



Flexible use of airspace -Civil/Military Cooperation-

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**Workshop on the development of
National Performance Framework for
Air Navigation Systems
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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.**

FUA applied within three levels

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

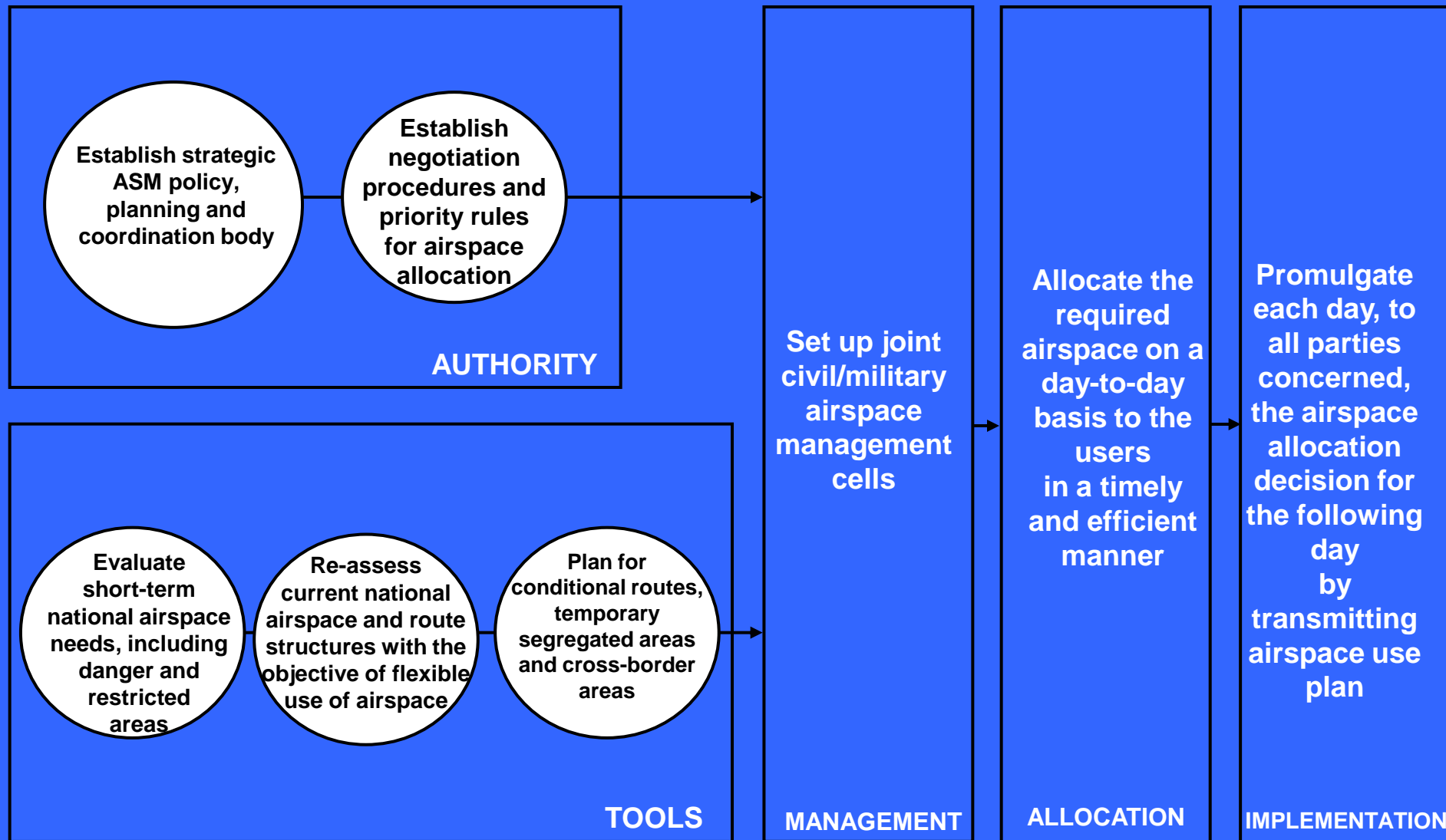
Pre -tactical Level day-to-day allocation of airspace, according to user requirements and communication of airspace allocation data to all concerned;

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

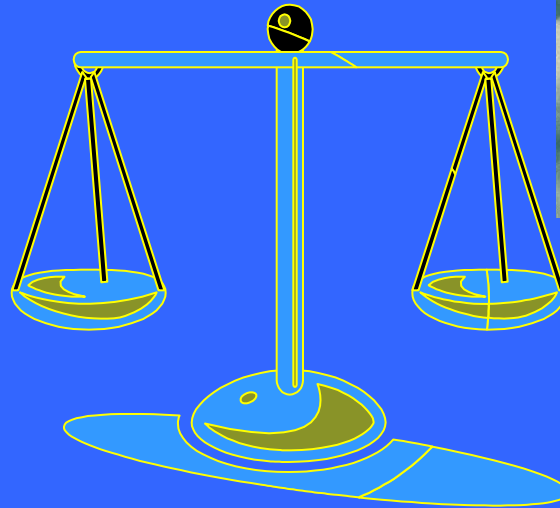
Flexible Airspace Structure

- **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.**

Civil/military coordination



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**

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**



Institutional framework

(Global policy, existing ICAO documentation)



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

The Way Forward (2/4)

- The 37th 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

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

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**

The image features the official logo of the International Civil Aviation Organization (ICAO) in a light blue color. The logo consists of a central globe with latitude and longitude lines, flanked by two olive branches. Above the globe are two stylized wings. The acronym 'ICAO' is written in English at the top, 'OACI' in French, and 'ИКАО' in Russian. At the bottom, the Chinese characters '国际民航组织' are written. The text 'Thank you' is centered over the globe in a yellow, bold, sans-serif font.

Thank you