Civil-Military ATM Coordination

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EUROCONTROL/DECMA/CMC/ARD

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Civil-Military ATM Coordination
Who is the Military

Who is 'the Military'

Roles and Responsibilities in European ATM

- ✓ Governmental Regulator
- ✓ Service Provider ATS/ATM
- ✓ Military Aircraft Operator
- ✓ Airspace User
- ✓ National Air Defence Organisation
- ✓ Military Certification Agency

Who is 'the Military'

The biggest Airline in Europe

→ 150 main military airfields

→ 3.300 combat aircraft

→ 1.100 transport type aircraft

→ 7.300 helicopters and light aircraft

→ 2% of GAT flights: 189.582 flights (2007)

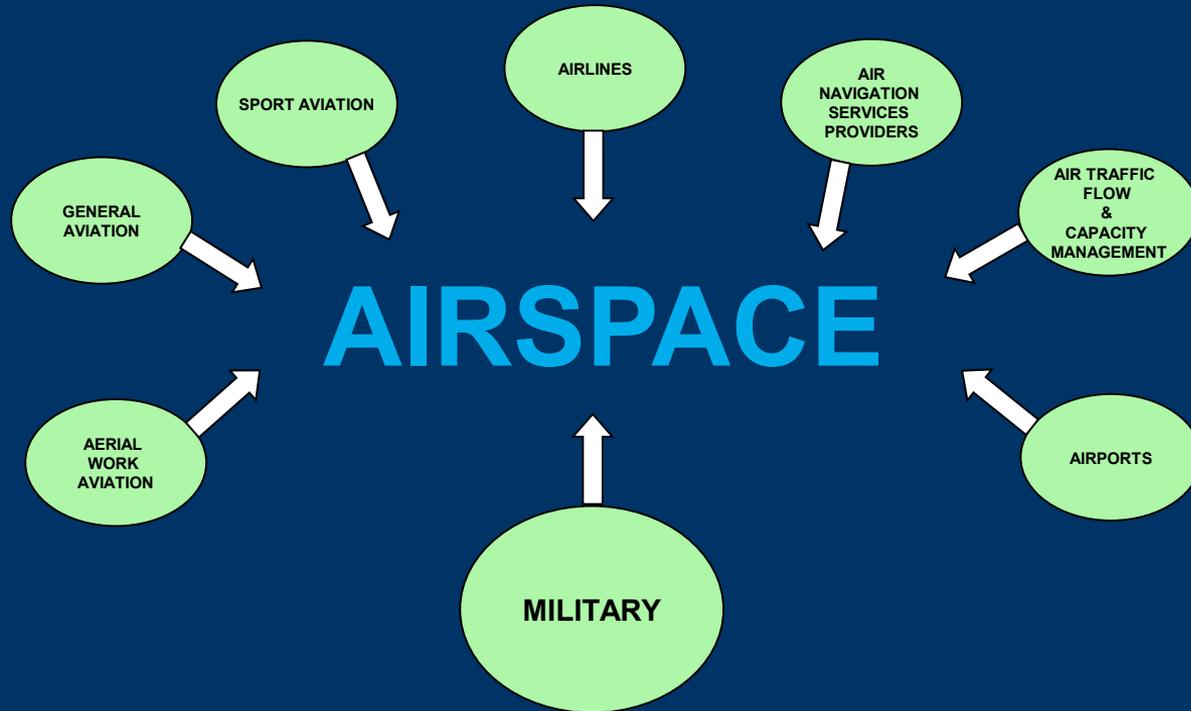→ 2.800.000 OAT (IFR+VFR) flights (2007)

What does 'the Military'
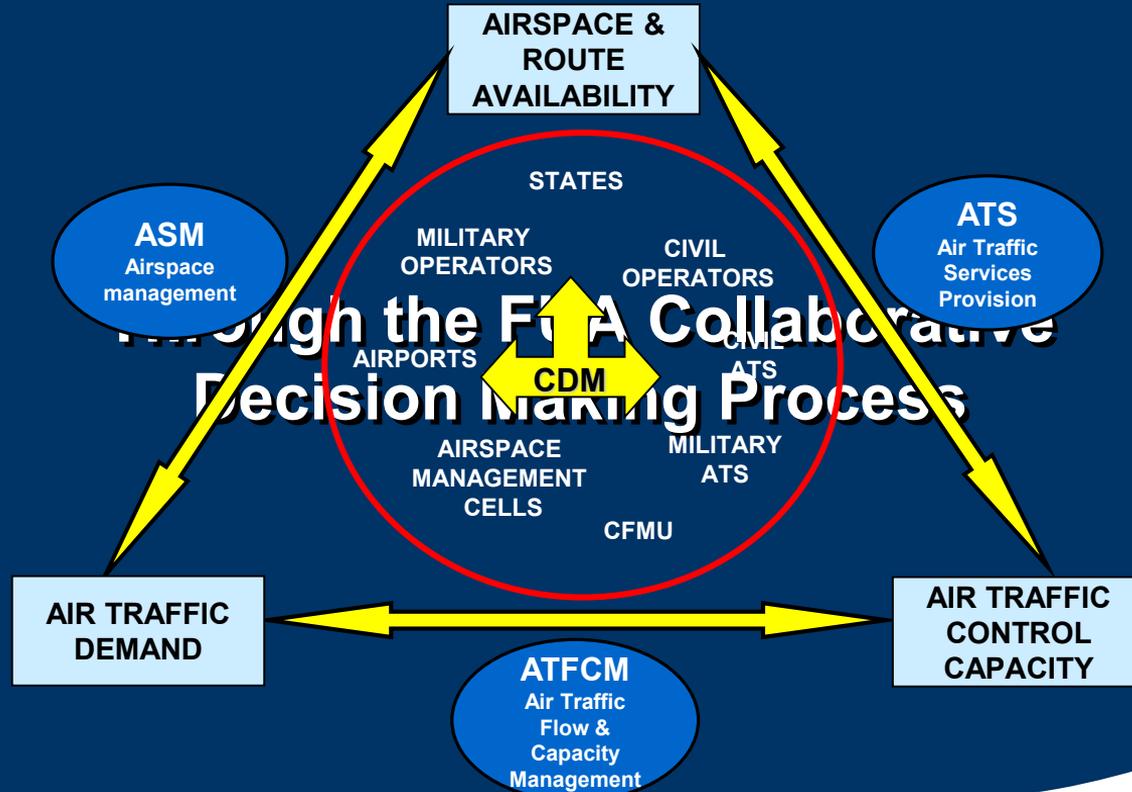
National and International Security and Defence

- ✓ **Training to be "fit for purpose"**
- ✓ **Exercises to be "fit for purpose"**
- ✓ **(Inter)National Airspace Security**
- ✓ **Aerial Surveillance**
- ✓ **Air Policing**
- ✓ **Life Operations**

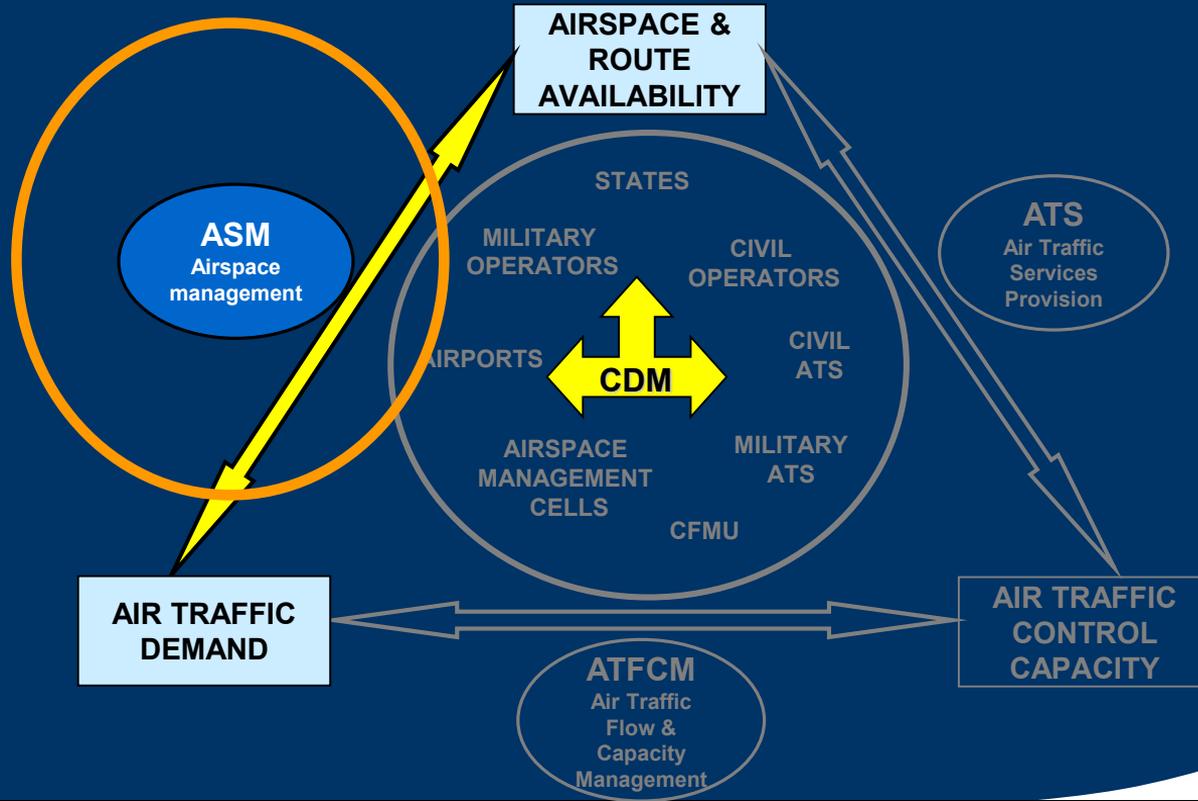# Who are the stakeholders in the European Airspace Network?

SPORT AVIATION

AIRLINES

AIR NAVIGATION SERVICES PROVIDERS

GENERAL AVIATION

AIR TRAFFIC FLOW & CAPACITY MANAGEMENT

AIRSPACE

AERIAL WORK AVIATION

AIRPORTS

MILITARY

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How to satisfy all the stakeholders requirements?

- AIRSPACE & ROUTE AVAILABILITY
- ASM — Airspace management
- STATES
- MILITARY OPERATORS
- CIVIL OPERATORS
- AIRPORTS
- CDM
- CIVIL ATS
- AIRSPACE MANAGEMENT CELLS
- MILITARY ATS
- CFMU
- ATS — Air Traffic Services Provision
- AIR TRAFFIC DEMAND
- ATFCM — Air Traffic Flow & Capacity Management
- AIR TRAFFIC CONTROL CAPACITY

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Fundamental principle of FUA

The airspace should not be designated as either pure civil or military airspace, but rather be considered as a continuum in which all user requirements have to be accommodated to the extent possible.

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How FUA is applied in practice?

Through collaborative dynamic Airspace Management

Within 3 ASM levels

ASM Level 1 — *Strategic Level*

Establishment of pre-determined airspace structures

ASM Level 2 — *Pre-tactical Level*

Day-today allocation of airspace according to users' requirements

ASM Level 3 — *Tactical Level*

Real-time use of airspace allowing a safe OAT/GAT separation

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Through civil-military coordination

ASM Level 1

Strategic Level
Definition and review of national airspace policy and organisation

High-Level Civil / Military Airspace Policy Body

ASM Level 2

Pre-tactical Level
Day-to day airspace allocation according to user requirements

Joint Civil / Military Cell (AMC)

ASM Level 3

Tactical Level
Real-time use of airspace allowing a safe separation between civil and military aircraft

Appropriate Civil / Military ATS Units

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The need for FUA system support

- ✓ **Functionalities to support for the three ASM/FUA levels**
- ✓ **To manage the processes**
- ✓ **To enable updating ASM data and making it available in real time**
- ✓ **To enable common situation awareness at all times**
- ✓ **To enable Collaborative Decision Making based on trust and the same information**
- ✓ **To enable data collection for post-operation analysis**
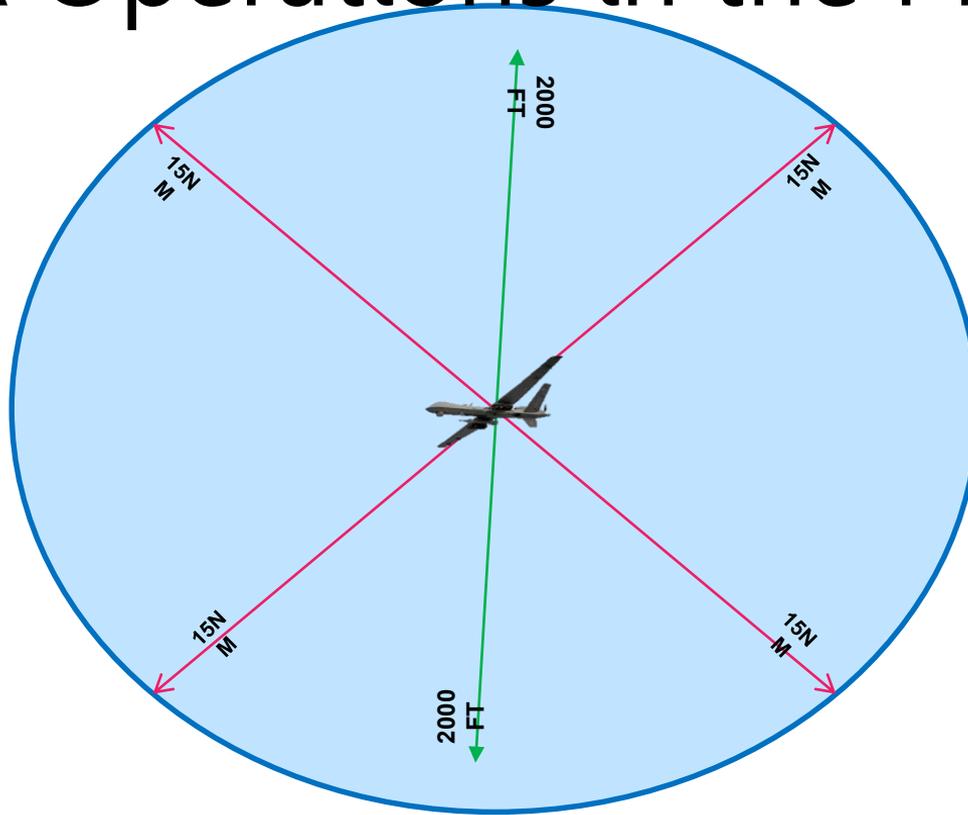- ✓ **Automation of complex and effort intensive tasks**

RPA Separation Criteria

Based on experience and best practice

RPA Operations in the Malta FIR

2000 FT

15NM

15NM

15NM

15NM

2000 FT

Moving Bubble concept

ATC Operational Issues (Malta)

- ATC Procedures address:

a. Minimum Lateral / Vertical Separation Minima;

b. Airspace / Corridors to be used;

c. Flight Planning / Notification Requests;

d. RCF / Datalink / Emergency Procedures.

ATC Operational Issues

- **ATC handling**

- ATC applies tactical activation of designated RPA corridors following notification by previous sector.

- In practice, ATC manages transit RPA as a single aircraft when identified on radar with increased separation minima

- Airspace is not segregated as long as RPA is operating as GAT and surveillance is available

- Operational concept applied is that of a MOVING BUBBLE.

ATC Operational Issues

- **ATC issues**

- Too many corridors in local ATC system –
- *operational concept is transitioning from the use of corridors to a moving bubble of airspace*

- Too many dedicated RCF / direct pilot-controller communications on local VCS especially with increase in multiple operators / units

- *ATC applies NDS procedures and increased separation minima mainly as mitigation measures*

- How does ATC distinguish between the different users / types of RPA and associated application of LoA procedures?
- *mainly by use of previously agreed call-signs*

Flight Operational Issues

- COMMUNICATION

- Time lag between controller-pilot communications

  - not compatible with medium to heavy complexity sectors

  - Time lag varies with different users / types

Flight Operational Issues

- NAVIGATION

- With some RPAs strong headwinds / crosswinds leads to continuous change in headings as far as 5NM left / right of corridor center line

- Frequent requests for lateral deviations outside assigned corridor or alternative route.