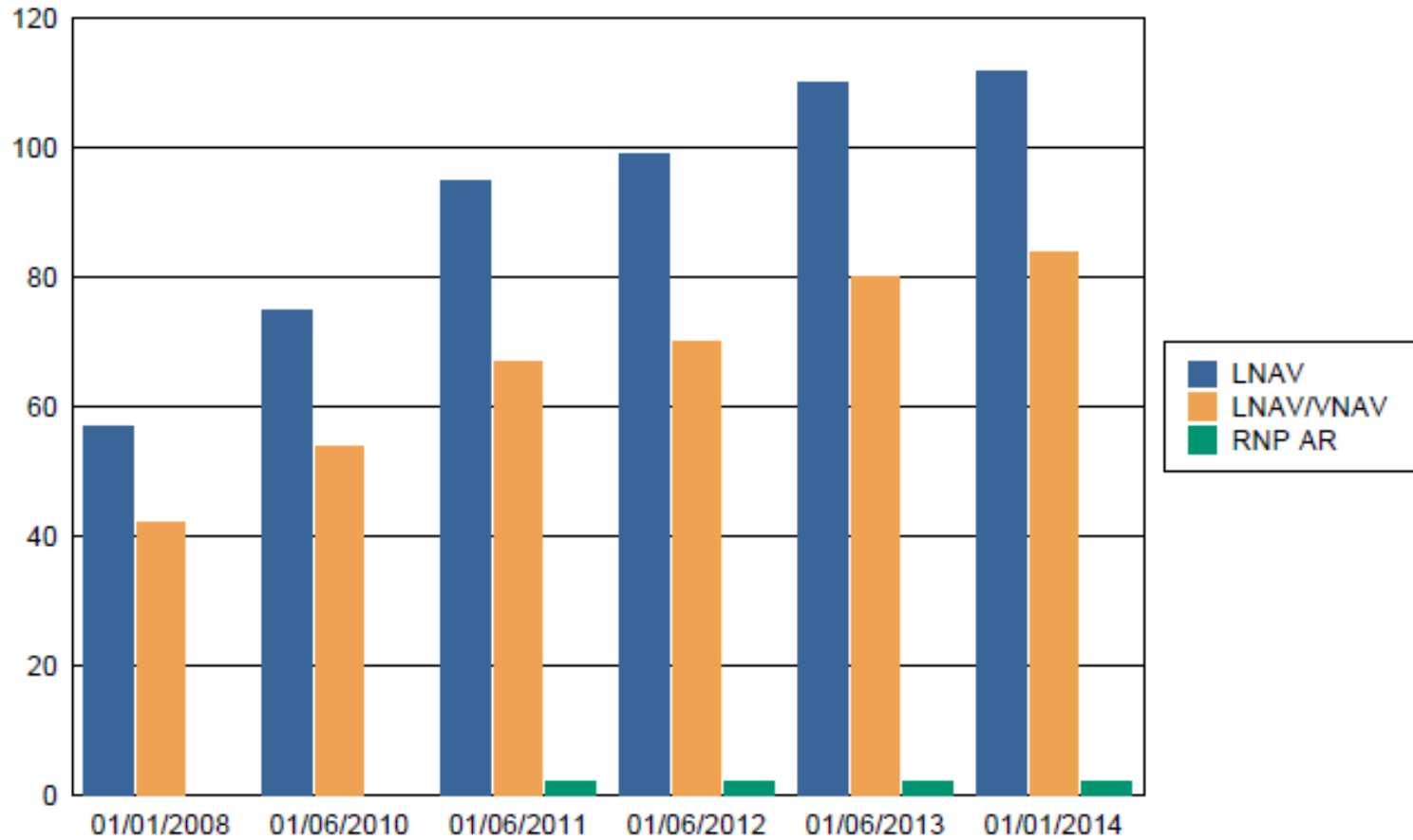


International SID & STAR – AFI





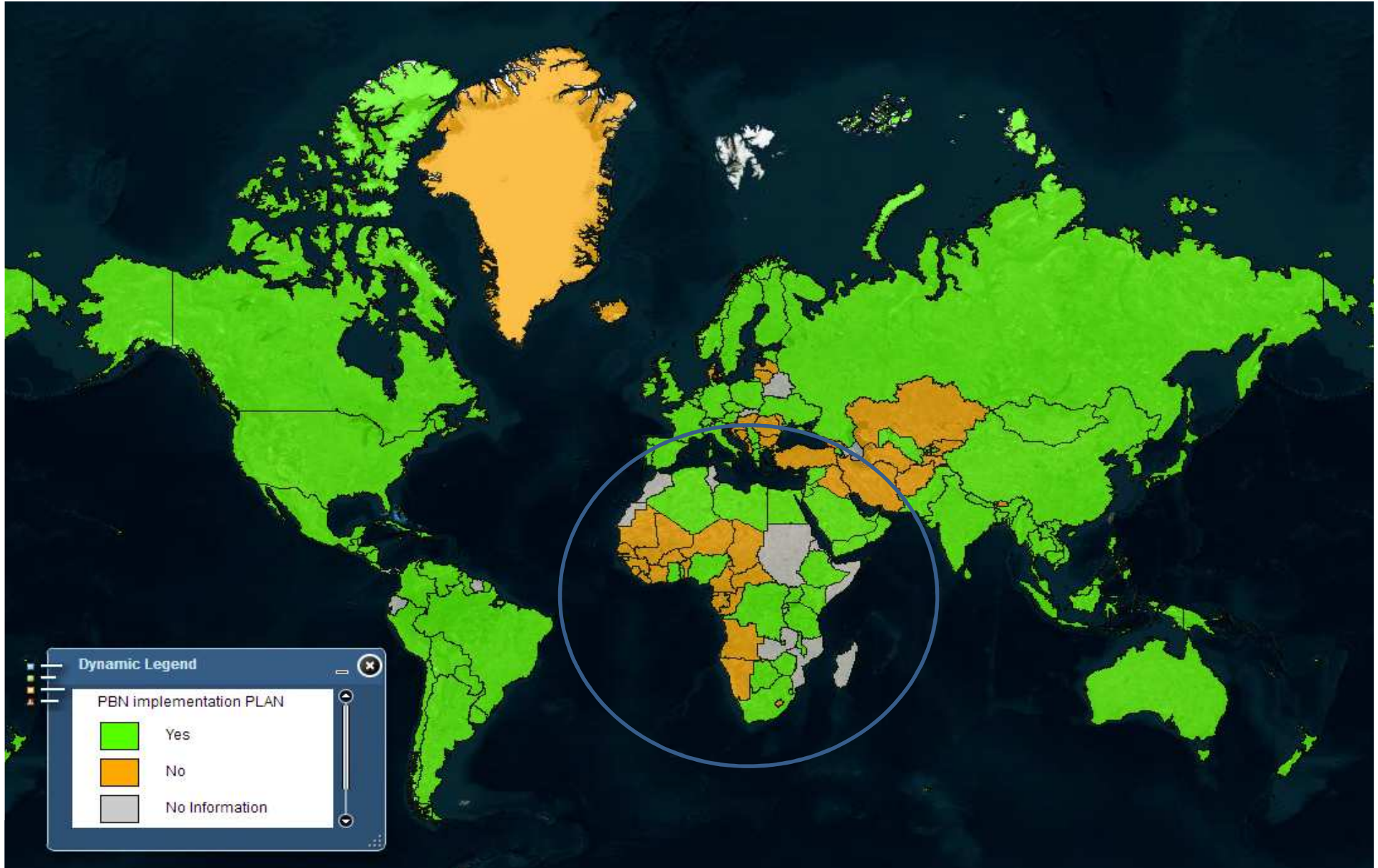
African REGION – PBN Instrument Approaches





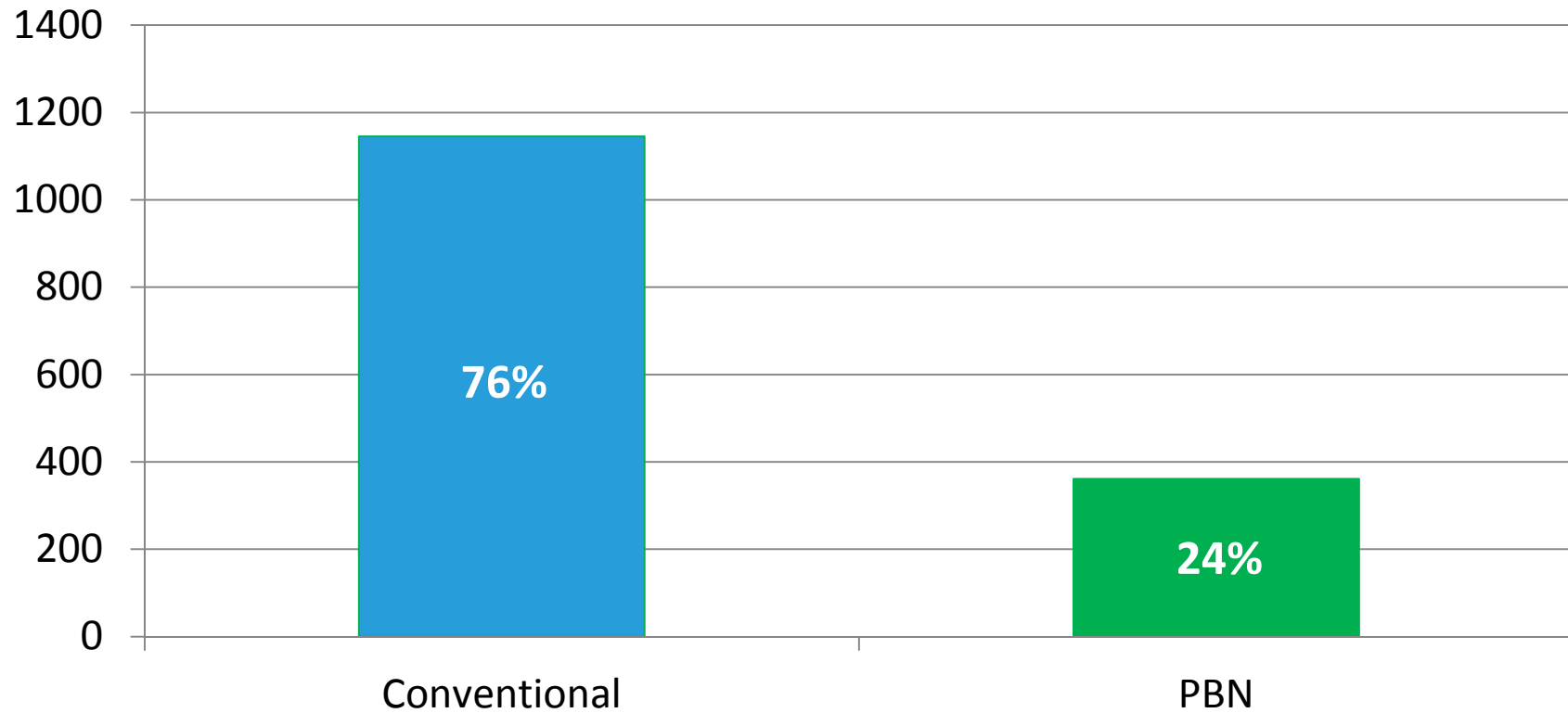
So – Why are we here?





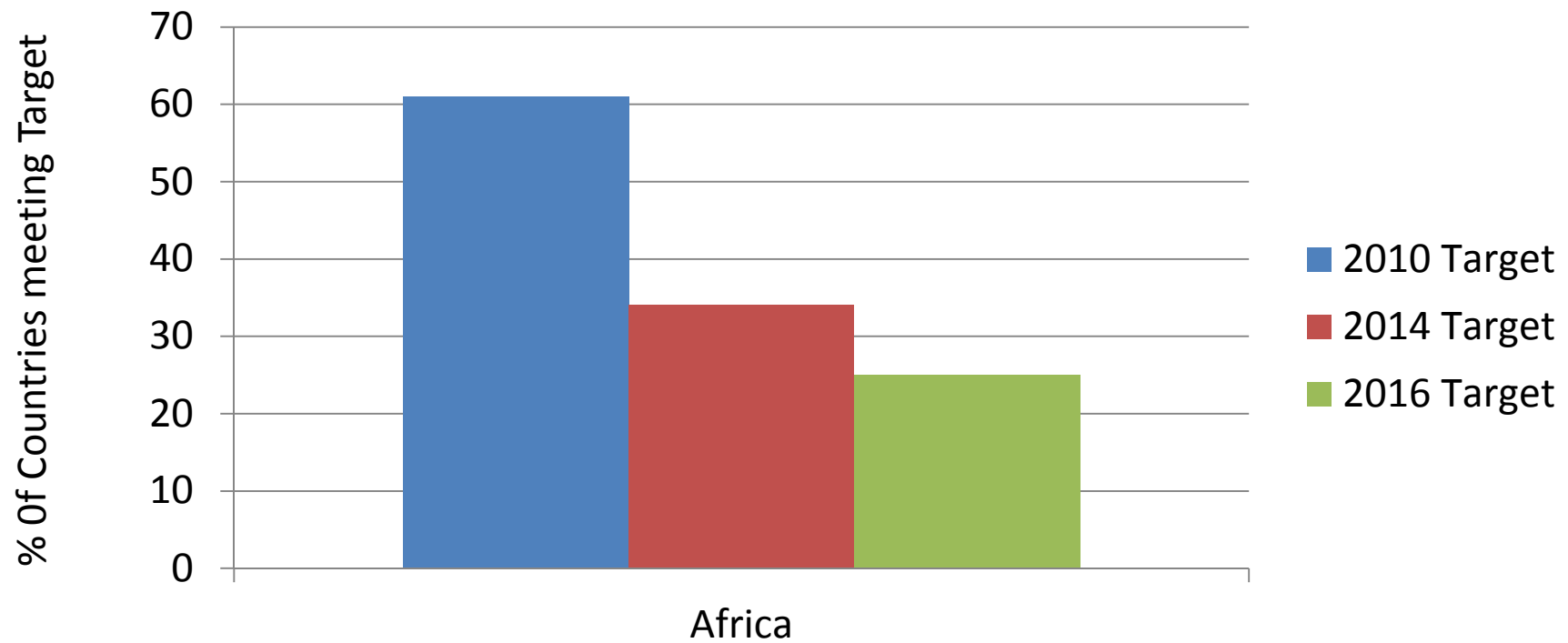


Routes - AFI





A37-11 Targets - Africa





Priorities for Africa

Improve Safety of Approach Operations

Implement PBN instrument approach procedures to meet A37-11 timelines

Improve efficiency of flight paths

Airspace optimization, Properly connecting enroute-to-TMA, enable CDO/CCO operation

Starting Point: Complete State PBN Implementation Plans where required





So – What is needed?





African States must have:

a regional, sustainable solution for:

- PBN and IFP Procedure Design Capability
- Regulatory capability to approve IFP's
- `Proper PBN Ops Approval Process
- Efficient integration of PBN into African airspace infrastructure



So – How?





Flight Procedures Programme (FPP)

“the Regional Centre of Excellence in procedure/airspace implementation, focusing on PBN”

To provide

- Direct design and implementation support as needed
- Necessary Capability building for States and other stakeholders for sustainable development



Flight Procedures Programme (FPP)

Based on a proven solution

- Asia and Pacific FPP
 - Operations since 2009 in Beijing, China
 - 20+ Member States and increasing
 - Conducted training for more than 1000 participants from 20+ States
 - On-going supports for PBN implementation projects/ capability building in more than 15 States





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- Supported by the AFI RAN in 2008
- Re-energized at the recent Assembly Resolution A38-7:
 - *“States are urged to support the establishment of the AFI Flight Procedures Programme (FPP) Office with seconded personnel and financial assistance as a matter of urgency to expedite the implementation of PBN in the region.”*



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Formula:

- Run by ICAO ESAF/WACAF
- Seconded Personnel from ESAF and WACAF areas
- Contributions from States and Donors
- Governed by African Steering Committee



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- What's done:
 - Scope of all deliverables for 2014-2017
 - Detailed List of 2014 deliverables
 - Programme structure and objectives well defined
 - Projected financial structure for 2014-2017
 - Detailed Financial and Resource plan for 2014



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- Open for business - 2 June 2014
- Initial 3-year duration, renewable
- Dakar, Senegal, hosted by ASECNA





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- What's next and needed:
 - Go/ No-Go by 15 May 2014
 - Contractual Agreement (Programme Document)
 - to be signed 27 May 2014 at AFI Symposium
 - Initial personnel, 4 seconded from ASECNA, reporting for duty
 - Office facility operational
 - **Commitments from minimum 5 States**
 - the more the better and cheaper





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- Evaluation of Success
 - To be conducted by 31 Jan 2015 by ICAO and Steering Committee
 - Success Criteria
 - Complete all activities in the work plan for 2014
 - 4 training and 2 implementation support activities
 - Steering committee approval for
 - Work Plan, Budget and Contribution Level for 2015
 - Additional Seconded personnel from ESAF States/Organizations:
 - Agreement signed for Chief of operational training
 - Agreement signed for Data specialist



Summary

- PBN is mature.
- Sustainable implementation of PBN in Africa is needed.
- FPP concept is a proven formula but the Region needs:

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Summary

- Your commitment needed.
 - Commitments from 5 States is the minimum.
 - Balanced commitments from ESAF/WACAF States
- Go/ No-go decision by 15 May 2014

*An **African FPP** customized for **Africa**
by **Africa***



Thank You