



# CANSO PBN Best Practice Guide for ANSP

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# About CANSO

- CANSO – the Civil Air Navigation Services Organisation
- CANSO is the global voice of air traffic management (ATM) worldwide.
- Vision: to be the recognised **leader** in transforming global air traffic management (ATM) performance
- Mission: as the global voice of ATM, **represents** the views of ANSPs and **creates value** for its Members and stakeholders
- Delivers **policy** and **standards** of **best practice** through committees' work programmes: Safety, Operations, and Policy
- CANSO Members support over 85% of world air traffic – 87 Full Members; 75 Associate Members

# CANSO Global Presence



# CANSO Middle East

CANSO ME: Founded in 2009 by NANSOC of Egypt, GACA of Saudi Arabia ,and SERCO

Number of members: 15

Regional Members: GACA of KSA,CARC of Jordan, NANSOC of Egypt, Serco ME, SCAA of Sudan, PACA of Oman, DCA of Dubai

Non Regional Members: DFS –Germany, ENAV- Italy, NATS- UK, Airways NZ,

Associate Members : Saudi Airlines, Emirates , Helios, and Bayanat

# CANSO ME Goals

- Grow a strong membership base;
- TransStrengthen Air Navigation Service Provider performance;
- form ATM performance in the region;
- Provision of tangible benefits for the members by the members ;
- Meet traffic capacity demand in the ME by increasing the airspace capacity without reducing safety; and
- Develop a coherent, coordinated, regional approach for efficient air traffic management and safe, harmonised, and seamless airspace across the region.

# Key objectives for CANSO ME

- Focus on enhancement and transformation of airspace management in the Middle East (not minor change or business as usual)
- Work collaboratively with ICAO MID, other organisations and stakeholders to develop, agree and implement joint regional initiatives.
- Raise the game: engage and advocate (together with partners) on the benefits of ATM and regional airspace management at the “political” level in the region, and not just ATM operational level
- Identify important deficiencies that CANSO can focus on as priority targets and deliverables to help to resolve, secure quick wins and gain recognition
- Deliver results through defined projects and initiatives with agreed work plans, responsibilities, timescales and measurable outcomes

**CANSO is a global platform for the exchange of best practice ,  
On this platform we have the chance to work together, learn  
together, and then leading by examples.**



# CANSO Programmes



**Safety**



**Policy**

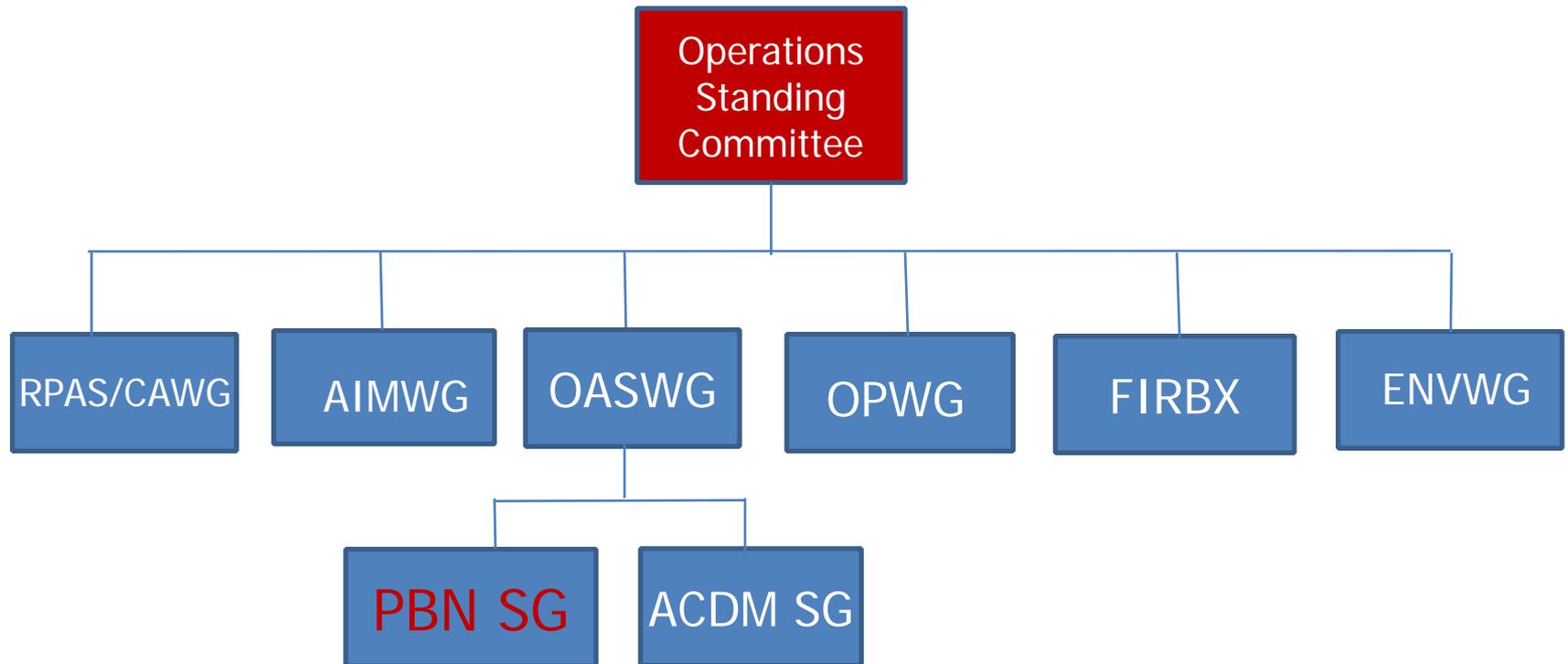


**Operations**



**ICAO**

# Operations Standing Committee



# PBN SG Work Programme

- Publish PBN Best Practice Guide
- Develop PBN Performance Metrics
- APAC Enroute PBN Harmonisation
- Build Partnerships – ICAO PBN SG
- Develop Joint PBN “Vision 2030”
- Address Member Issues



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# What is a “best practice”?



- ...procedures accepted or prescribed as correct or most effective...
- ...technique or methodology through experience proven to lead to a desired result...
- ...technique consistently showing superior results...
- ...method consistently officially accepted as being the best...
- ...most effective, prudent course of action...
- ...procedure with optimal results.

**Theory is all very well, but  
there is no substitute for  
experience**

**ACCEPTED**



**Correct**



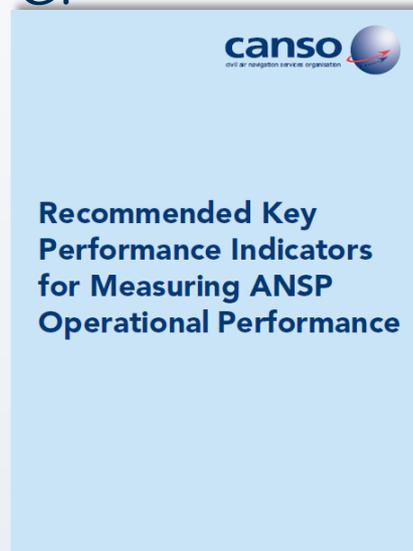
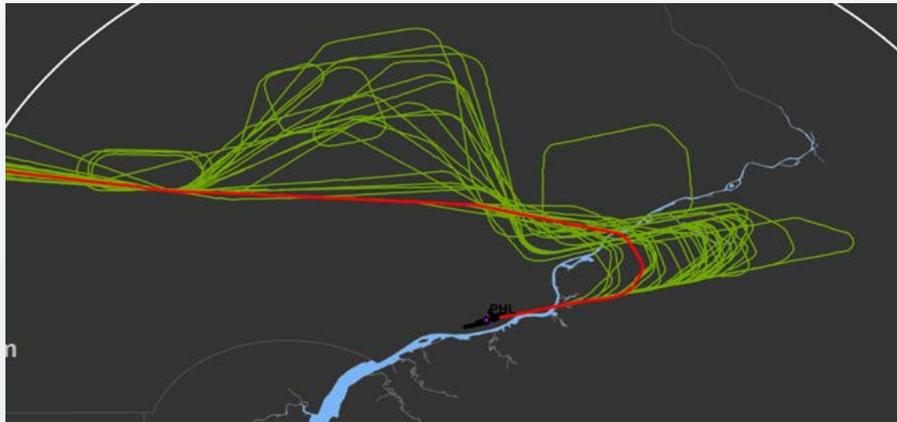
**effective**

**RESULTS**



# PBN Performance Metrics

- Develop PBN Performance Metric KPIs with OPWG
  - Assess PBN pre- / post- implementation
  - Prioritise implementation; Identify benefits
  - Support the business case for investment
- Adding performance guidance to PBN BPG.

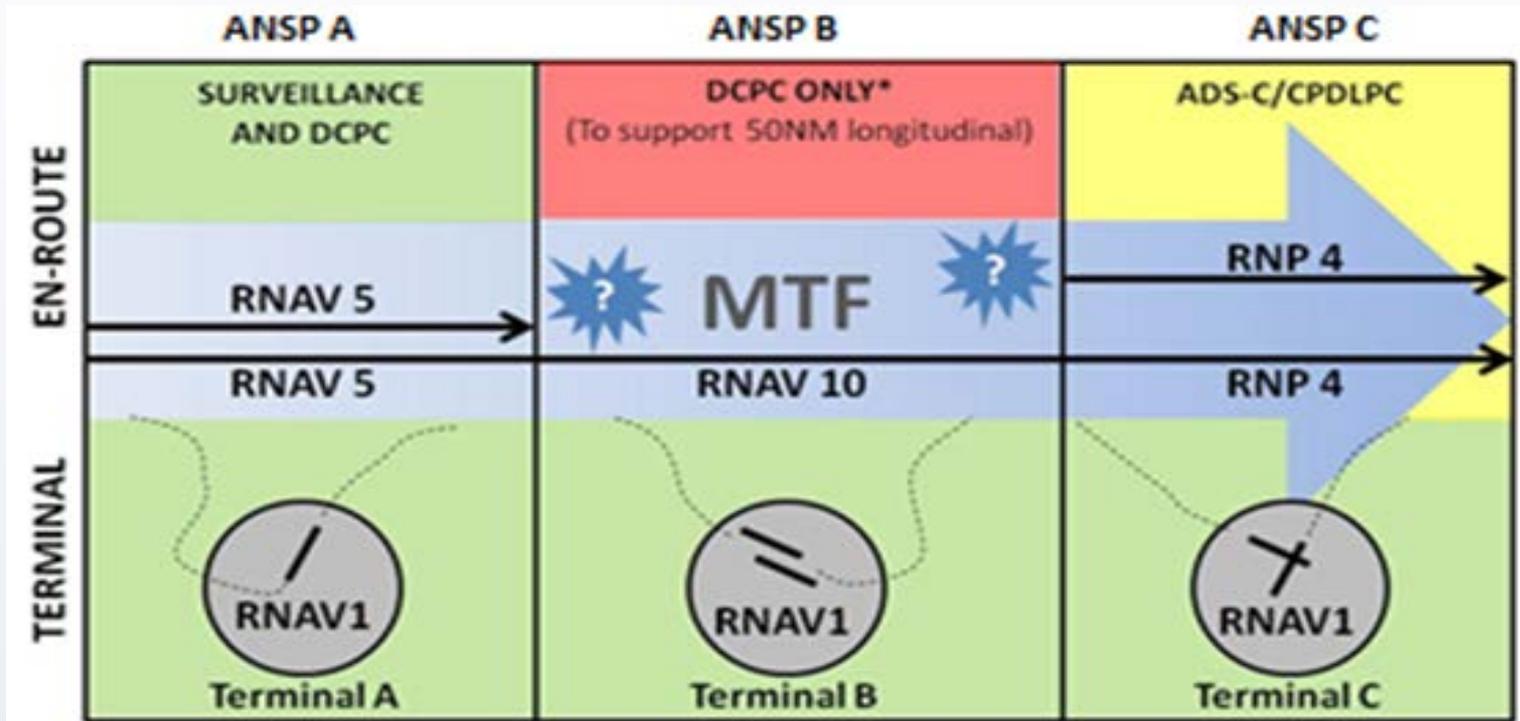


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# CANSO APAC OPS WG

## Enroute PBN Harmonisation



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# Building Partnerships

- Participate in ICAO PBN SG 
  - Represent CANSO at ICAO PBN SG forum
  - Elevate needs of CANSO members
  - Support PBN implementation progress.
- Support PBN Go Teams
- Develop PBN ties with ICAO / IATA / ACI



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# PBN Vision 2020-2030

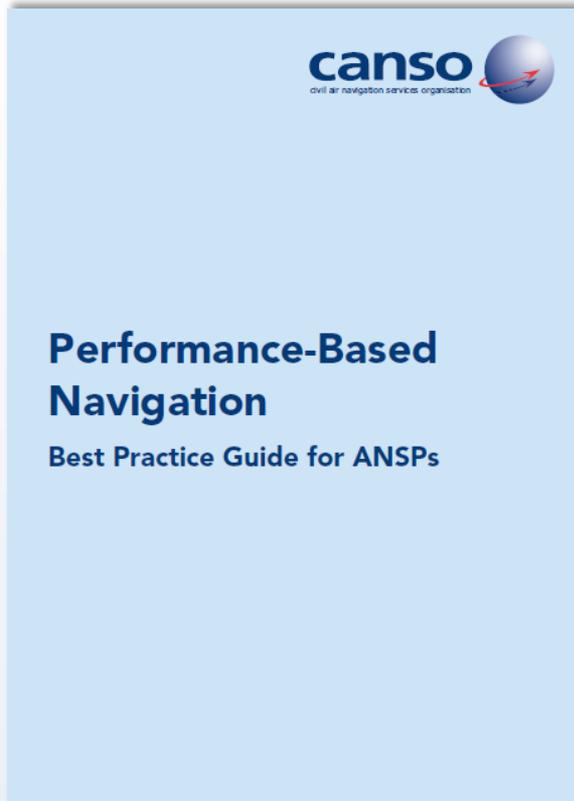
- Develop a CANSO PBN Vision 2020-2030
- Consult with WGs and ICAO/IATA/ACI
- Produce PBN position paper / policy document
- Identify barriers to achieving Vision
- Work with ICAO/IATA/ACI to implement change.



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# Addresses Member Issues for ANSPs



Published March 2015 Contents 2.3

Executive Summary	page 4
Foreword	page 7
Acknowledgements	page 7
1 Introduction to PBN	page 8
2 Performance Metrics	page 12
3 Aim of PBN Implementation	page 13
4 Limitations to Resolve	page 19
5 Design Process	page 24
6 Knowledge and Training	page 27
7 Vertical Profile Optimisation	page 29
8 Rules and Regulations	page 31
9 Fleet Equipage	page 35
10 Resources	page 40
11 Change Management	page 44
Appendix A PBN Stakeholders	page 47
Appendix B ICAO Resolution A37-11	page 48
Appendix C ICAO Doc 8168, Path Terminators	page 50
Abbreviations and References	page 54

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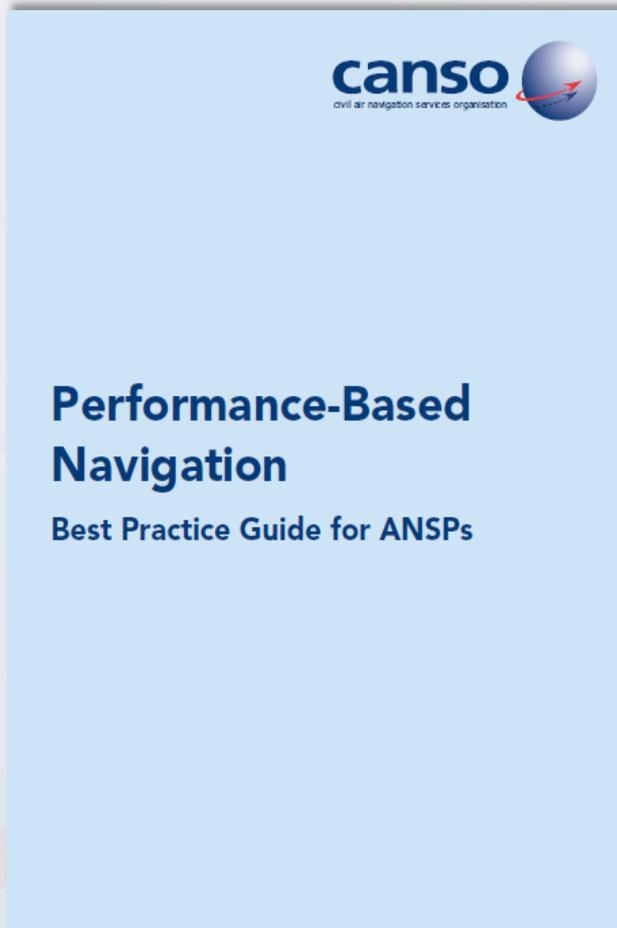


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<http://www.canso.org/performance-based-navigation-best-practice-guide-ansps>

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Published March 2015 Contents 2.3

<b>Executive Summary</b> .....	page 4
<b>Foreword</b> .....	page 7
<b>Acknowledgements</b> .....	page 7
<b>1 Introduction to PBN</b> .....	page 8
<b>2 Performance Metrics</b> .....	page 12
<b>3 Aim of PBN Implementation</b> .....	page 13
<b>4 Limitations to Resolve</b> .....	page 19
<b>5 Design Process</b> .....	page 24
<b>6 Knowledge and Training</b> .....	page 27
<b>7 Vertical Profile Optimisation</b> .....	page 29
<b>8 Rules and Regulations</b> .....	page 31
<b>9 Fleet Equipage</b> .....	page 35
<b>10 Resources</b> .....	page 40
<b>11 Change Management</b> .....	page 44
<b>Appendix A PBN Stakeholders</b> .....	page 47
<b>Appendix B ICAO Resolution A37-11</b> .....	page 48
<b>Appendix C ICAO Doc 8168, Path Terminators</b> .....	page 50
<b>Abbreviations and References</b> .....	page 54

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# Chapter 1 - Introduction to PBN

- What are we talking about?
- Understand the common language of PBN
- Know where to go for the details



# Chapter 2 – Performance Metrics

- ANSPs investing on behalf of our customers
- Business case is critical
- Where are we today?
- Base case versus option cases
- Measuring track miles, time in system, GHGs, noise...



# Chapter 4 – Limitations to Resolve

- Business case
  - Getting a “critical mass”
  - What is the current environment?
- Air Traffic Control
  - Systems to deal with mixed mode operations
  - Training demands
  - Change management
- Regulatory environment
  - Certification of systems and operational approvals
  - Separation standards and design criteria

# Chapter 5 – Design Process

- Scope the task
- Concept of operations
- Design considerations
  - Clean sheet
  - Complexity
  - Criteria and avionics performance
- Design team – participation and ownership
- Iterative design process

# Chapter 6 – Knowledge and Training

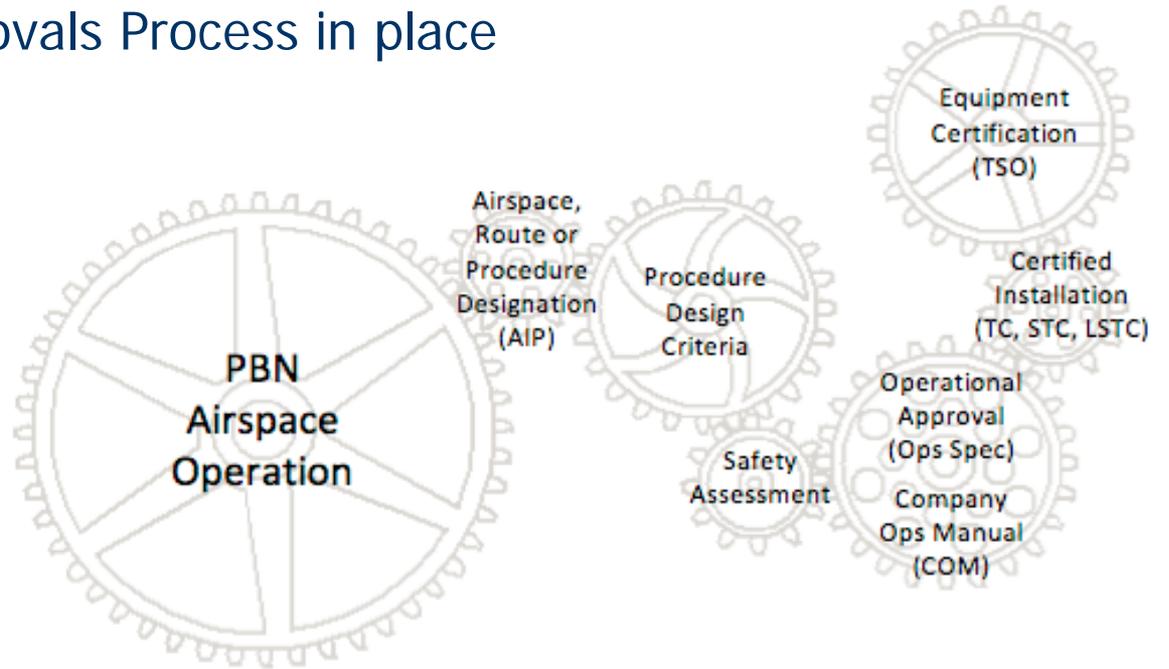
- Common vision for collaboration
- Level of understanding
  - Executive management -Decision-makers
  - Operational management
  - Implementers -Pilot / ATC users
  - Front line service delivery -Existing PBN resources
  - Stakeholders
- Delivery
  - Broadcast – newsletters, websites, AIC
  - Computer-based training, classroom
  - Go-teams, town halls

# Chapter 7 – Vertical Profile Optimisation

- CDO - ICAO Doc 9931 - Continuous Descent Operations Manual
- CCO - ICAO Doc 9993 - Continuous Climb Operations Manual
- How can we get there?
  - ATC tools – arrival/departure manager
  - Single/parallel runway complexities
  - Mixed equipage impact
  - Simulation
- Engagement in the development process

# Chapter 8 – Rules and Regulations

- Aligned State/Regulator, ANSP and Industry plans
  - Cooperation is critical
  - Knowledge of:
    - Nav/Surveillance Infrastructure
    - Operator and ANSP procedures
- Rules and Approvals Process in place
- Collaboration



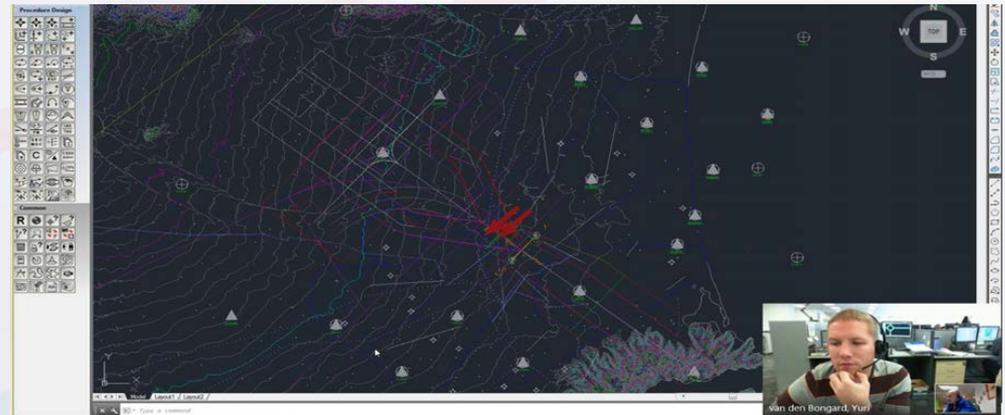
# Chapter 9 – Fleet Equipage

- Time investment
- Equipped versus authorized
  - Mixed Mode PBN vs Conventional Mode
  - High / Low Performance
  - Collaboration
    - Operators
    - Regulator
    - ANSP
- Layers of capabilities
- “Lowest Common Denominator” and mandates



# Chapter 10 - Resources

- Availability/ Unavailability of resources
- Multiple disciplines involved
- Lead time for change
- Communication plan
  - PBN Experts & Project Managers
  - ATC, Simulation, ATM Software, Designers, Charting
  - Policy & Standards, Safety & Risk, Performance, Finance
  - Education and Communication



# Chapter 11 – Change Management

- Preparation - who is ready?
- Site selection /Safety assessments
  - Terrain
  - Minima
  - Community Outcomes
  - Flight efficiency
  - Stakeholder engagement
  - Understanding the Operators drivers
- Consultation (Technical, Financial, Operational)
- Procedure Characteristics
- Mixed-mode operations
- Human factors

# Summary

- Engage your customers and stakeholders
- Prepare your plan
- Develop site specific operational concepts
- Manage the expectations
- Continue collaboration throughout

# Coming CANSO Events

- **World ATM Congress 2016, Exhibition , and Free Education** , 8 - 10 March 2016 , Madrid

<http://www.canso.org/world-atm-congress-2016>

- **CANSO Global ATM Operations Conference 2016** , 10 - 11 March 2016 , Madrid

<http://www.canso.org/canso-global-atm-operations-conference-2016>

**MEAUSE Workshop Forum 2016** , 3-4 April 2016 in Cairo, Egypt

<http://www.canso.org/meause-workshop-forum-2016>

**Drones , ATFM/CDM , Remote towers**

# Finally

CANSO is inviting all ME ANSPs to make the best use of what already developed .

CANSO is inviting Its ME members for better engagement in PBN activities and make the best use of the available support and assistance .

CANSO is always willing to partnership any PBN activity in the Middle east region .

***Thank You***

***For any further inquiries please send it to :***

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