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ICAO APAC & EUR/NAT CMAC/FUA WORKSHOP

One-step forward



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UMI MUTHIAH SYAHIRAH

IFATCA SECRETARY REGIONAL FOR SOUTHEAST AND WEST ASIA

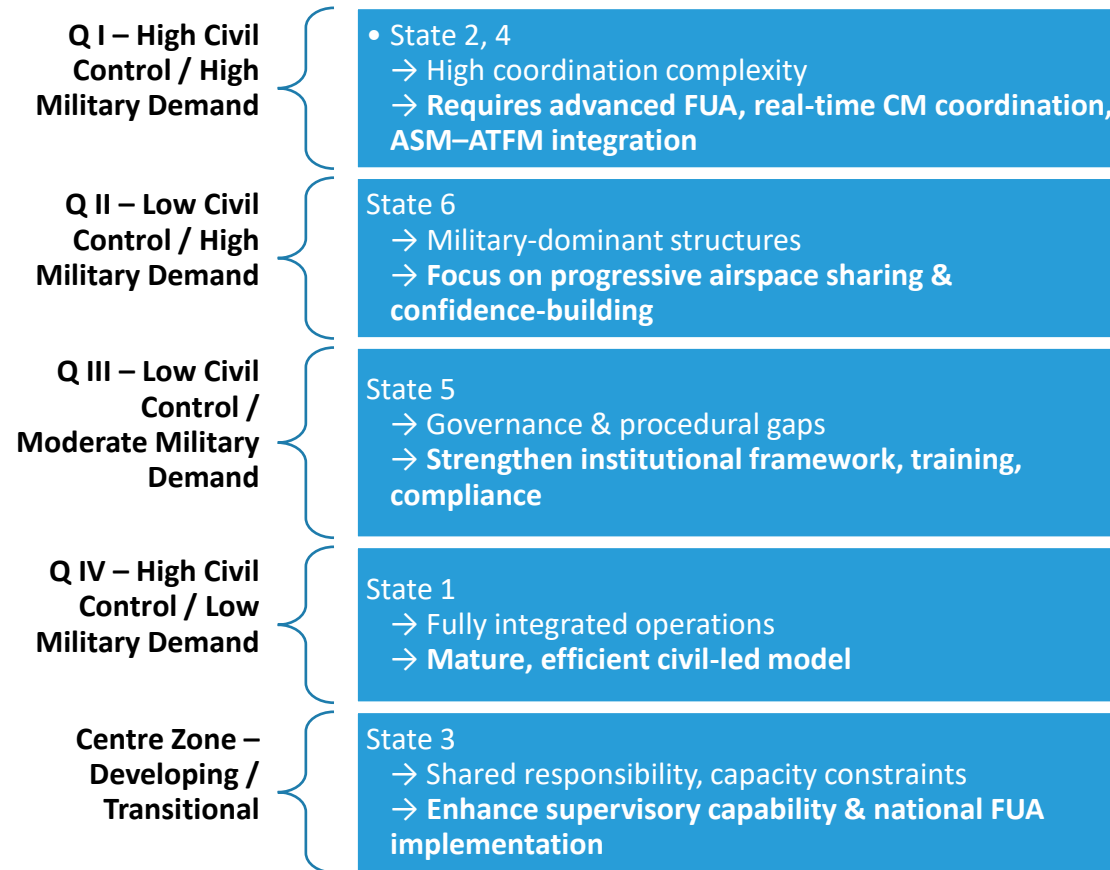
Civil–Military Coordination and Flexible Use of Airspace: Regional Overview

Common challenges across States:

- Increasing civil traffic demand
- Large-scale military training requirements
- Differences in systems, priorities, and procedures

Range of operational models:

- **Civil-controlled model**
- **Shared / negotiated access**
- **Military-dominant airspace structures**



Civil–Military Coordination Models (Illustrative Quadrant)

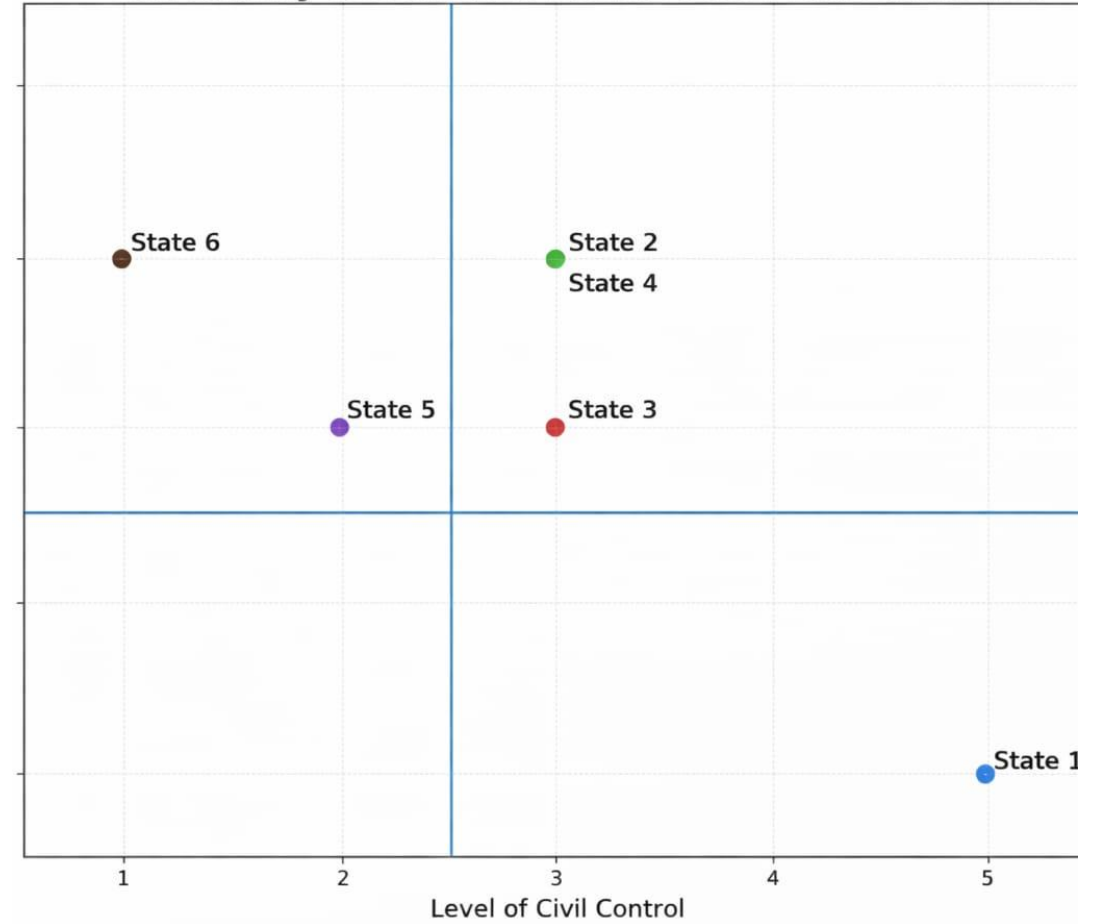


Figure: Spectrum of Civil–Military Airspace Management

State	Civil Control Level	Military Airspace Demand	Coordination Maturity	System Integration	FUA Flexibility
State 1	●●●●●	●●●	●●●●●	●●●●●	●●●●●
State 2	●●●●●	●●●●●	●●●●●	●●●	●●●
State 3	●●●●	●●●●	●●●	●●●	●●●
State 4	●●●	●●●●	●●●●●	●●●	●●●●
State 5	●●●	●●●●	●●●●	●●●●●	●●●
State 6	●●	●●●●	●●	●●	●●●●
State 6	●	●●●●●	●●●●●	●●●	●●●

● Civil Control Level ● Military Airspace Demand ● FUA Flexibility

Civil Control Level

- High civil authority / integrated control
- Shared or limited civil authority

Military Airspace Demand

- Low
- Medium
- High

Coordination Maturity

Reflects governance, procedures, and operational trust

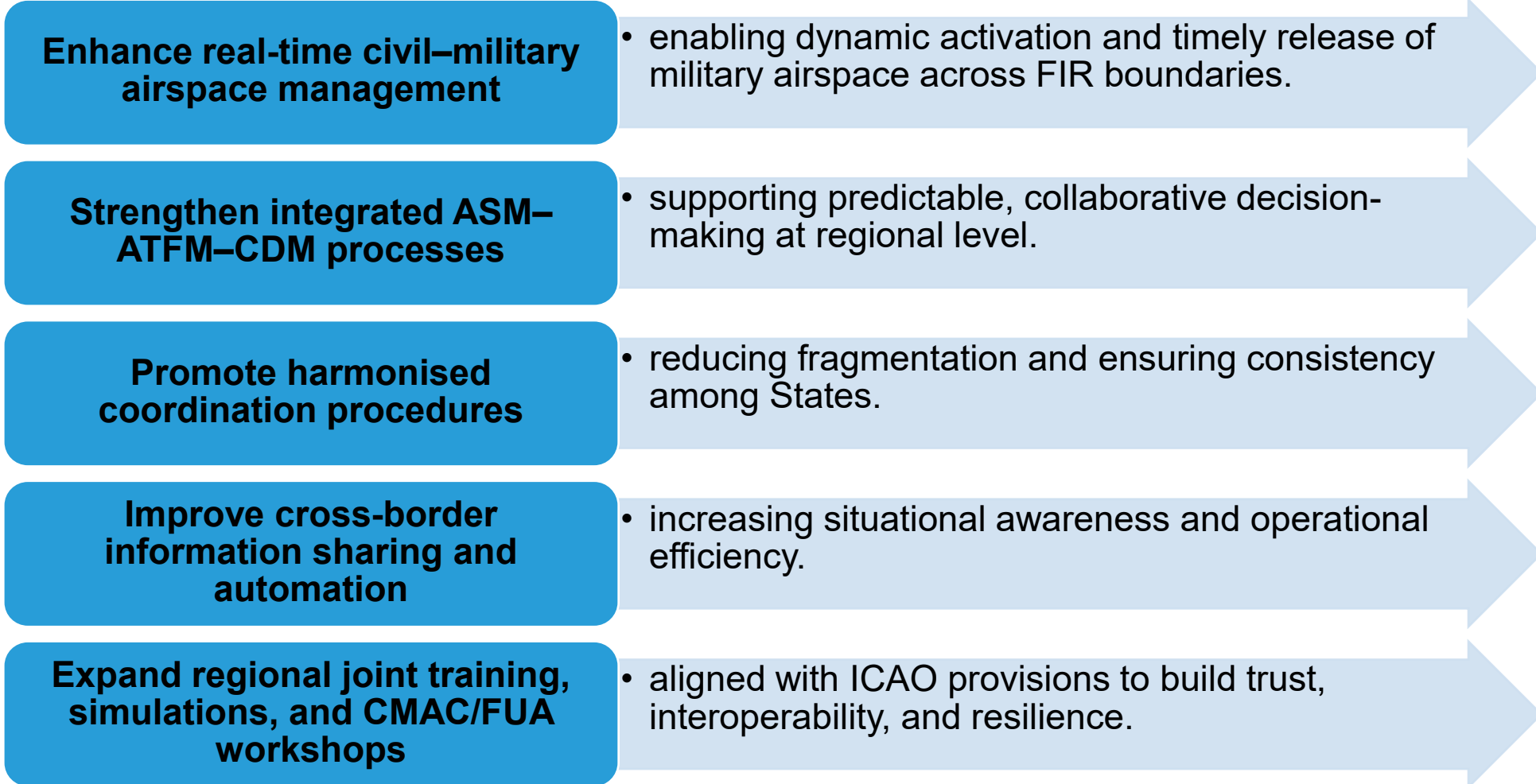
System Integration

Alignment of civil–military ATS / ASM / ATFM tools

FUA Flexibility

Ability to dynamically activate, release, or vertically share airspace

Proposed Areas for Improvement – Civil–Military Coordination & FUA (Asia/Pacific Region)



Airspace Structure and Area of Responsibility

- Definition of civil ATS areas and military airspace within Ujung Pandang FIR – Identification of areas affecting UPR availability (restricted, danger, and training areas)

Dynamic Management of Military Training Areas (MTAs)

- Conditional use of airspace to support UPR trajectories – Coordination for activation, deactivation, and vertical limits of MTAs

Management of Non-Standard, Non-Compliant, or Unknown Flights under UPR

- Procedures for identifying deviations from preferred routes – Coordination to ensure safety and prevent misidentification in flexible routing environments

Civil–Military Coordination Mechanisms Supporting UPR

- Real-time coordination between ATS and Air Defense authorities – Role of MCC in enabling flexible route usage while maintaining security.

Exchange of Surveillance and Operational Data for Trajectory Management

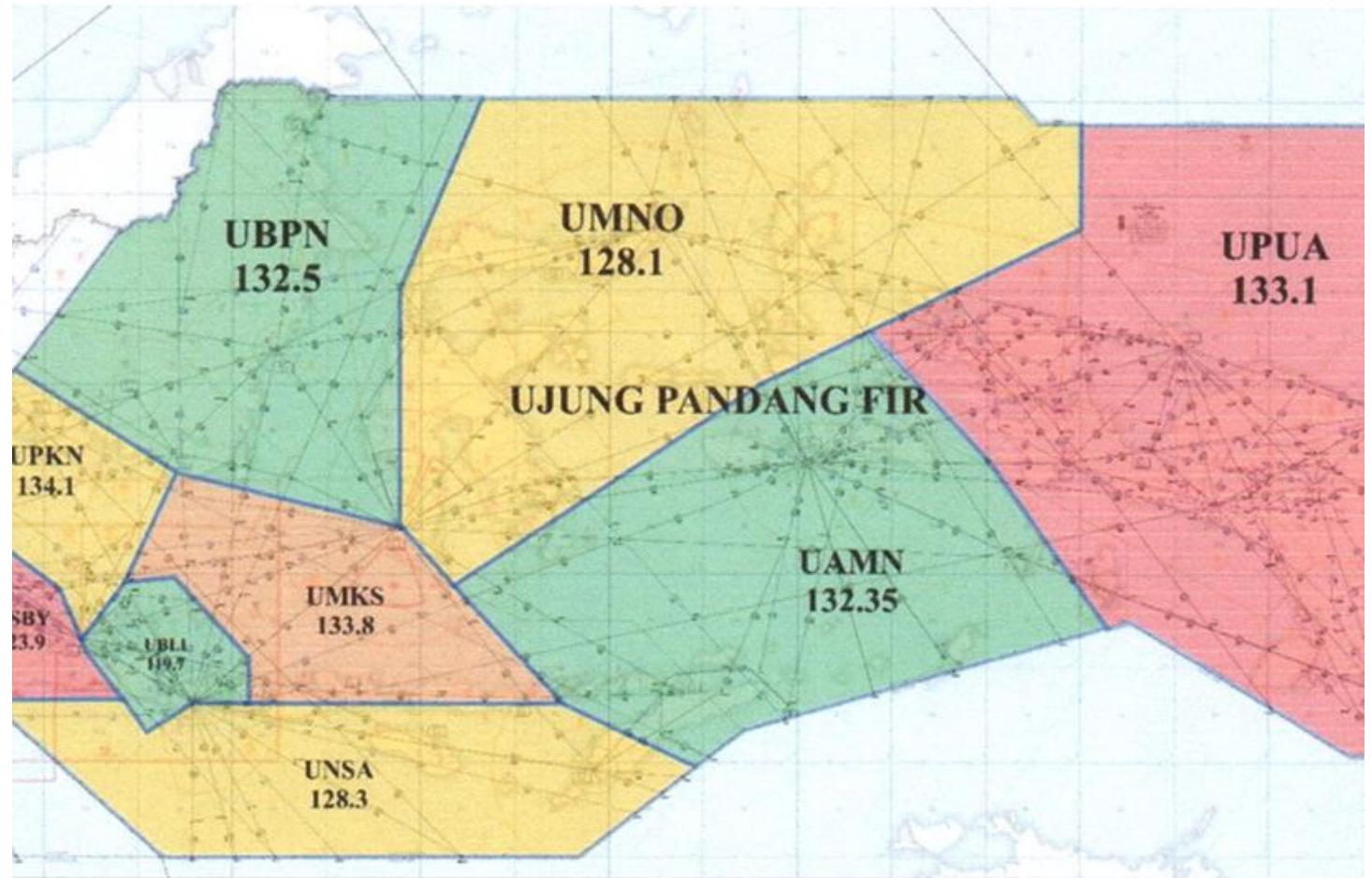
- Sharing of flight, radar, and operational data to support UPR planning and monitoring – Enhanced situational awareness for conflict detection and resolution.

Contingency, Interception, and Safety Assurance in a UPR Environment

- ICAO-compliant interception coordination without disrupting UPR traffic flows – Handling of emergencies, diversions, and special operations within UPR airspace

Scope of
Airspace and
Area of
Responsibility

UJUNG PANDANG FIR



Boundaries

KOSEK II Makassar

- Responsible for the western and central portion of Ujung Pandang FIR
- Covers Sulawesi, Kalimantan, and western FIR sectors

KOSEK III Biak

- Responsible for eastern portion of Ujung Pandang FIR
- Covers Maluku, Papua, and eastern FIR sectors

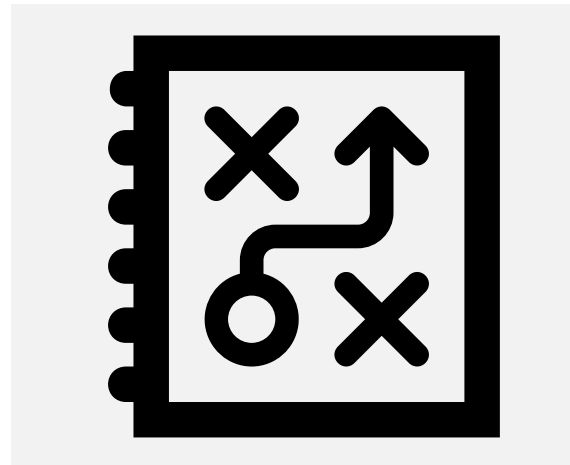
02
Civil–Military
Coordination
Mechanisms
Supporting
UPR



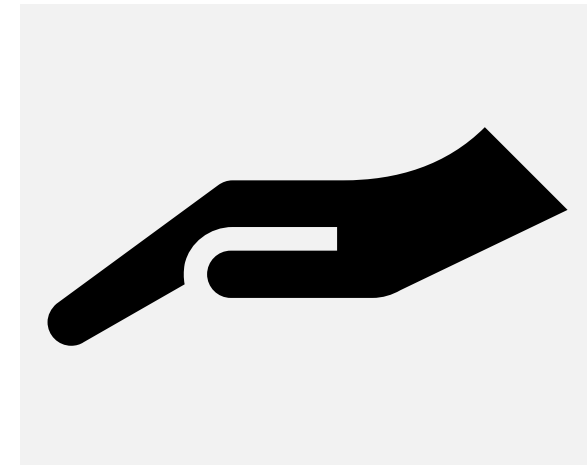
Civil–Military Coordination (ICAO Doc 10088)



Civil ATS and Military Authorities **share responsibility** for safe airspace use.



Coordination supports **flexible operation**, including UPR



Ensures **safety, security, and sovereignty**

Civil–Military Coordination Function (MCC)



Formal coordination interface

Between Civil ATS units and Military Authorities.



Facilitates timely

Exchange of operational, flight, and surveillance information.



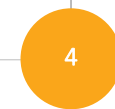
Support

Flexible Use of Airspace (FUA), including UPR operations.



Coordination and conflict prevention

Enables early coordination and conflict prevention while maintaining safety and security.



Enabling UPR through Coordination

Operational Coordination



Early coordination for non-standard and flexible UPR trajectories.



Timely clarification of aircraft intent and routing.



Proactive management of potential civil-military conflicts

Safety and Efficiency Outcomes



Prevents misidentification of legitimate civil flights.



Avoids unnecessary airspace restrictions or intervention.

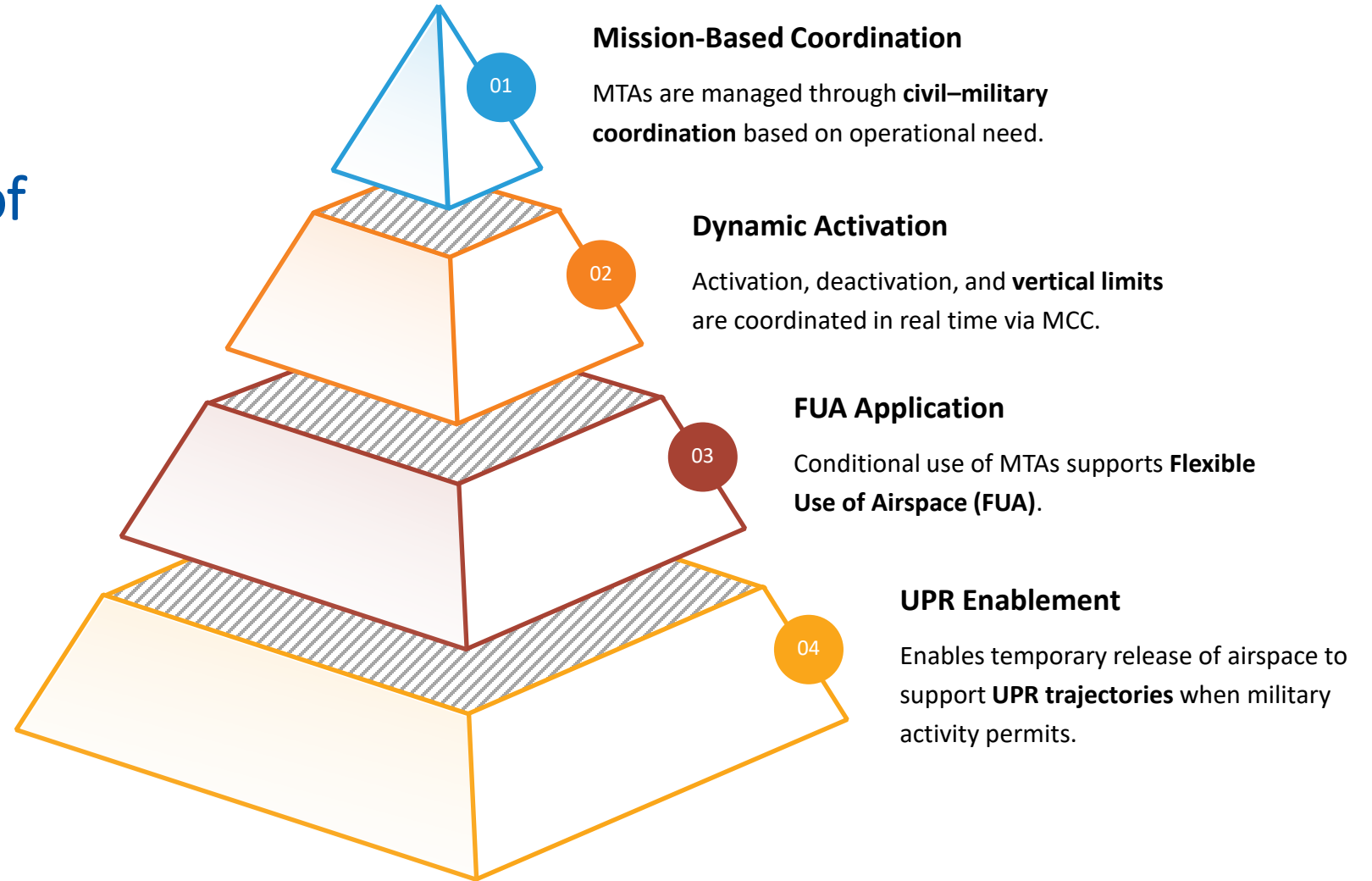


Supports safe, efficient, and sustainable UPR implementation.

03
Dynamic
Management
of Military
Training
Areas (MTAs)

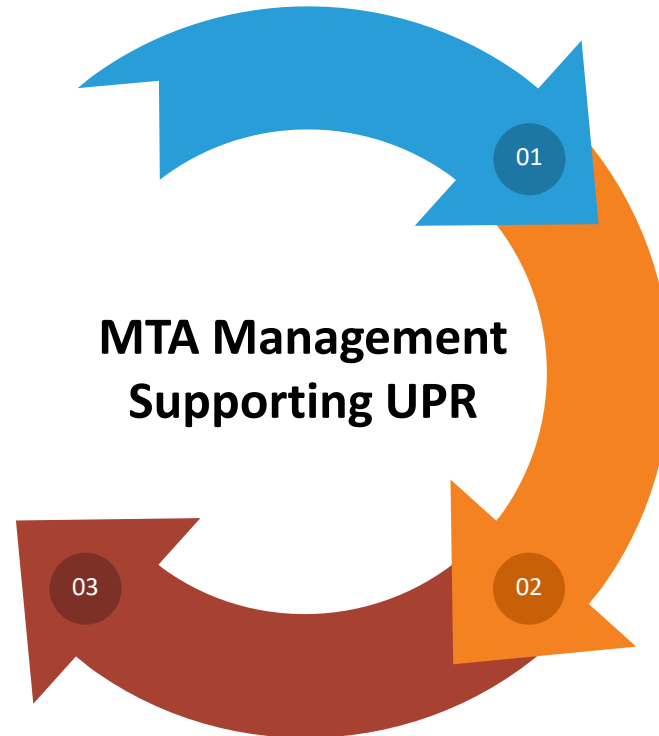


Dynamic Management of MTAs (CMAC Perspective)



03. Operational Outcome

- Civil aircraft operate on preferred trajectories with minimal deviation.
- Military training conducted safely without interruption.
- Airspace efficiency improved while maintaining safety and security.



01. Operational Situation

- UPR traffic planned through airspace adjacent to an active MTA.
- Military activity limited to specific time and altitude.

02. Coordination Action

- MCC coordinates **partial activation** of the MTA (limited vertical block).
- Remaining airspace released for civil traffic.

Data Exchange Framework (LOCA-Based)

Aligned with ICAO Doc 10088 – Exchange of operational and surveillance information to support flexible use of airspace and trajectory-based operations.



LOCA establishes exchange of surveillance and operational data between ATS and Air Defense authorities



Civil ATS provides flight plans, trajectory intent, and ATS operational data

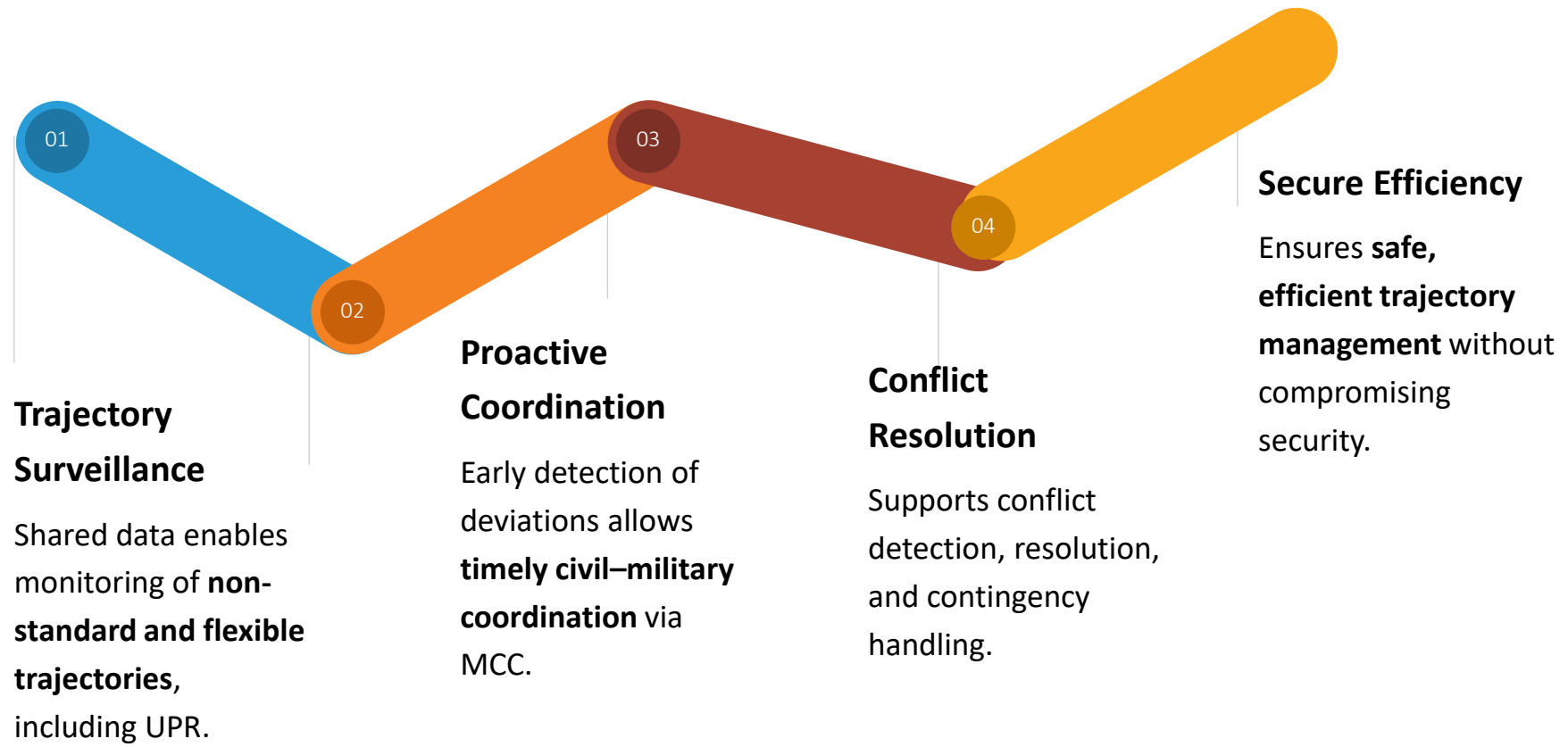


Military authorities provide surveillance information and airspace security status



Data exchange support shared situational awareness within Ujung Pandang FIR

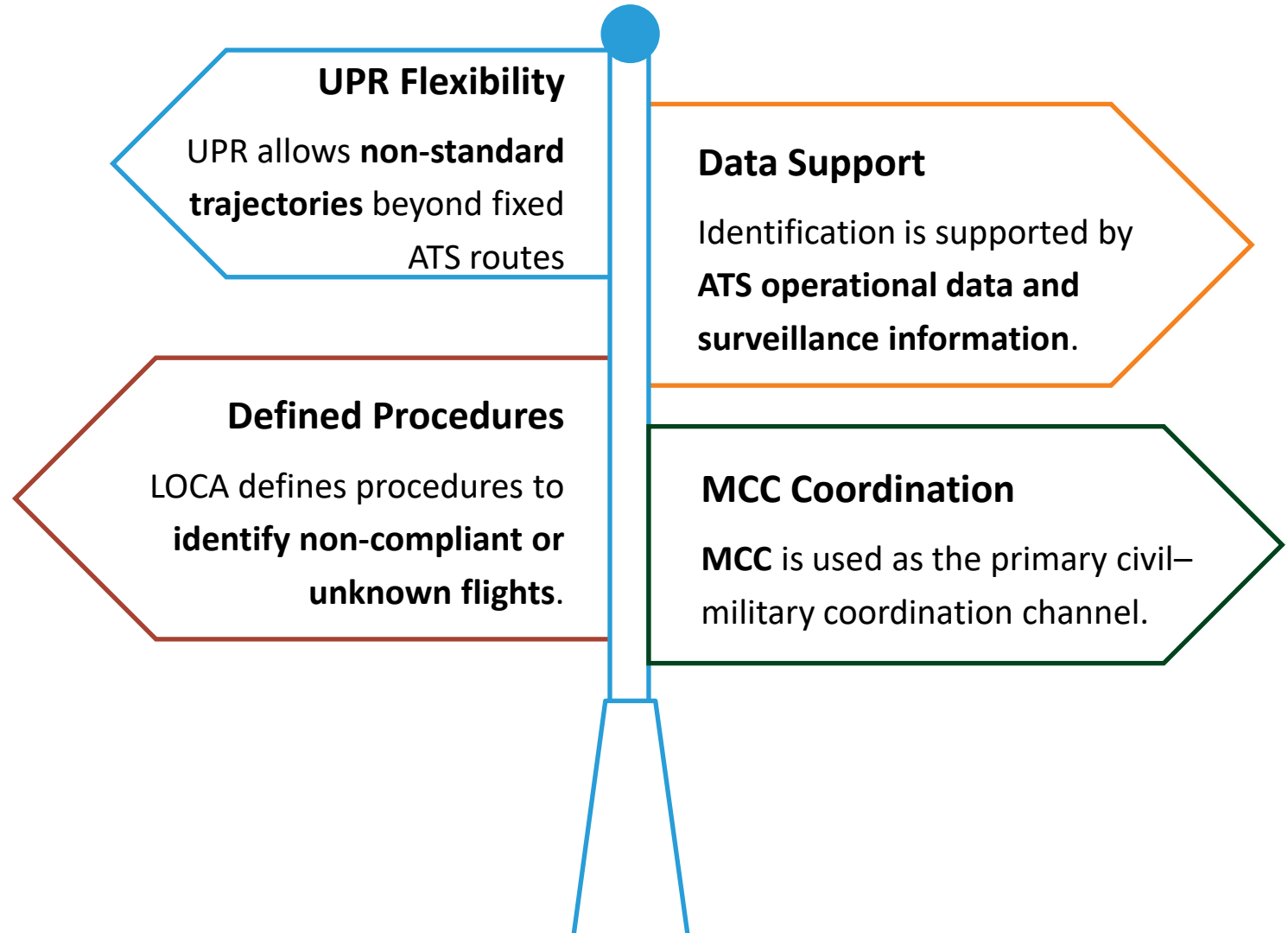
Supporting Trajectory Management and UPR



05
 Management
 of Non-
 Standard,
 Non-
 Compliant, or
 Unknown
 Flights under
 UPR



Identification and Coordination



Procedure of Aircraft without Flight Clearance

Identification of Aircraft without Flight Clearance

ATS verifies **Flight Clearance status** through flight plan and operational data.

Aircraft without valid Flight Clearance are identified as **non-compliant**.

ATS immediately coordinates with the **Military Authority via MCC**.

Aircraft identity, position, route, and intent are jointly assessed

Routing Restriction: Archipelagic Sea Lanes (ALKI)

Aircraft without Flight Clearance are **restricted to ALKI (Archipelagic Sea Lanes) routes only.**

ATS instructs the aircraft to **comply with published ALKI routing.**

Continuous ATS and military monitoring is maintained via MCC.

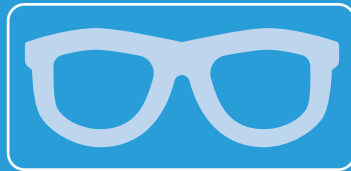
Enforcement actions are **not required** if the aircraft complies with ATS instructions.

Procedure from LOCA: Weather Deviation into Restricted Area / Military Training Area

1. Detection and Coordination (LOCA-Based)



ATS identifies **weather deviation** leading to entry into a **Restricted Area or MTA**.



Safety of flight is assessed as the primary requirement.

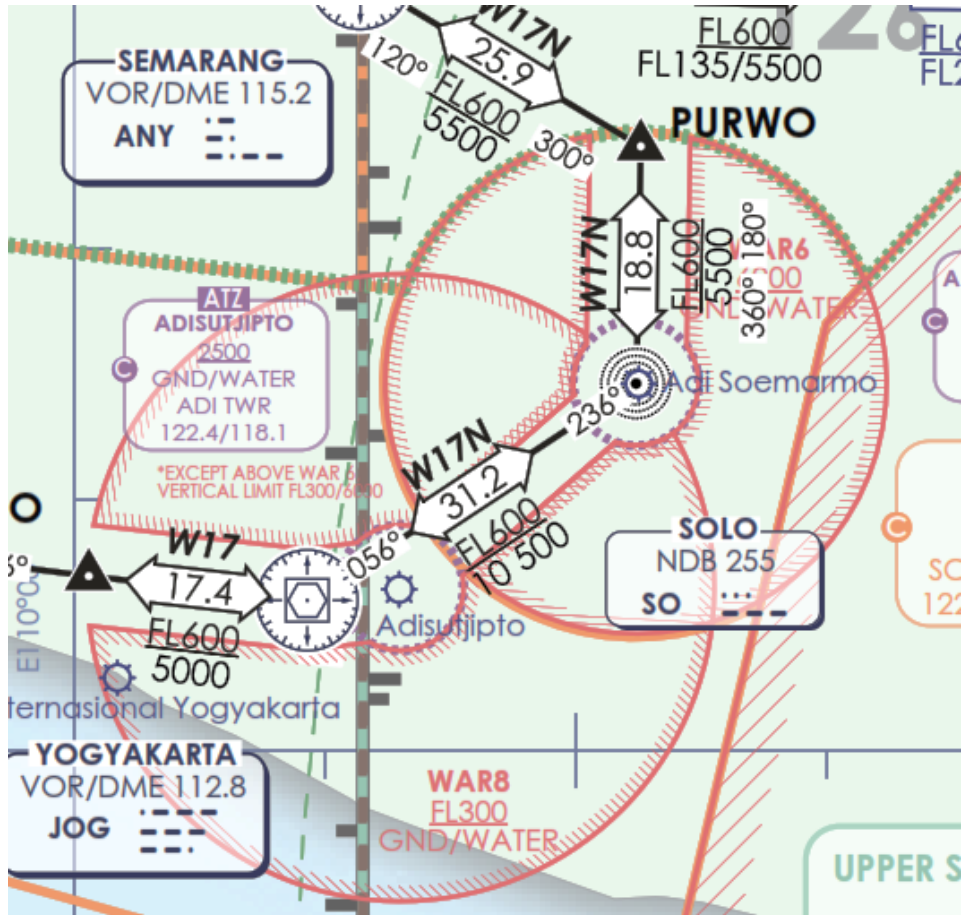


ATS initiates **real-time coordination with KOSEK** via **MCC**.

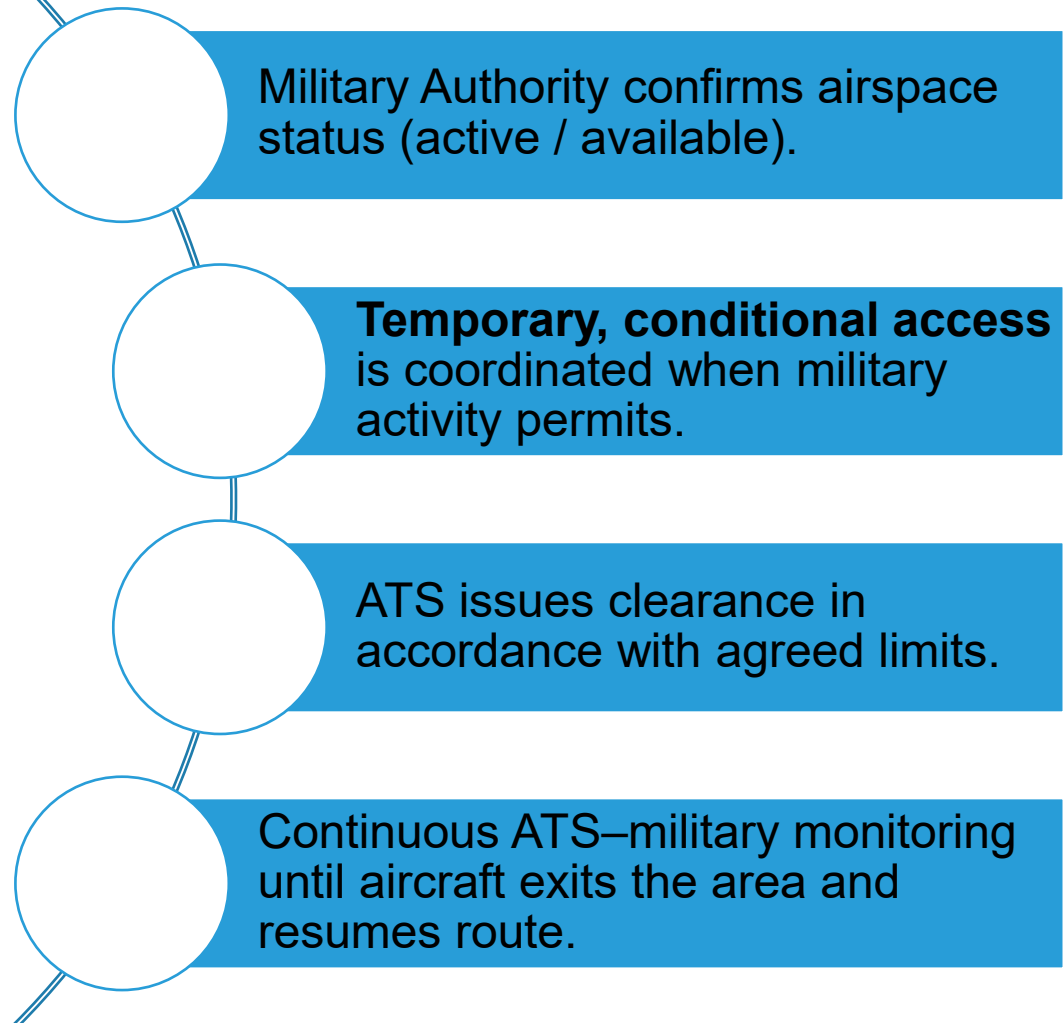


Aircraft identity, position, requested lateral/vertical limits, and duration are shared

Procedure from LOCA: Weather Deviation into Restricted Area / Military Training Area



2. Conditional Access and Monitoring



06
Contingency,
Interception,
and Safety
Assurance in
a UPR
Environment



Illustration only

Contingency Handling in a UPR Environment

LOCA provides coordination mechanisms for contingencies such as:

loss of communication,

navigation deviations,

weather avoidance.

UPR allows **flexible and non-standard trajectories**, increasing the need for clear contingency procedures.

ATS initiates **early coordination with Military Authority via MCC** to clarify aircraft status and intent.

Interception Coordination (Last Resort)

LOCA requires interception coordination to be:

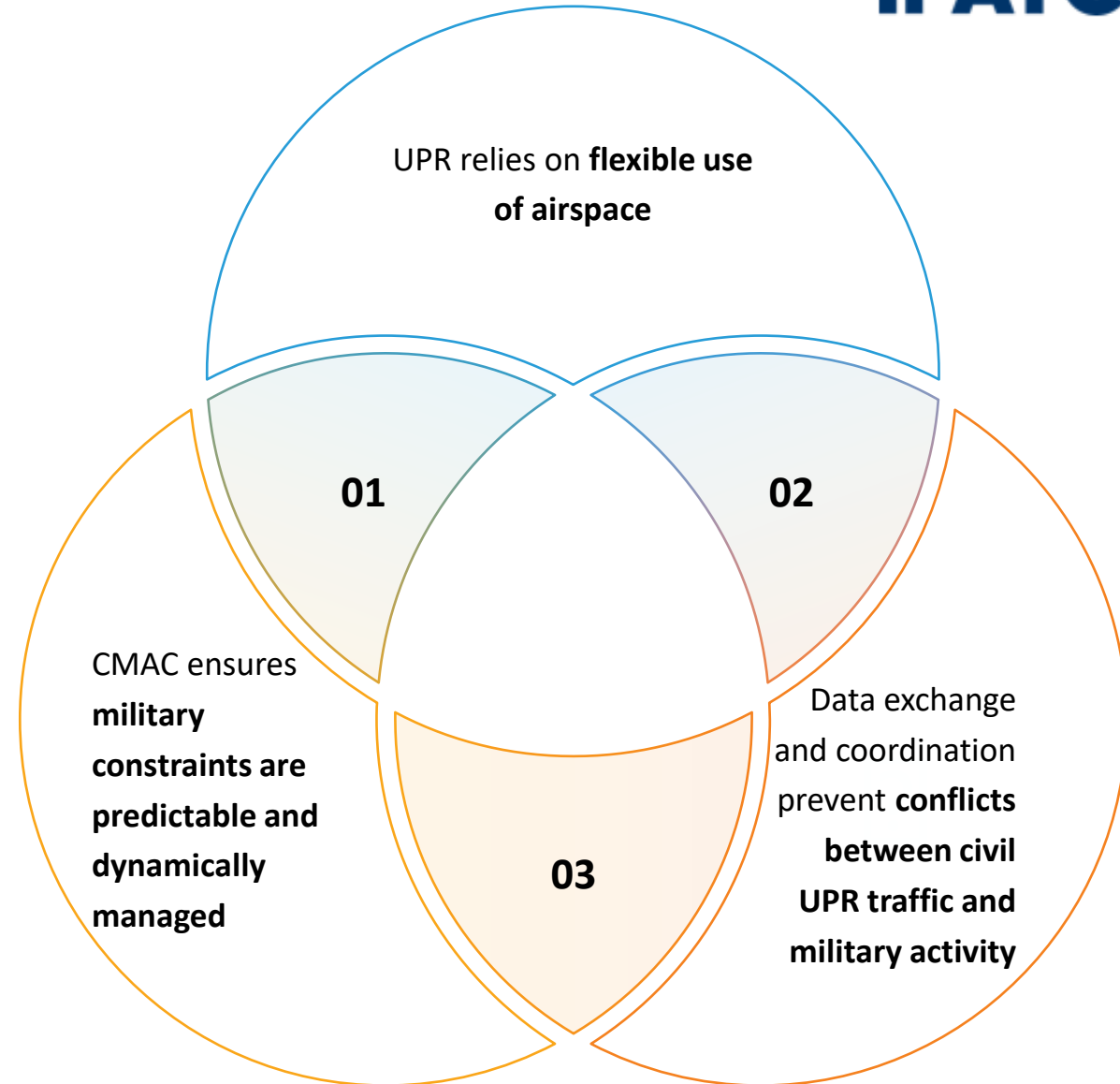
- jointly assessed by
ATS and Military
Authority,
- supported by
flight and
surveillance data.

Interception is conducted **only when required** for airspace security and sovereignty.

ATS provides operational support during interception in accordance with:

- ICAO
Annex 2,
- ICAO Doc
4444.

Why this fits UPR Implementation



Thank You

