



ICAO

ICAO APAC & EUR/NAT CMAC/FUA WORKSHOP

One-step forward



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ICAO Civil-Military Provisions and Introduction to the manual on Civil-Military Cooperation in Air Traffic Management (Doc 10088)

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Outline

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Introduction of 10088

Let's talk briefly about ICAO



The International Civil Aviation Organization (ICAO), a United Nations Specialized Agency, was established in 1944 based on the outcome of the International Civil Aviation Conference (ICAC, Chicago, United States, 1 November - 7 December 1944)

ICAO's support helped countries to diplomatically and technically realize a uniquely rapid and dependable network of global air mobility, connecting families, cultures, and businesses all over the world, and promoting sustainable growth and socio-economic prosperity wherever aircraft fly.



States

General Assembly

Council

**Air Navigation Commission
Committees**

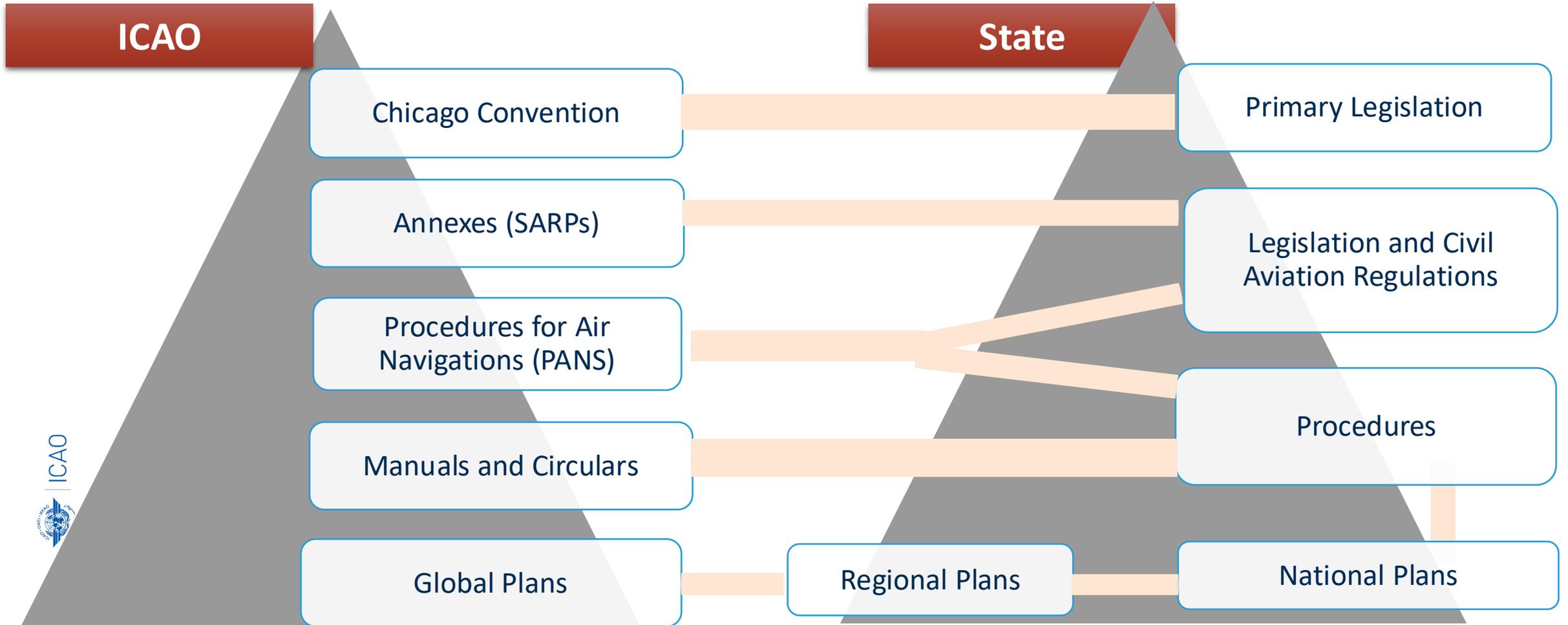
**Regional Groups
(PIRGs, RASGs, RASFGs)**

Secretariat

Headquarters:

1. Air Navigation Bureau
2. Air Transport Bureau
3. Legal Affairs and External Relations Bureau
4. Capacity Building and Implementation (CDI) Bureau
5. Administration Bureau (ADB)
6. Regional Offices

Documentation



ICAO's Previous

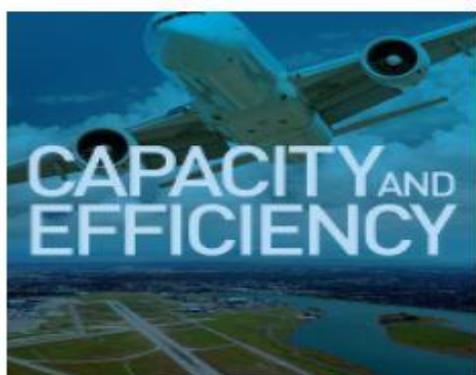
Vision:

Achieve the sustainable growth of the global civil aviation system.

Mission:

To serve as the global forum of States for international civil aviation. ICAO develops policies and Standards, undertakes compliance audits, performs studies and analyses, provides assistance and builds aviation capacity through many other activities and the cooperation of its Member States and stakeholders.

Strategic Objectives



ICAO Strategic Plan 2026-2050



ICAO Vision

A safe, secure and sustainable international civil aviation system that connects the world for the benefit of all nations and people. (3 aspirational goals)

ICAO Mission

To lead international civil aviation as a key driver of social and economic development while enhancing aviation safety, security, economic development and environmental sustainability for a growing aviation system by advancing air law, developing policies, plans and standards, monitoring and auditing, and supporting States' capabilities for the benefit of all nations and people.

01

The goal of Zero fatalities in international aviation from accidents and acts of unlawful interference.

02

The aspirational goal of Net-zero carbon emissions by 2050 for international aviation operations.

03

The goal of aviation to serve as an integral part of a thriving, connected, accessible, inclusive, and affordable transport system for people and goods, contributing to socio-economic development, while ensuring no country is left behind.

Strategic Goals

Every Flight Is Safe and Secure

Achieve zero fatalities and ensure continuous protection for air passengers, cargo, and staff.

No Country Left Behind

Enable achievement of safety, security, efficiency, and sustainability goals through collaboration and support

Aviation Is Environmentally Sustainable

Achieve net-zero carbon emissions by 2050 and mitigate aircraft noise and emissions.

The International Civil Aviation Convention and Other Treaties, Laws and Regulations Address All Challenges

Maintain responsive international air law addressing current and emerging challenges.

Aviation Delivers Seamless, Accessible, and Reliable Mobility for All

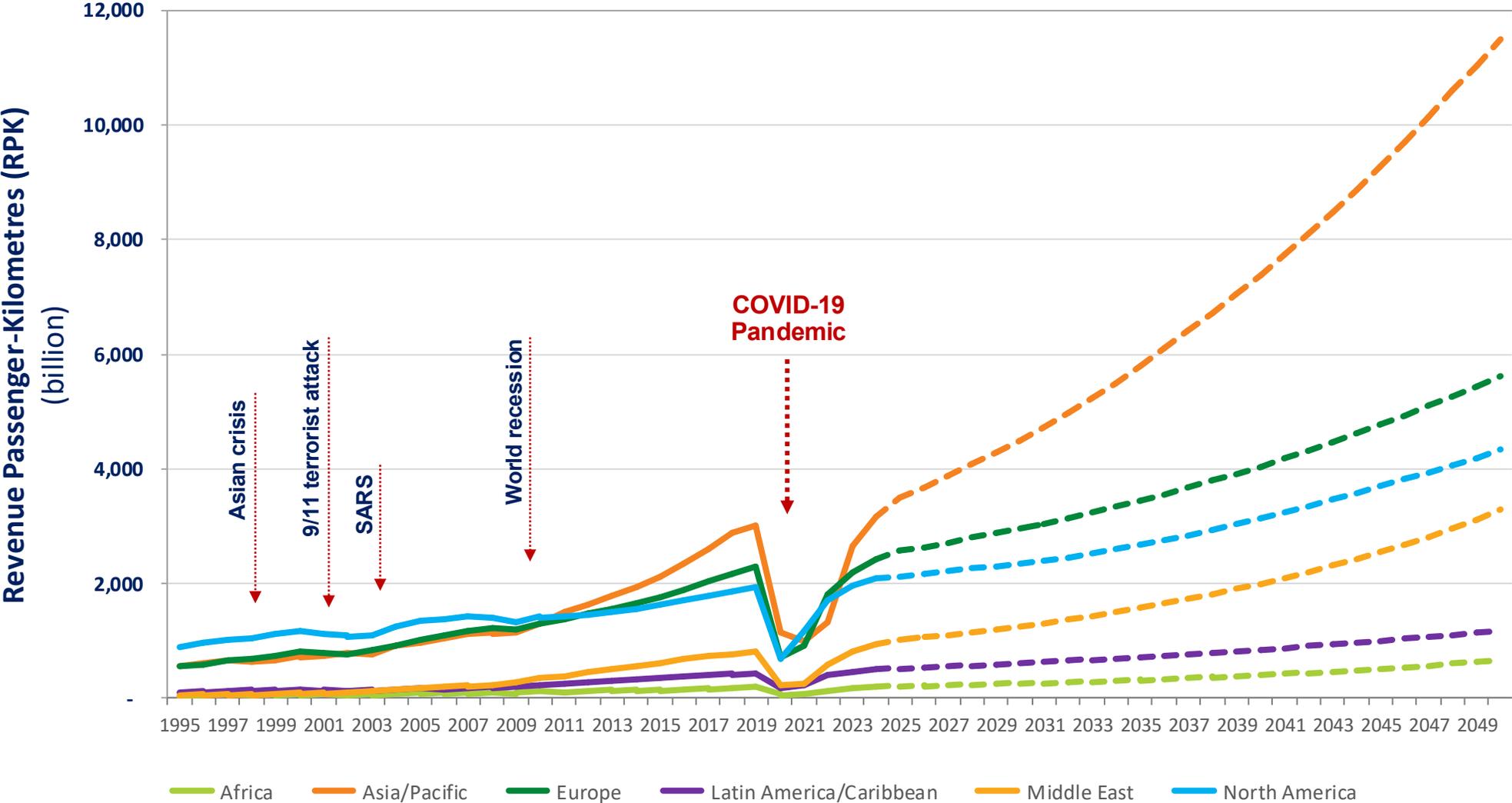
Facilitate seamless air navigation and travel through well-coordinated and affordable services.

The Economic Development of Air Transport Assures the Delivery of Economic Prosperity and Societal Well-Being for All

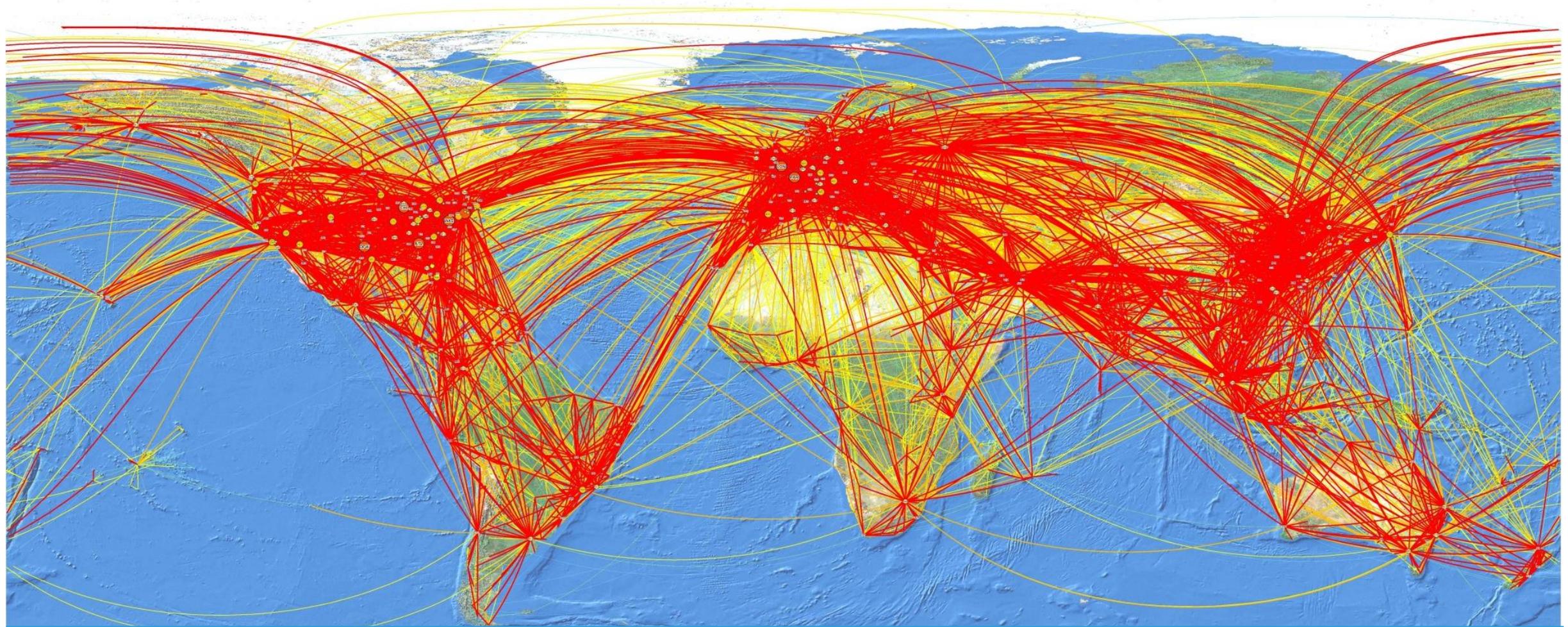
Foster development of an economically viable aviation system delivering prosperity for all.

Why Civil-Military Cooperation?

Global Traffic: The Pandemic and Recovery



2040



TRAFFIC DENSITY

Effective Civil-Military Cooperation

- ✓ improves airspace management and optimization, leading to the enhancement of **safety** and **efficiency** and increasing **capacity**;
- ✓ fosters cooperation among all parties;
- ✓ responds to **crisis** and **contingency** situations in an effective and timely manner;
- ✓ supports meeting the State's **defense** and **security objectives**;
- ✓ results in **nation-wide benefits** and regional advantages; and
- ✓ ultimately supports the State in compliance with ICAO regional and global requirements.



ICAO provisions related to CIV-MIL Cooperation

Chicago Convention Article 1:

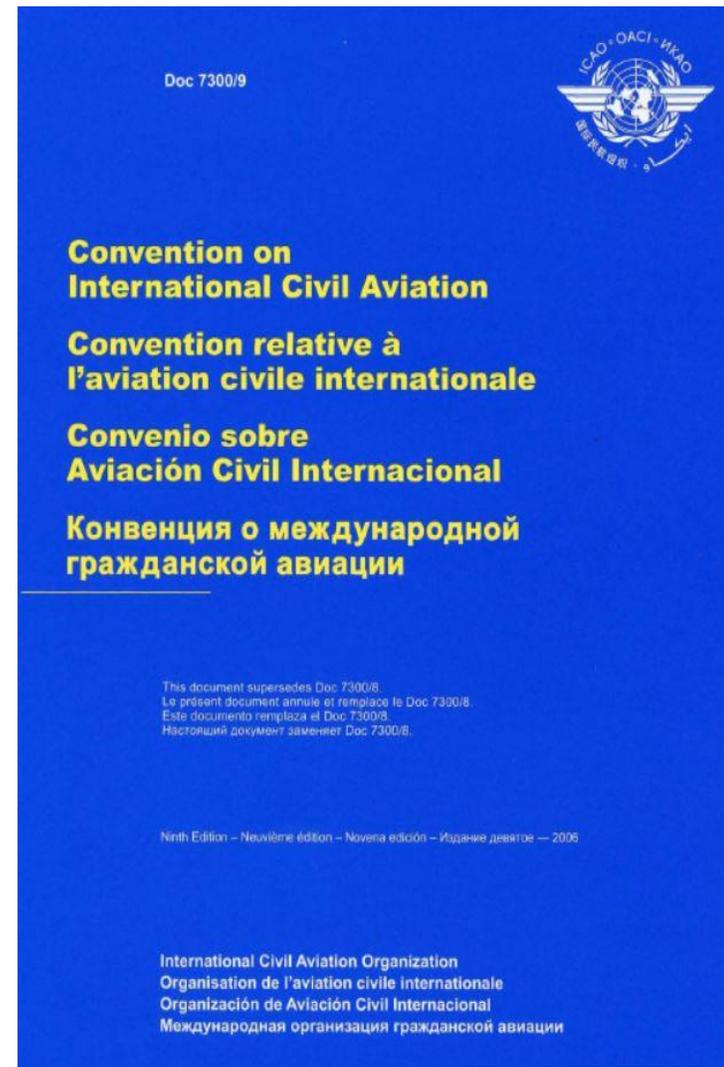
Sovereignty

The contracting States recognize that every State has complete and exclusive sovereignty over the airspace above its territory.

Chicago Convention Article 2:

Territory

For the purposes of this Convention the territory of a State shall be deemed to be the land areas and territorial waters thereto under the sovereignty, suzerainty, protection or mandate of such State.



Chicago Convention Article 3:

Civil and state aircraft

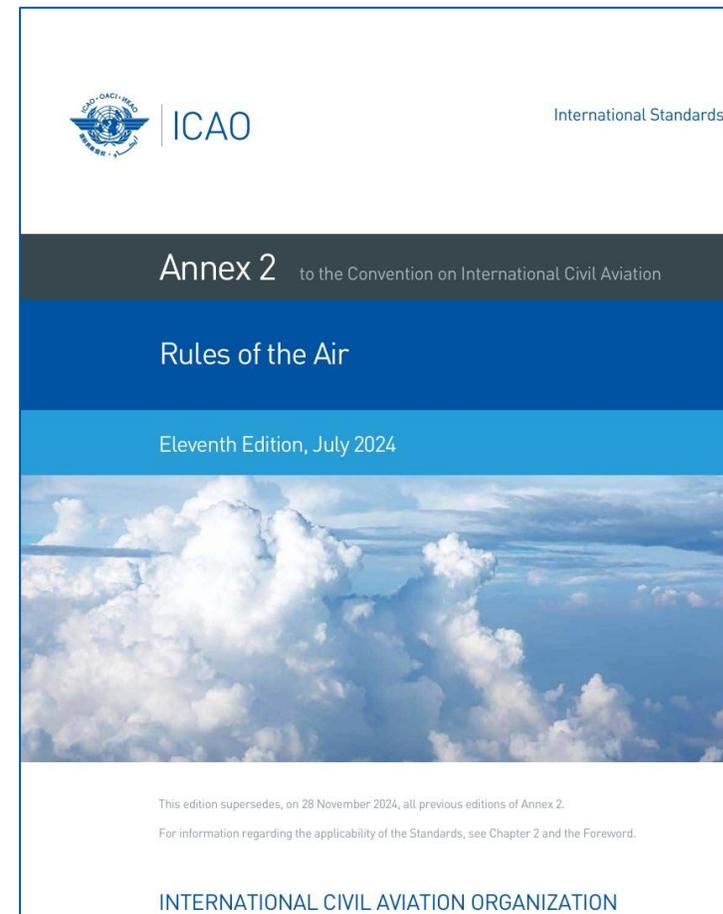
- a) *This Convention shall be applicable **only to civil aircraft**, and shall not be applicable to state aircraft.*
- b) *Aircraft used in military, customs and police services shall be deemed to be state aircraft.*
- c) *No state aircraft of a contracting State shall fly over the territory of another State or land thereon without authorization by special agreement or otherwise, and in accordance with the terms thereof.*
- d) *The contracting **States undertake**, when **issuing regulations for their state aircraft**, that they will have **due regard for the safety** of navigation of **civil aircraft**.*

Annex 2 — Rules of the Air

3.3.1 Submission of a flight plan

3.3.1.2 A flight plan shall be submitted prior to operating ... d) any flight within or into designated areas, or along designated routes, when so required by the appropriate ATS authority to facilitate coordination with **appropriate military units** or with air traffic services units in adjacent States in order to **avoid the possible need for interception** for the purpose of **identification**

Reference is also made to Chapter 3, 3.8.1 on interception of civil aircraft.

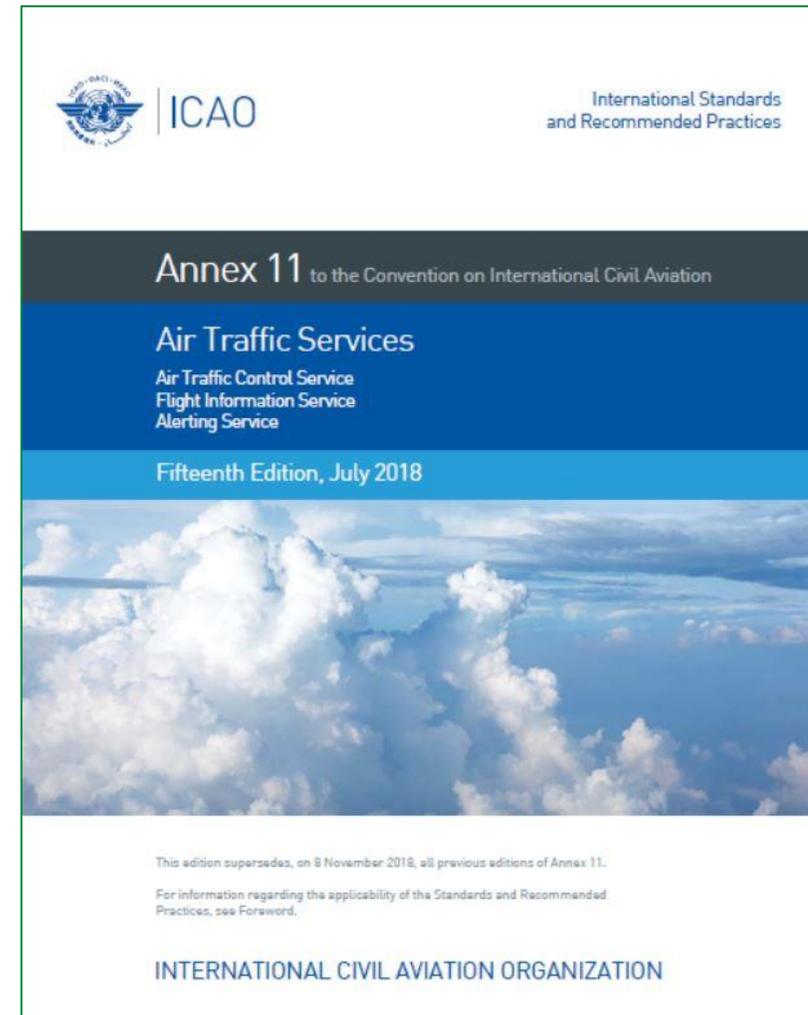


Annex 11 — Air Traffic Services

2.18 Coordination between military authorities and air traffic services

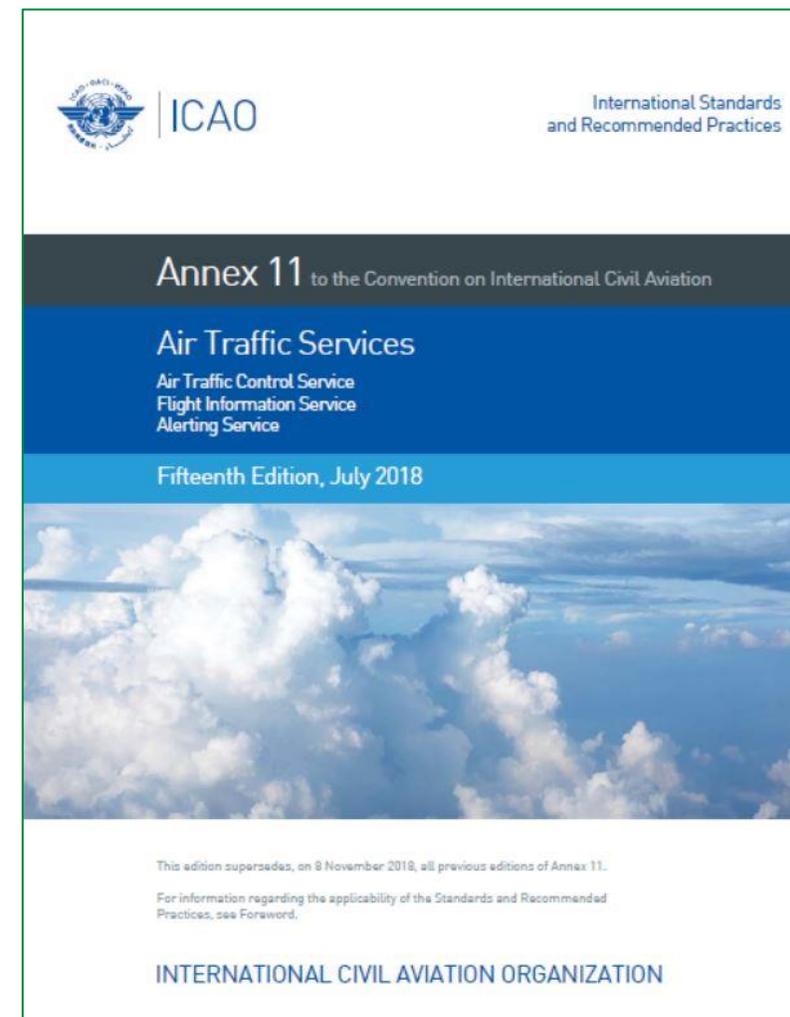
2.18.1 Air traffic services authorities shall establish and **maintain close cooperation** with military authorities responsible for activities that may affect flights of civil aircraft.

2.18.3 **Arrangements shall be made** to permit **information** relevant to the safe and expeditious conduct of flights of civil aircraft to be promptly exchanged between air traffic services units and appropriate military units.



Annex 11 — Air Traffic Services

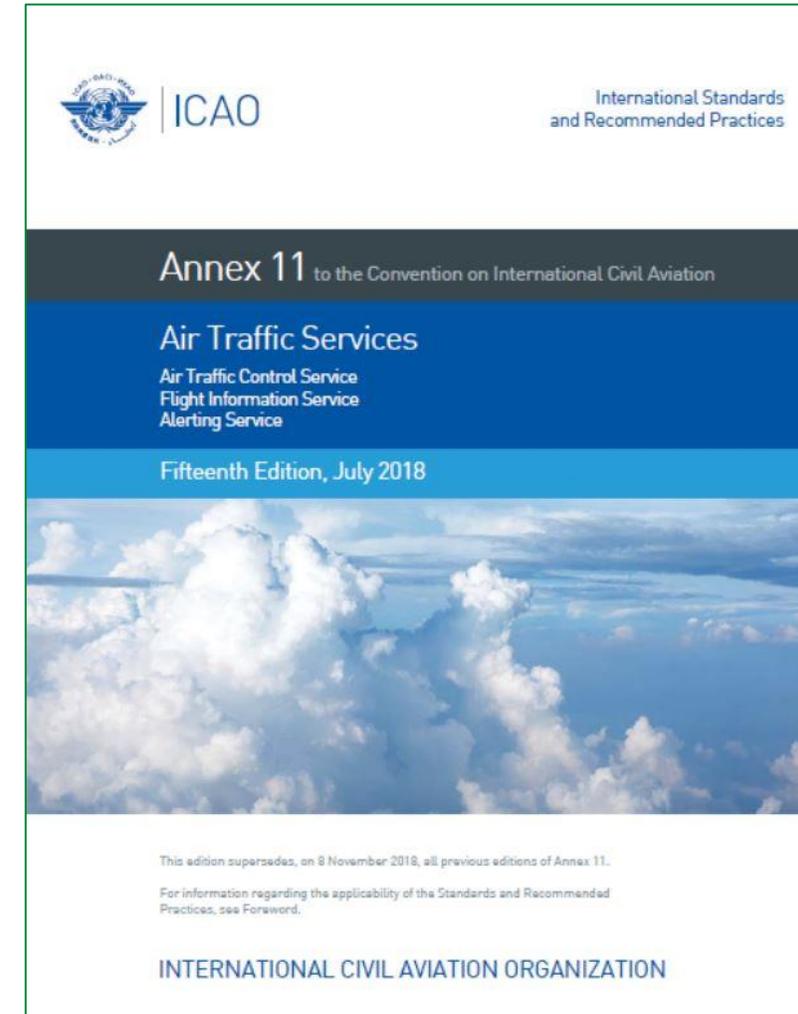
2.18.3.1 **Air traffic services units shall**, either routinely or on request, in accordance with locally agreed procedures, **provide appropriate military units** with pertinent **flight plan** and **other data concerning flights of civil aircraft**. In order to eliminate or reduce the need for interceptions, air traffic services authorities shall designate any areas or routes where the requirements of Annex 2 concerning flight plans, two-way communications and position reporting apply to all flights to ensure that all pertinent data is available in appropriate air traffic services units specifically for the purpose of facilitating identification of civil aircraft.



Annex 11 — Air Traffic Services

2.18.3.2 **Special procedures shall be established** in order to ensure that:

- a) air traffic services units **are notified if a military unit observes** that an aircraft which is, or might be, a civil aircraft is approaching, or has entered, any area in which interception might become necessary;
- b) all possible efforts are made to **confirm the identity of the aircraft** and to provide it with the navigational guidance necessary to avoid the need for interception.

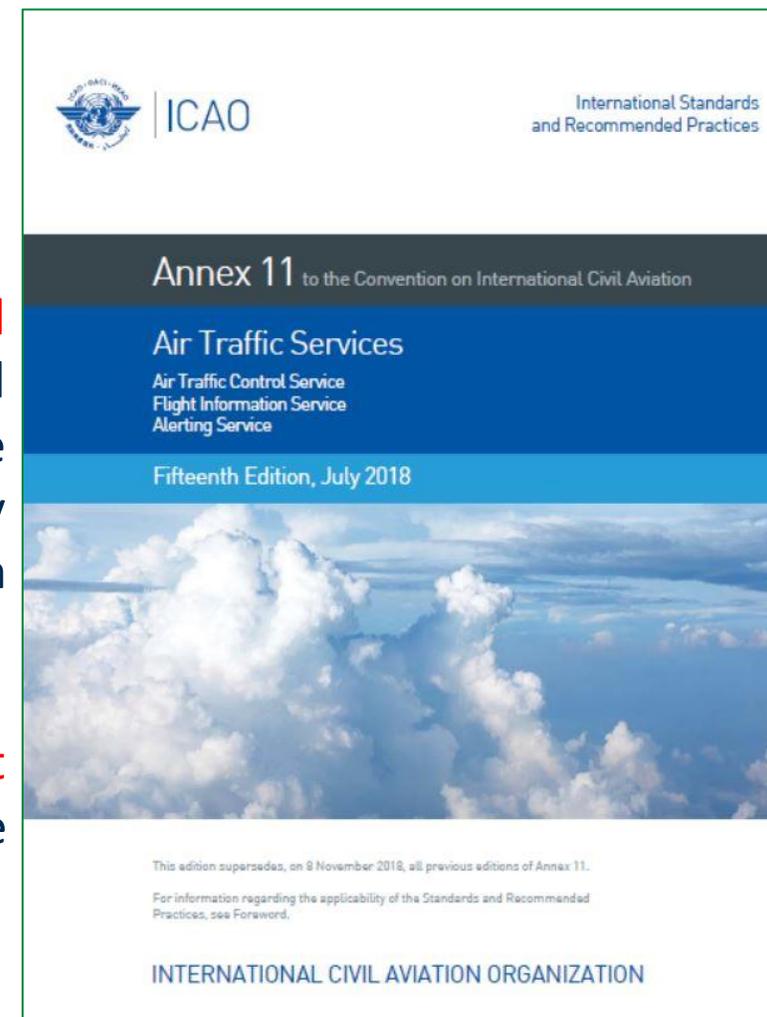


Annex 11 — Air Traffic Services

2.19 Coordination of activities potentially hazardous to civil aircraft

2.19.1 The arrangements for **activities potentially hazardous to civil aircraft**, whether over the territory of a State or over the high seas, shall be coordinated with the appropriate air traffic services authorities. The **coordination shall be effected early enough** to permit timely promulgation of information regarding the activities in accordance with PANS-AIM, Doc 10066.

2.19.2 The objective of the coordination shall be to **achieve the best arrangements** which will **avoid hazards to civil aircraft** and minimize interference with the normal operations of such aircraft.

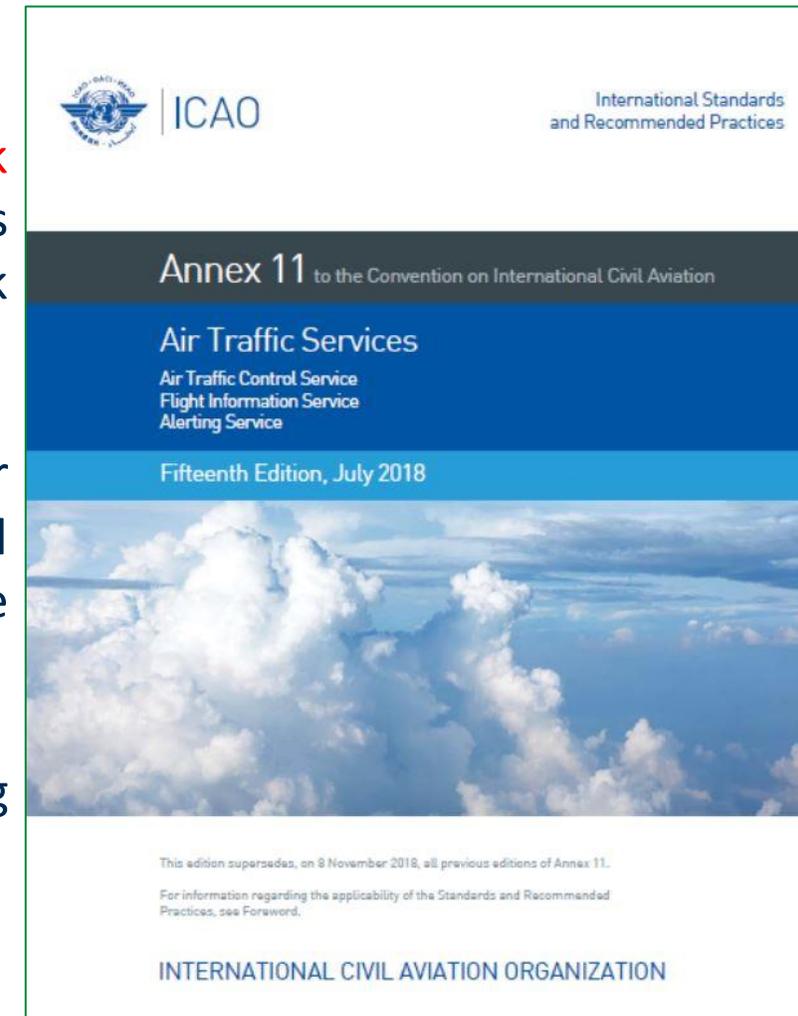


Annex 11 — Air Traffic Services

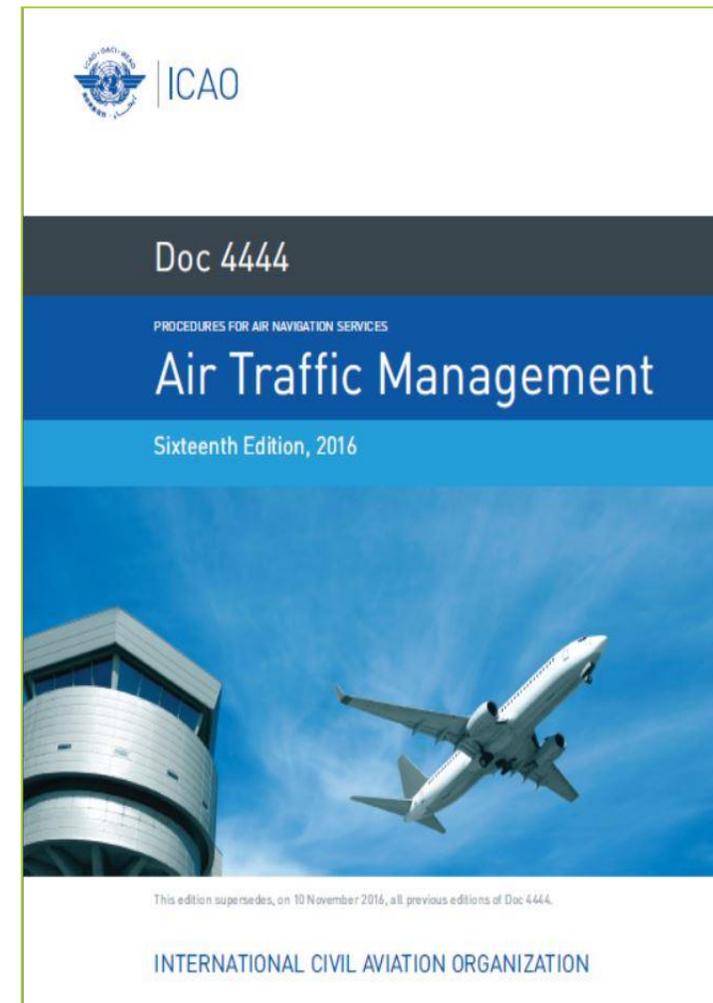
2.19.3 The appropriate ATS authority shall ensure that **a safety risk assessment is conducted**, as soon as practicable, for activities potentially hazardous to civil aircraft and that appropriate risk mitigation measures are implemented.

2.19.3.1 States shall establish procedures to enable the organization or unit conducting or **identifying activities potentially hazardous** to civil aircraft to **contribute to the safety risk assessment** in order to facilitate consideration of all relevant safety significant factors.

2.19.4 The appropriate ATS authorities shall be responsible for initiating the promulgation of information regarding the activities.



The *Procedures for Air Navigation Services — Air Traffic Management (PANS-ATM, Doc 4444)* contains procedures applicable to other in-flight contingencies, such as strayed or unidentified aircraft, that require coordination with military authorities. Some miscellaneous procedures are detailed for the conduct of special military operations



The *Manual Concerning Interception of Civil Aircraft (MICA, Doc 9433)* consolidates all ICAO provisions and special recommendations relevant to the subject of interception of civil aircraft.

The *Air Traffic Management Security Manual (Doc 9985)* complements the *Aviation Security Manual (Doc 8973, Restricted)* and provides guidance on security issues specific to ATM in order to assist States and air navigation services providers (ANSPs) in implementing appropriate security provisions. In addition, the manual provides guidance to the ANSP on ATM security services provisions in support of national security and law enforcement requirements and offers guidance on protecting the ATM system infrastructure from threats and vulnerabilities.

The *Manual Concerning Safety Measures Relating to Military Activities Potentially Hazardous to Civil Aircraft Operations (Doc 9554)* describes the coordination that should take place between civil ATS and appropriate military units. It details the requirements to establish and maintain close cooperation with the military authorities responsible for activities that may affect civil aircraft operations.

Risk Assessment Manual for Civil Aircraft Operations Over or Near Conflict Zones (Doc 10084), published in 2023, includes guidance on Risk Assessment for Civil Aircraft Operations Over or Near Conflict Zones, including the Roles of parties concerned (State, Aircraft operators, ANSPs, State of the operator, ICAO, regional civil aviation authorities, etc.) and promulgation of information.

The GANP (Doc 9750) provides guidance on and promotes the implementation of the civil-military coordination measures and cooperation concepts embedded in the *Global Air Traffic Management Operational Concept (Doc 9854)*.

Resolution A42-X, (Supersedes A41-10) Consolidated statement of continuing ICAO policies and associated practices related specifically to air navigation
Appendix I, Coordination and cooperation of civil and military air traffic

Whereas the airspace is a resource common to both civil and military aviation, and given that many air navigation facilities and services are provided and used by both civil and military aviation;

Whereas the Preamble of the Convention on International Civil Aviation stipulates that signatories thereto had “agreed on certain principles and arrangements in order that international civil aviation may be developed in a safe and orderly manner and that international air transport services may be established on the basis of equality of opportunity and operated soundly and economically”;

Whereas Article 3 a) of the Convention states that “This Convention shall be applicable only to civil aircraft, and shall not be applicable to state aircraft” and Article 3 d) requires that “contracting States undertake, when issuing regulations for their state aircraft, that they will have due regard for the safety of navigation of civil aircraft”;

Resolution A42-X, Appendix I, Coordination and cooperation of civil and military air traffic

Recognizing that growing civil air traffic and mission-oriented military air traffic would benefit greatly from a more flexible use of airspace used for military purposes and that satisfactory solutions to the problem of cooperative access to airspace have not evolved in all areas;

Whereas the flexible use of airspace by both civil and military air traffic may be regarded as the ultimate goal, improvement in civil-military coordination and cooperation offers an immediate approach towards more effective airspace management;

Recalling that the ICAO Global ATM Operational Concept states that all airspace should be a usable resource, any restriction on the use of any particular volume of airspace should be considered transitory, and all airspace should be managed flexibly; and

Whereas the application of reduced vertical separation minimum (RVSM) provides many benefits including additional airspace capacity, cost savings and reduced environmental impacts, it is predicated upon stringent aircraft height-keeping performance requirements, which can be impaired by even minor airframe modifications;

Resolution A42-X, Appendix I, Coordination and cooperation of civil and military air traffic

The Assembly resolves that:

1. the common use by civil and military aviation of airspace and of certain facilities and services shall be arranged so as to ensure the safety, regularity and efficiency of civil aviation as well as to ensure the requirements of military air traffic are met;
2. the regulations and procedures established by Member States to govern the operation of their state aircraft over the high seas shall ensure that these operations do not compromise the safety, regularity and efficiency of international civil air traffic and that, to the extent practicable, these operations comply with the rules of the air in Annex 2;
3. the Secretary General shall provide guidance on best practices for civil-military coordination and cooperation;
4. Member States may include, when appropriate, representatives of military authorities in their delegations to ICAO meetings; and
5. ICAO serves as an international forum that plays a role in facilitating improved civil-military cooperation, collaboration and the sharing of best practices, and to provide the necessary follow-up activities that build on the success of the Global Air Traffic Management Forum on Civil/Military Cooperation (2009) with the support of civil-military partners.

Associated practices

1. Member States should as necessary initiate or improve the coordination and cooperation between their civil and military air traffic services to implement the policy in Resolving Clause 1 above.

2. When establishing the regulations and procedures mentioned in Resolving Clause 2, the State concerned should coordinate the matter with all States responsible for the provision of air traffic services over the high seas in the area in question.

3. Member States should review existing practices to ensure that approval of State aircraft to operate in airspace where reduced vertical separation minimum (RVSM) is applicable is conducted either in compliance with, or in a manner equivalent to, associated height-keeping performance requirements and account for any subsequent airframe modifications. Furthermore, to the maximum extent practicable, Member States should facilitate the participation of applicable State aircraft in technical height-monitoring programmes to ensure continued compliance with such performance requirements, so as to implement the policy mentioned in Resolving Clauses 1 and 2 above.

4. The Council should ensure that the matter of civil and military coordination and cooperation in the use of airspace is included, when appropriate, in the agenda of divisional and regional meetings, in accordance with Resolving Clauses 3, 4 and 5 above.

Resolution A42-X (Supersedes A41-8), Consolidated statement of continuing ICAO policies and practices related to a global air traffic management (ATM) system and communications, navigation, and surveillance/air traffic management (CNS/ATM) systems

Appendix C, Ensuring the resilience of ICAO CNS/ATM systems and services

...

Whereas CNS resiliency to interference needs to be addressed at a global level with a holistic approach, ensuring an efficient and coordinated evolution between the infrastructure architecture, improved technological capabilities, civil and military operational procedures, radio regulatory authorities and civil military coordination;

Believing that, with appropriate coordination and application of best practices, military and State authorities can conduct GNSS-related testing and other interventions using radio equipment as necessary and without causing an undue impact on civil aviation;

Believing that civil-military coordination should facilitate the sharing of relevant information with airspace users, especially when flying in the vicinity of a conflict zone; and

Acknowledging that loss of crew's situational awareness from malicious origin is classified as a cybersecurity threat and cannot be tolerated in civil aviation; and that intentionally sending misleading signals to replace the accurate signal is a far more serious threat to flight safety than the loss of this signal.

Resolution A42-X , Appendix C, Ensuring the resilience of ICAO CNS/ATM systems and services

The Assembly resolves that:

...

7. Urges States to apply necessary measures to avoid the commercialization/proliferation, purchase, possession and the use of illegal transmitters such as jammers and the misuse of test and maintenance equipment which may impact CNS systems;

8. Urges States to ensure close collaboration between aviation authorities, military authorities, service providers, radio regulatory and spectrum enforcement authorities to put in place any special measures required to ensure that the spectrum used by all CNS systems, and GNSS in particular, is free from harmful interference;

9. Urges States to refrain from any form of jamming, or spoofing affecting civil aviation;

10. Urges States to coordinate and notify to the maximum extent possible in advance with the air navigation services provider (ANSP) responsible for the affected airspace in case of military or other State-authorized security or defence-related operations or training, potentially causing any form of jamming, or spoofing affecting civil aviation; and

11. Urges States and operators, when assessing the interference risks associated with conflict zones, to consider that the use of satellite-based CNS systems can potentially be impacted beyond those zones.

Resolution A42-X (Supersedes A41-8), Addressing risks to civil aviation arising from conflict zones

...

Recalling that in accordance with the Convention on International Civil Aviation and its Annexes thereto, Member States should take preventive measures in airspace controlled by them, including timely promulgation of prohibited, restricted or danger areas as appropriate, when military activities or conflict pose a risk to civil aviation;

Acknowledging the increased complexity of risk management over conflict zones, including the threats posed by the use of military or weaponized unmanned aircraft systems (UAS), global navigation satellite System (GNSS) radio frequency interferences (RFI), electronic warfare and air defence systems;

Recalling Assembly Resolution A41-8 that civil-military coordination should facilitate the sharing of relevant information with airspace users, especially for civil aircraft operations over or near conflict zones;

Recognizing the need for enhanced coordination, timely dissemination of risk information and decision making, and updated guidance for States and operators; and

Recalling that the ICAO Strategic Plan 2026-2050 has one of its essential aspirations to achieve zero fatalities in international aviation from accidents and acts of unlawful interference.

Resolution A42-X (Supersedes A41-8), Addressing risks to civil aviation arising from conflict zones

The Assembly resolves that:

1. *Strongly condemns* the use of weapons against civil aircraft in flight and reiterates that, in case of interception, the lives of persons on board and the safety of the aircraft must not be endangered;
2. *Reaffirms* that every State must refrain from resorting to the use of weapons against civil aircraft in flight as reflected in Article 3 *bis* of the *Convention on International Civil Aviation*;
3. *Urges* Member States, which have not yet done so, to ratify, as soon as possible, the Protocol incorporating Article 3 *bis* into the *Convention on International Civil Aviation*.
4. *Calls upon* Member States to identify, notify and take appropriate measures in airspace controlled by them, in accordance with the *Convention on International Civil Aviation* and its Annexes thereto, including timely promulgation of prohibited, restricted or danger areas as appropriate, when military activities or conflict pose a risk to civil aviation;
5. *Urges* Member States to share relevant information with air navigation services providers and aircraft operators under their authority, and ensure that they on a timely basis assess and mitigate risks posed to civil aircraft over or near conflict zones;

Resolution A42-X (Supersedes A41-8), Addressing risks to civil aviation arising from conflict zones

The Assembly resolves that:

6. *Urges* Member States to call upon aircraft operators to ensure that their decision-making for flight planning includes updated risk assessment and appropriate risk mitigation measures, taking into account information regarding conflict zones by every reasonable means;

7. *Calls upon* Member States to improve and strengthen civil-military cooperation in air traffic management (ATM), and support the development and implementation of a regional ATM contingency management framework;

8. *Calls upon* Member States to support global initiatives, such as the Safer Skies Initiative, as an effective means to share best practices and information, including existing regional initiatives, and promote effective implementation of global standards and guidance on mitigating the risks conflict zones pose to civil aviation;

9. *Directs* the Council to continue to update relevant ICAO documents, including ICAO *Risk Assessment Manual for Civil Aircraft Operations Over or Near Conflict Zones* (Doc 10084), to reflect current operational and technological threats, including attacks using weaponized unmanned aircraft systems (UAS), GNSS RFI and electronic warfare;



10. *Directs* the Council to ensure the development of a dedicated ICAO work programme on conflict zones in order to support crosscutting efforts within ICAO; and

11. *Directs* the Council to monitor the implementation of this Resolution and report progress to the next ordinary Session of the Assembly.

Introduction to 10088

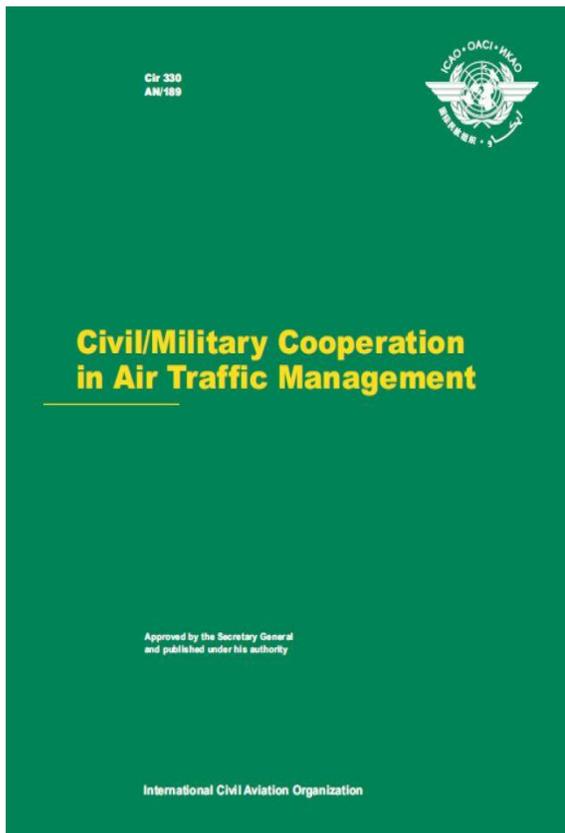
2009

2011

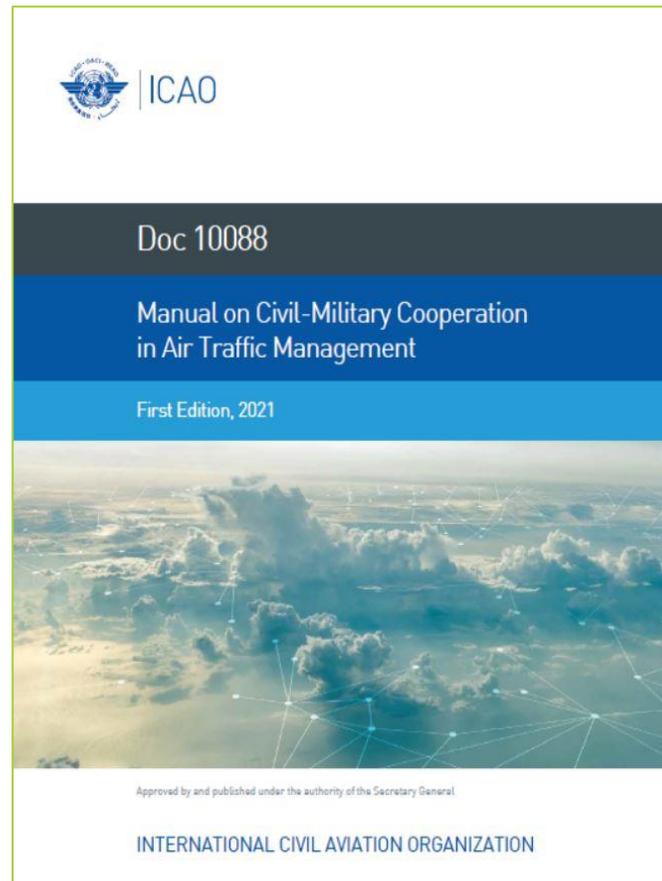
2017

2021

ICAO Global Forum on CIV-MIL recognized the need for CIV-MIL guidance material



Identified the need to update the contents of Cir 330 and provide additional guidance in a form of a Manual



Available for free at <https://elibrary.icao.int/home>

Objectives of the Manual

- ✓ Provides **guidance** to States wishing to **implement or improve civil-military cooperation** in air traffic management, for **safe and optimal use of the airspace** by **civil** and **military** users.
- ✓ Is a **reference** for **authorities** and **units** responsible for establishing and implementing the processes and procedures that will facilitate **civil-military collaboration, cooperation and coordination**.
- ✓ Civil and military operations **differ in nature** and in purpose; both types of operations take place in a **single continuum** of airspace.
- ✓ Need to cooperate to ensure their mutual safety and the efficiency of their operations.



Objectives of the Manual

Provide guidance on the establishment of a framework to ensure
COLLABORATION, COOPERATION AND COORDINATION
 between civil and military aviation stakeholders.

Collaboration	Cooperation	Coordination
 <p>Long-term (5 to 20 years) Envisioning, planning and development of future global aviation systems and operations</p>	<p>Developing mutually agreeable optimized solutions to strategic and pre-tactical issues and challenges in the nearer time horizon</p>	<p>Real-time exchanges of information and joint tactical decisions at the operational level</p>

Structure of ICAO Doc 10088

Chapter No.	Title
1.	A global opportunity
2.	State aircraft operations
3.	Structures and implementation
4.	Airspace organization and management
5.	Interoperability
6.	Civil and armed conflict, natural disasters, special activities
7.	Performance
8.	ATM Security
9.	ADIZ
Appendices (templates)	

Chapter 1. A global opportunity

- Highlights the existing ICAO framework
- Provides high-level considerations regarding collaboration, cooperation and coordination
- Advocate for high-level commitment to civil-military cooperation
- Underlines the need for strong communication
- Underlines the reciprocal expectations and safety considerations

Chapter 2. State aircraft operations and security considerations

Provides insight on:

- State aircraft roles and constraints;
- military aircraft operations and the related considerations;
- considerations regarding the military planning process; and
- national security and defense considerations.

Chapter 3. Structures and implementation

- ❑ Provides a process to be followed to implement civil-military cooperation
- ❑ Describes in detail the suggested civil-military cooperation structures
- ❑ Provides implementation and improvement process
- ❑ Insists on the need for high-level government support
- ❑ Supports the approach to develop specific solutions for each State based on their needs and operational context

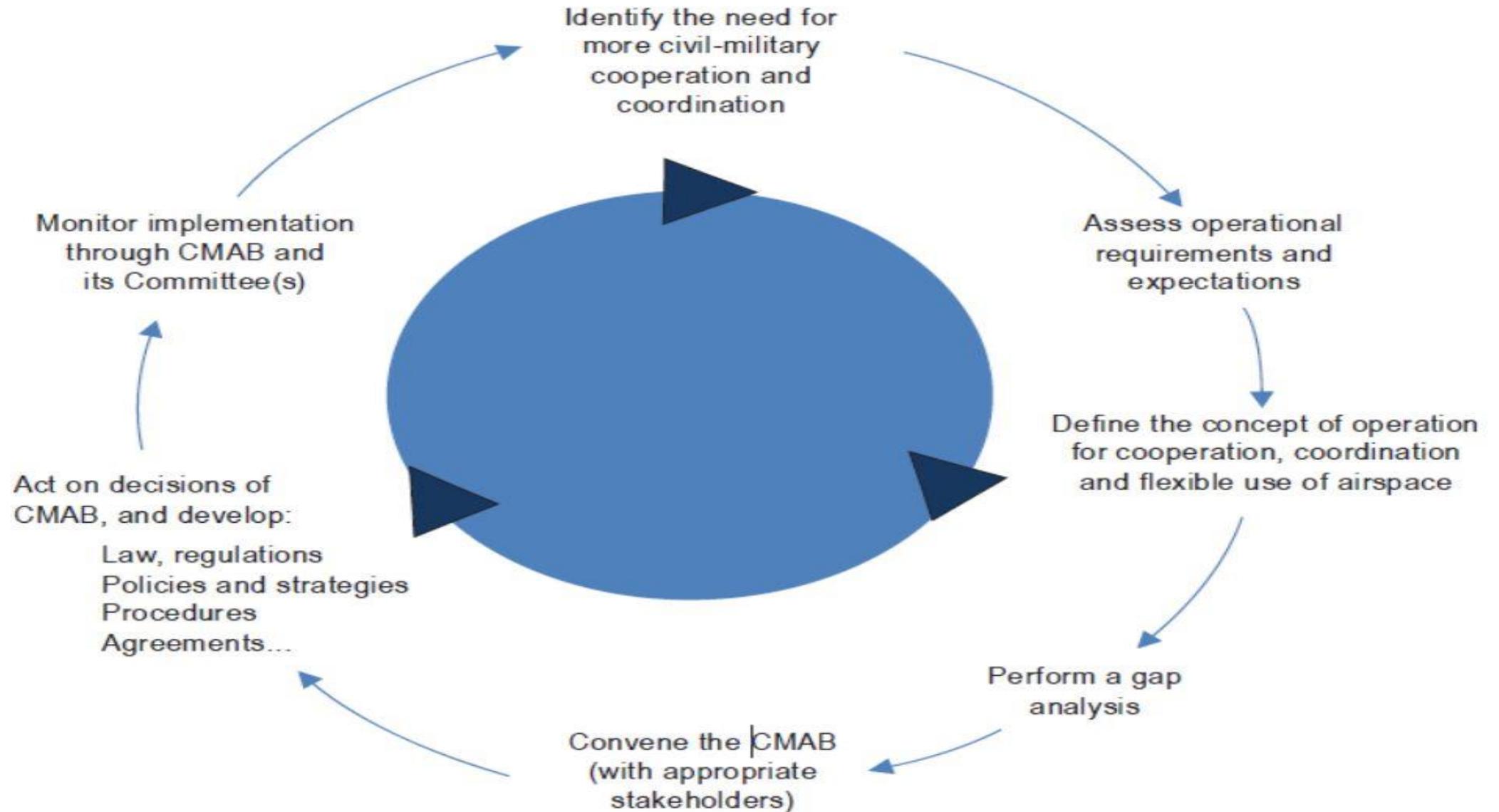
Chapter 3. Structures and implementation (Cont'd)

Describes the need to establish and the responsibilities of the:

- ✓ High-level Civil-military Aviation Cooperation Policy Board (CMAB)
- ✓ Committee for Airspace Organization and Management (CAOM)
- ✓ How to improve tactical coordination
- ✓ Provides best practices for the implementation of flexible use of airspace (FUA) considerations, including the setup and role of an Airspace Management Cell (AMC)



An example of an implementation and continuous improvement cycle

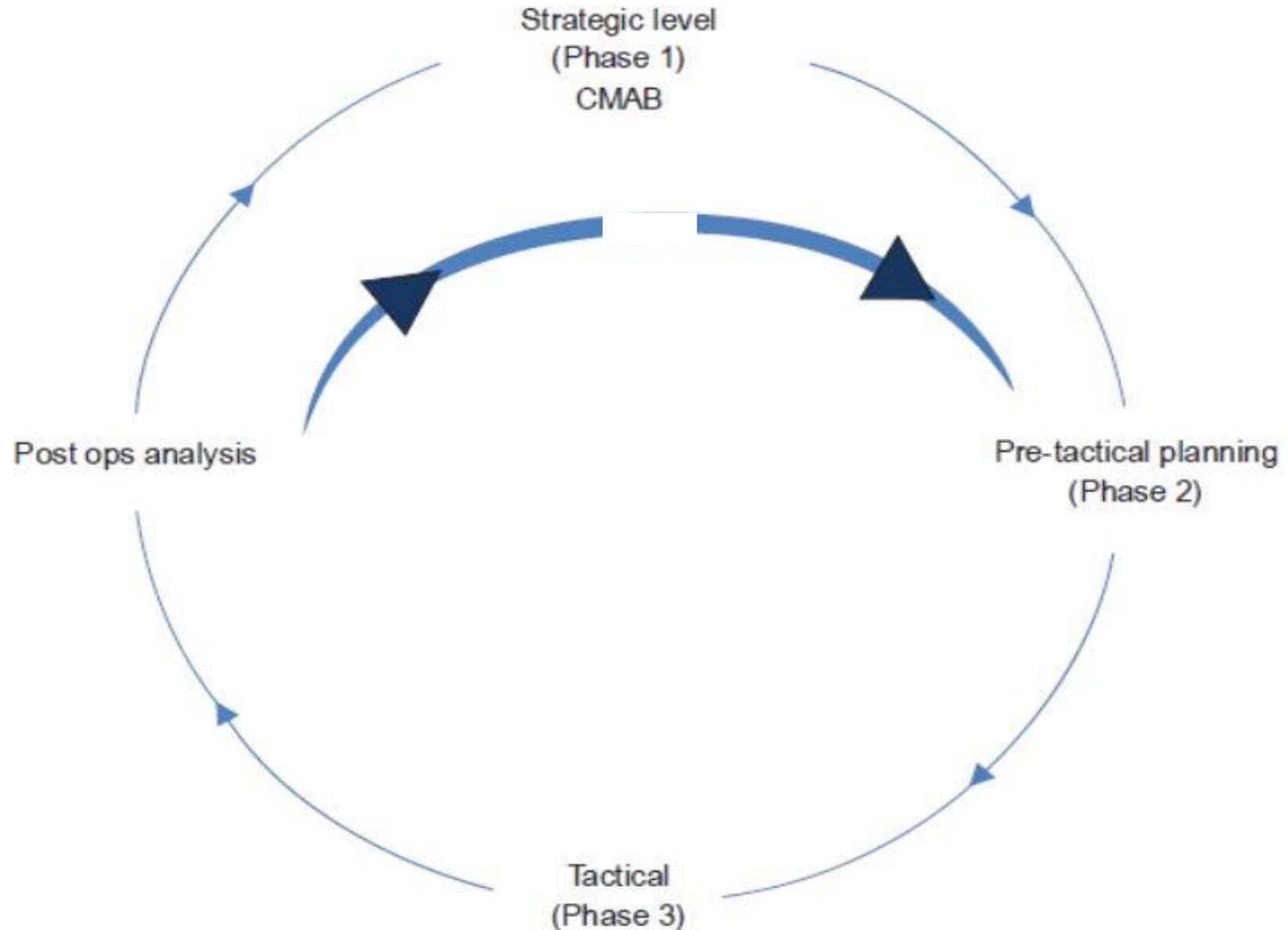


Chapter 4. Airspace organization and management

- ❑ Guidance to support the implementation of ICAO CIV-MIL-related provisions
- ❑ Considers different level of implementation :
 - **Basic FUA**
 - Enhancing the use of simple airspace structures
 - Best practices to make the airspace more flexible
 - **Enhanced FUA**
 - Enhancing the airspace efficiency by implementing enhanced airspace structures and processes
- ❑ Underlines the importance of CDM

Chapter 4. Airspace organization and management

- Details FUA and Enhanced FUA airspace structures, including considerations about their usage
- The application of the different FUA phases, and what it entails: Strategic, pre-tactical and tactical and post-implementation



Chapter 5. Civil-military interoperability

- Describes the overall importance of interoperability
- Provides best practices
- Guidance on how to increase interoperability using different approaches
- How to overcome obstacles to interoperability
- Explains the performance equivalence process and provides suggestions regarding dual-use and re-use of military systems



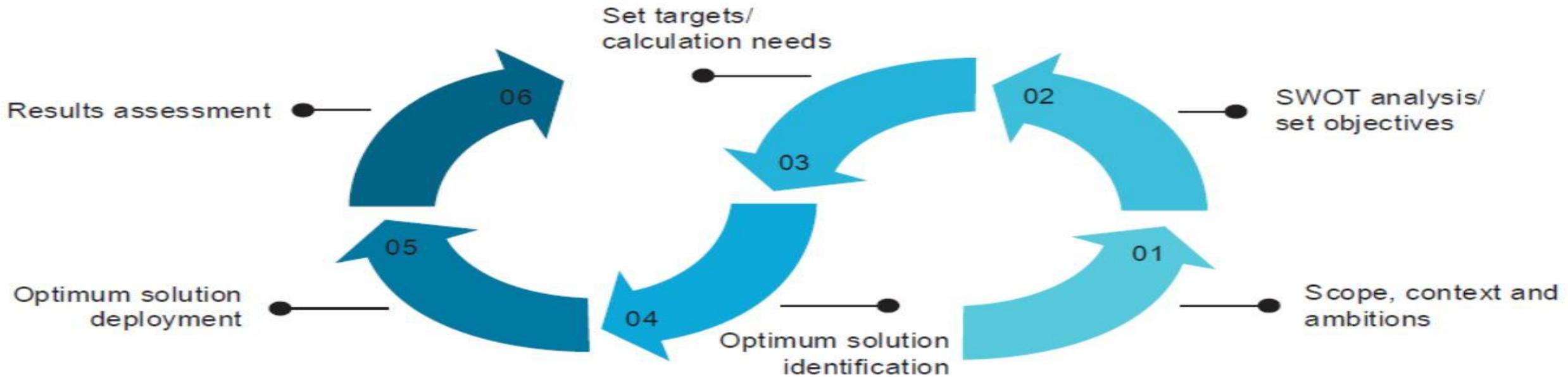
Chapter 6. Civil and armed conflict, natural disasters, special activities

- Underlines the importance of:
 - coordination during these fast-evolving situations; and
 - having the adequate structures, CMAB, COAM, AMC, etc., supporting reactions to such situations.
- Makes reference to *Manual Concerning Safety Measures Relating to Military Activities Potentially Hazardous to Civil Aircraft Operations* (Doc 9554) and *Risk Assessment Manual for Civil Aircraft Operations Over or Near Conflict Zones* (Doc 10084)

Chapter 7. Performance

Presents a simplified approach for the implementation of a performance management process to:

- ✓ increase trust between the civil and military communities; and
- ✓ improve the performance of the ATM system as a whole.



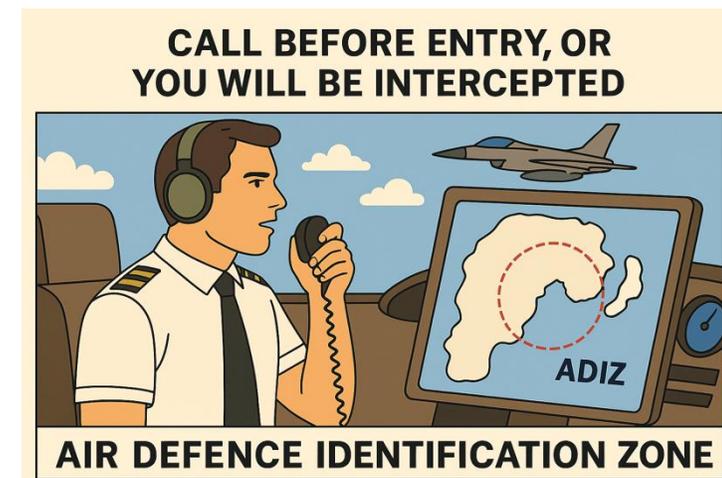
Chapter 8. ATM Security

- ❑ Underlines the importance of ATM security
- ❑ Civil-military cooperation as an enabler of ATM security



Chapter 9. AIR DEFENCE IDENTIFICATION ZONES (ADIZs)

- Reminds States of their obligations towards the Chicago Convention (and its Annexes) with regard to ADIZs
- Through better civil-military coordination, the perceived need for ADIZ can be avoided.
- Provides guidance to avoid conflict between ADIZ procedures and those necessary for ATS provision or flight operations.



Appendices

- Examples of launches and space re-entry procedures
- Advanced FUA
- Performance indicators
- Agenda for first CMAB meeting
- CMAB ToR
- CAOM ToR
- FUA sample manual

Thank You

