



## **Flexible use of airspace -Civil/Military Cooperation-**

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**Workshop on the development of  
National Performance Framework for  
Air Navigation Systems  
(Nadi, Fiji, 28 March-1 April 2011)**

## **Presentation Outline**

- **Airspace organization**
- **Flexible use of airspace – Principles and structure**
- **Civil/Military Cooperation – need and approach**
- **Global ATM forum on civil/military cooperation - outcome and way forward**

### ***Airspace Organization***

- The present airspace organization is founded on fixed — and largely static — airspace divisions and boundaries. It is general practice to set aside portions of the airspace on a permanent or semi-permanent basis for military activities.
- Overall, the airspace organization is inflexible and leads to an inefficient use of the available airspace resources.
- The concept of airspace desegregation, encompassing the dynamic and flexible use of airspace within a State, needs to be considered.

### **Airspace desegregation**

## **FLEXIBLE USE OF AIRSPACE**

### **CONCEPT**

### ***Flexible Use of Airspace (FUA) -Principles***

- Airspace should no longer be designated as either purely civil or military airspace.
- Rather, airspace should be considered as one continuum and allocated according to user requirements.
- Any necessary airspace segregation will be temporary, based on real-time usage.

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### **FUA applied within three levels**

***Strategic Level*** establishment of pre-determined airspace structure and agreement on priorities and negotiation procedures;

***Pre -tactical Level*** day-to-day allocation of airspace, according to user requirements and communication of airspace allocation data to all concerned;

***Tactical Level*** real-time use of airspace; and activation/deactivation of re-allocation.

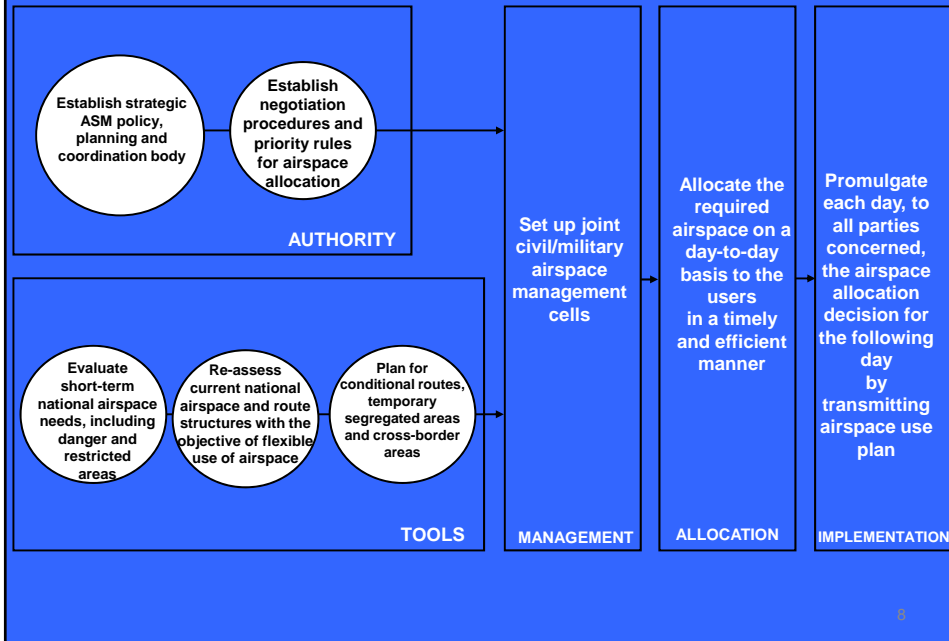
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## *Flexible Airspace Structure*

- a basic ATS routes network
- conditional routes – non-permanent ATS routes which will be available for specific regular times or made available daily;
- temporarily segregated areas – those areas which are temporarily reserved for the exclusive use of specific users (e.g. danger or restricted areas for military use); and
- cross border areas – these are temporarily segregated areas which are established over international boundaries by States.

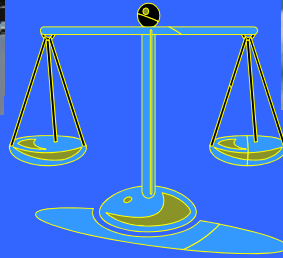
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## *Civil/military coordination*



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## Civil/Military coordination- Benefits



Optimised Network with more route options

Better use of new route opportunities

Consideration of re-routing scenarios due to route closure

More Precise airspace requests / Less Segregated airspace

Improved information process about released airspace

Better flexibility in ad-hoc airspace allocation

## Global Forum and objectives

(held in Montreal in October 2009)

- Create awareness among participants on the need to improve civil/military cooperation on airspace use.
- Identify areas in the world where improvements in civil/military cooperation are needed.
- Develop an Action Plan in addressing the civil and military relationship.
- present to ICAO General Assembly in 2010 an updated Resolution on Civil/Military Cooperation.
- address the introduction of unmanned aircraft systems (UAS) into civil use airspace.

## Global Forum- Outcome

- There is a clear consensus that the aviation community, civil as well as military, have expressed a need and desire to work together to enhance the use of the airspace to the mutual benefit of all airspace users, and that what is needed is:
  - Cooperation
  - Collaboration
  - Commitment
  - Trust
- Civil and military should endeavor to:
  - Understand each other's needs
  - Support each other in meeting objectives
  - Support a seamless Global ATM system


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## The Way Forward (1/4)

- ICAO, States, Military Authorities and Partners will endeavor to work together for mutual benefit, as follows:
  - Use ICAO as an open forum for civil/military cooperation, collaboration and sharing of best practices
  - Develop a new ICAO Manual on Civil/Military Cooperation – *Civil/Military Cooperation in ATM*” (Cir 330) - guidance material available on ICAONET -**Completed**
  - Letter to States and international organizations for the follow-up actions – **Completed**
  - Work together toward ensuring the safe and efficient integration of unmanned aircraft systems into non-segregated airspace
  - Work together on ATM security issues – **Manual is under development**

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**ICAO Guidance Material – Draft copy is available on ICAONET**



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**Institutional framework**  
 (Global policy, existing ICAO documentation)
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**Airspace organization and management**  
 (FUA, Collaborative Decision Making and ATM Security, ...)
- 
**State aircraft operations**  
 (ICAO compatible and partially compatible operation, UAS ...)
- 
**Interoperability of systems**  
 (Strategic, operational and technological perspectives)
- 
**Future Opportunities**
- 
**Annexes: Best Practices**

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## The Way Forward (2/4)

- The 37<sup>th</sup> Session of ICAO Assembly developed Assembly Resolution A37-15 Appendix O, *Coordination of Civil and Military Air Traffic*, aimed at strengthening States commitments to enhance cooperation between civil and military authorities
- 5 Regional Civil/military Cooperation Seminars/Workshops (2011-2013) with support of civil/military partners
  - AFI, ASIA/PAC, CAR/SAM, Eastern EUR & MID Regions
  - Seeking IATA support for seminars/workshops

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### **The Way Forward (3/4)**

- ICAO Regional Directors will further promote civil and military cooperation through the Planning and Implementation Regional Groups (PIRGS)
- All of the Civil/Military cooperation partners will collaborate to support regional civil/military events
- ICAO will convene, together with its partners, a second global forum at an appropriate time, to measure progress in civil/military cooperation and to determine the next steps

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### **The Way Forward (4/4)**

- State administrations, working with air navigation service providers and their militaries must take action to:
  - Establish political will
  - Develop institutional arrangements
  - Bring civil and military authorities together
  - Set performance objectives
  - Develop practical and operational measures
  - Implement changes

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