ICAO’S APPROACH TO GLOBAL PLANNING AND REGULATORY FRAMEWORK

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Aviation is undergoing a fundamental change.
We need to balance economic potential and safety.
Global Vision for Future ATM System

Which is interoperable, for all airspace users, in all phases of flight and that:

- meets agreed levels of **safety**;
- provides for optimum **economic operations**;
- is **environmentally sustainable**; and
- meets national **security requirements**
2016-2030 Global Air Navigation Plan (GANP)

• Objectives
  – International and overarching framework of a global investment plan
  – Keep it stable while making the necessary updates/additions
  – Adjust the periodicity to the Assembly

• A Planning Document for Implementation
  – Updated ASBU framework and technical roadmaps, performance-based implementation strategies, minimum path, ATM logical architecture, etc.
A plan for the future is essential for optimizing resources and meeting expectations.
Evolution of ICAO’s Approach to Standardization

- Prescriptive -> Performance-based provision development
- Work with other recognized standards-making organizations
- Standardization roadmap in line with evolving global plans
- Closer coordination with stakeholders (e.g. Standards Round Table, Industry High Level Group, GANP Multidisciplinary Vision Team)
- SARPs-ready proposals from Standards-making organizations and other aviation stakeholders
ICAO Near-Term Priorities related to ATM

- RPAS
- SWIM
- Cyber....
- ATFM
2017 Global Events

- ICAO Cyber Summit and Exhibition – Making Sense of Cyber
  - Dubai, UAE, 4-6 April 2017

- Remotely Piloted Aircraft Systems (RPAS) Symposium
  - Abuja, Nigeria, 17-18 July 2017

- Air Traffic Flow Management (ATFM) Global
  - Singapore, 20-24 November 2017
Assembly and High-level Meetings

Duplication of technical work discussions

Challenge:
Technical work discussed in Assemblies is not considered in budget discussions

Assemblies:
- A36 (2007)
- GANIS (2008)
- A37 (2010)
- High Level Safety Conference (2010)
- A38 (2013)
- ANC-12 (2012)
- A39 (2016)
- A38 (2013)
Future Strategic Planning

Included High-level Meeting outcomes in budget discussions

Proposed Plan:
Alternating High-level meetings to prepare technical work ahead of budget discussions

Assemblies

- HLSC (with AN Stream)
- AN-Conf (with Safety Stream)
- HLSC (with AN Stream)
- AN-Conf (with Safety Stream)
- HLSC (with AN Stream)
2017 Global Planning Symposiums

- **From 11 – 15 December 2017 in Montréal, Canada**
  - 2nd Global Air Navigation Industry Symposium (GANIS)
  - 1st Safety and Air Navigation Implementation Symposium (SANIS)

- **Includes an Industry exhibition** of current and emerging technologies
- **A crucial networking and knowledge-sharing** opportunity
- **Will lay the foundation for the 13th AN-Conference in 2018**
GANIS/SANIS will facilitate the planning of technical work for AN-Conf/13, and also the budget discussions leading up to A40.
### Innovative and Emerging Operations
- Setting the scene: Regulatory Safety Framework
- Concept of operations above FL600/FL660 near-term
- UTM (UAS traffic management) Interoperability with ATM
- RPAS C2 link
- Detect & Avoid
- Concept of Ops above FL600/FL660
- Future of Space Ops and impact on ANS
- Future of transportation

### Future of CNS & Avionics
- Setting the scene: Regulatory Safety Framework
- Data link comms
- GNSS evolution
- Dual-frequency, multi-constellation
- GBAS/SBAS
- PBN evolution
- Phasing out legacy systems
- CNS integration
- SURV evolution
- Space-based ADS-B
- ACAS evolution
- Service and performance based CNS
- Standardization Roadmap

### Information Management
- Setting the scene: Regulatory Safety Framework
- SWIM developments
- IM Strategy
- SWIM demonstrations & applications

### Airport Operational Performance
- Setting the scene: Regulatory Safety Framework
- Safety Framework
- Aerodrome capacity and efficiency
- Airport master planning and design
- A-CMD
- Aerodrome Obstacle Management

### Civil/Military Cooperation
- Setting the scene: Regulatory Safety Framework
- Airspace, a single continuum: are we there yet?
- Civil-military ATM/CNS interoperability and mixed-mode accommodation, or the ways for military to seamlessly access the civil network and operate in non-segregated airspace
- SWIM environment & cyber aspects
- RPAS integration
- How to preserve state aircraft operations
- A Military view on ICAO’s role in support of Civ/Mil coordination

### GASP & GANP
- Setting the scene: Regulatory Safety Framework
- Safety Management, RSOOs
- Panel on GASP Objectives
- Organizational issues
- Operational issues
- Safety performance measurement
- Emerging issues

### MET
- Evolution of MET services requirements
- Future aviation MET Service delivery

### Cyber
- Setting the scene: Regulatory Safety Framework
- Current and future threats
- A global SWIM enabler
- Solutions
- Risk mitigation
- Cross-domains impacts

### Air Navigation implementation Strategies
- Optimizing resources: Six step ICAO Performance Method
  - Step 1 & 2: Know your system
  - Step 3: Quantify objectives
  - Step 4: Select Solutions to exploit opportunities and resolve issues
  - Step 5: Implement solutions
  - Step 6: Assess achievements of objectives
- Development of AN National Plans

### Airports
- Runway Safety
- Ground handling
- PBN
- Certification
- A-CMD
- Fuel burn reduction

### Performance-based Aerodrome Operating Minima
- From concept to operation & success stories
  - Free route airspace & BOREALIS project
  - Implementing beyond “borders” (Remote TWR)
  - Pre-Flight coordination (Flight data exchange)
  - Deployment strategy
  - TBS (time-based separation) (on final)

### Closing Session

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**Welcome**

**D/ANB Intro**

**GANP & ASBU Framework**

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**Opening**

**NCLB**

**D/ANB Intro**

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**GASP & GANP**

**Implementation Strategies**

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**Closing Session**
CANSO, Where Do We Need You Most?

- **ANTICIPATE** the needs
- **COLLABORATE** on global priorities
- **RECALIBRATE** to performance standards
- **FACILITATE** State implementation
- **COMMUNICATE** progress
- **VALIDATE** results

- ✓ Mutli-disciplinary expert groups
- ✓ 2017 GANIS/SANIS
- ✓ 2018 13th AN Conference
- ✓ ICAO Air Navigation Panels
- ✓ State/Int’l Org. Consultation
- ✓ Impact Assessment (e.g. SELCAL Code Expansion)
“Action without vision is only passing time, vision without action is merely day dreaming, but vision with action can change the world.”

- Nelson Mandela
THANK YOU!