

Supporting
European
Aviation



ICAO AFI Virtual Workshop on the implementation of an effective Civil – Military Cooperation

Civil-Military Coordination & Cooperation in Europe

Michael Steinfurth

Head Civil-Military ATM Coordination Division

27 April 2021



Supporting
European
Aviation

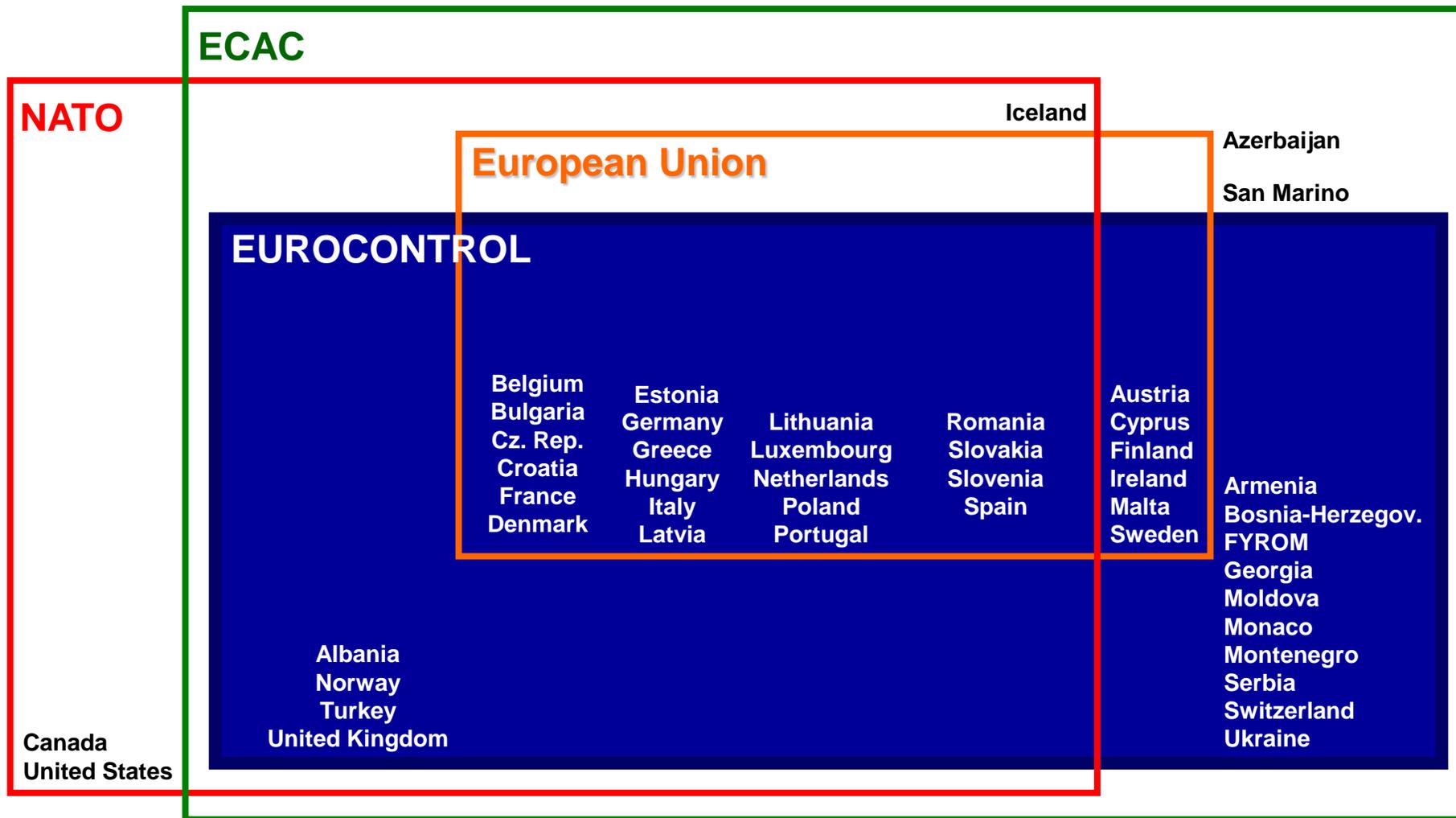


Civil-Military Coordination & Cooperation

The European Players



European/International Organisations involved in ATM



EUROCONTROL Mission



European Organisation for the Safety of Air Navigation: EUROCONTROL

To harmonise and integrate Air Navigation Services in Europe, aiming at the creation of a *uniform* Air Traffic Management System for *civil and military* users, in order to achieve the *safe, orderly, expeditious and economic* flow of traffic throughout Europe. (*Article 1 of the revised Convention*)

**European Commission Decision from
6 May 2019 on the re - nomination of
EUROCONTROL as
the Network Manager 2020-2029.**



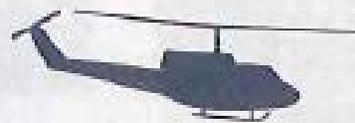
Civil-Military Coordination & Cooperation

Who is 'the Military'

Who is 'the Military'

The biggest "Airline"
in Europe

ARMED FORCES: THE BIGGEST AIRLINE IN EUROPE*



HELICOPTERS
3 733



LIGHT AIRCRAFT
1 390



LARGE AIRCRAFT
949



COMBAT AIRCRAFT
3 365

* State aircraft fleet, 44 ECAC countries including 29 Member States. Source: Eurocontrol

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**



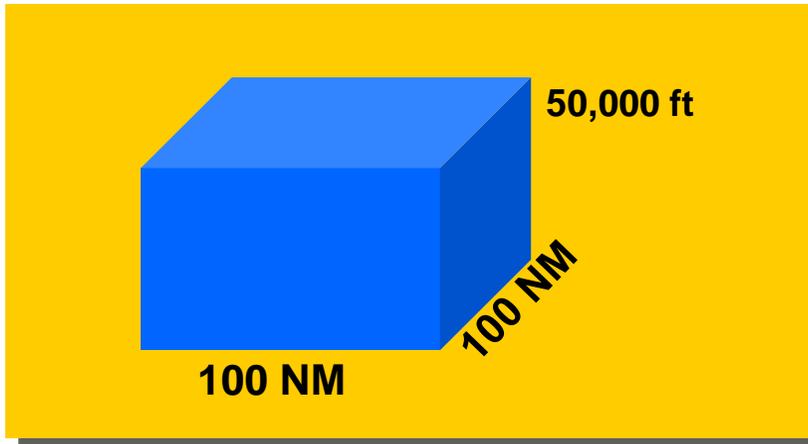
What does 'the Military'

National and International Security and Defence

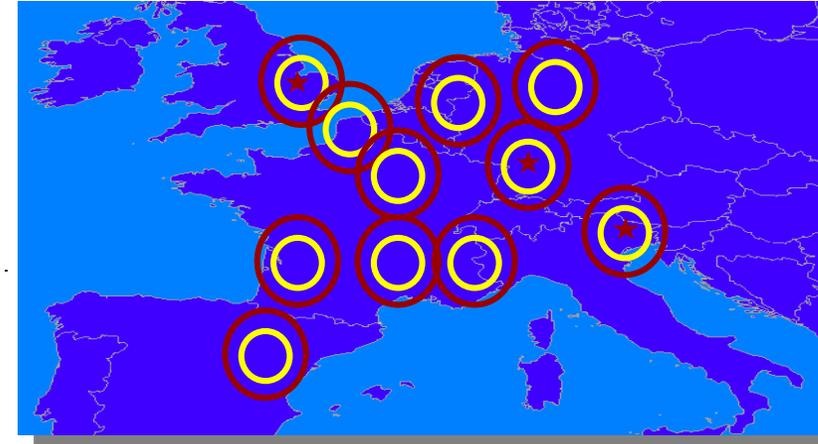


- ✓ Training to be “fit for purpose”
- ✓ Exercises to be “fit for purpose”
- ✓ (Inter)National Airspace Security
- ✓ Aerial Surveillance
- ✓ Air Policing
- ✓ Life Operations

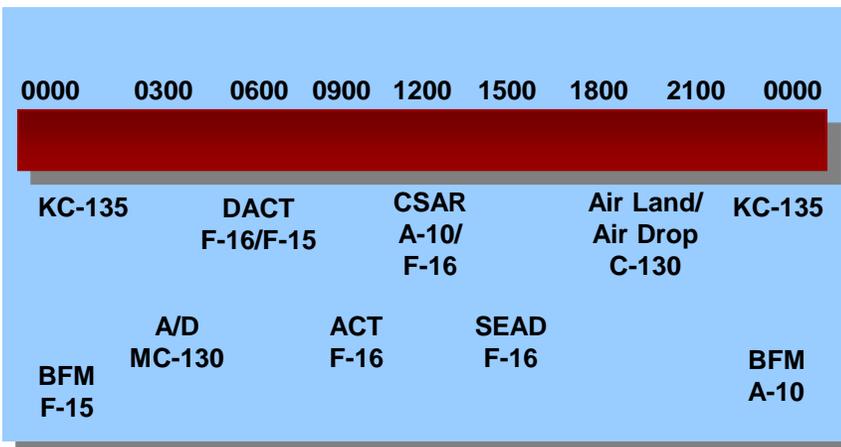
What needs 'the Military'



VOLUME



PROXIMITY



TIME



QUALITY

Civil-Military Coordination & Cooperation

Civil-Military Cooperation Principles

Civil-Military Cooperation

Creating a win-win Scenario – Strategic Principle

Civil-Military ATM Coordination is based on the fundamental Principles that Airspace

- Should not be divided in civil or military ownership
- It should be seen as a common, but limited resource in which civil and military needs must be accommodated

In other words, it requires a:

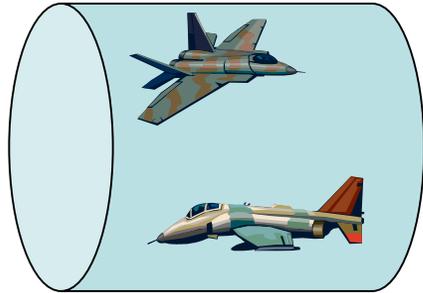
- Balanced Consideration between economic needs and Security & Defence Requirements

To achieve a win-win scenario for Civil & Military through

- Flexible Resource Sharing = Flexible Use of Airspace (FUA)

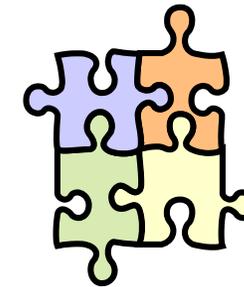
Civil-Military Cooperation

Creating a win-win Scenario – Areas of Cooperation



✈ **Flexible Use of Airspace**

✈ **Interoperability of Systems**



✈ **Collaborative Decision-making**

Enhancing Flight Efficiency, Airspace Capacity & Military Mission Effectiveness, facilitating civil & military needs in a safe and secure EATMN.

Civil-Military Coordination & Cooperation

Civil-Military Cooperation Subjects

Civil-Military Coordination & Cooperation Subjects

- **OPERATIONAL**
 - Airspace Management
 - Flexible Use of Airspace
- **TECHNICAL Systems Interoperability**
 - Communication
 - Navigation
 - Surveillance
 - Aeronautical Information
- **REGULATORY Interoperability**
 - GAT – OAT Interoperability (EUROAT)
- **SECURITY**
 - Airspace, ATM, CNS & Cyber

Supporting
European
Aviation



Civil-Military Coordination & Cooperation

ASM/FUA in Europe



History of FUA in Europe

- Based on a decision taken by ECAC Transport Ministers on 24 April 1990
- EUROCONTROL developed the FUA concept, which was introduced into the ECAC area in March 1996
- Its “Revised Convention” from 1997 tasked EUROCONTROL to efficiently organize and safely manage the airspace for civil and military users
- The FUA concept of EUROCONTROL was adopted by the EC in 2005 with Regulation (EC) No 2150/2005 laying down common rules for the flexible use of the airspace (Part of first package of SES legislation)
- Complemented with the EUROCONTROL Specification for the application of the Flexible Use of Airspace (FUA) with a latest update in 2009

Major Prerequisite: Trust building between Civil and Military

Civil-Military Cooperation

Creating a win-win Scenario – The European FUA Example

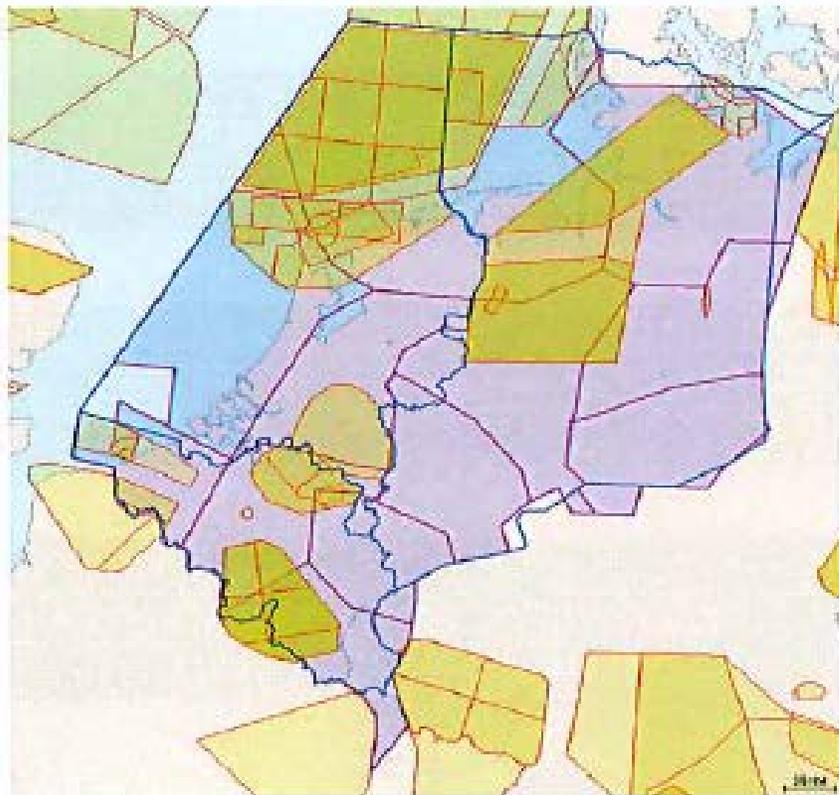


- FUA concept
 - described by ICAO
 - developed by EUROCONTROL
- In the EU regulated by
 - Commission Regulation No 2150/2005 - FUA
- EUROCONTROL contributes to FUA with
 - Guidance Material
 - Technical Enablers
 - facilitating FUA in the EATMN
 - R&D on AFUA in SESAR
 - supporting ICAO in global FUA implementation

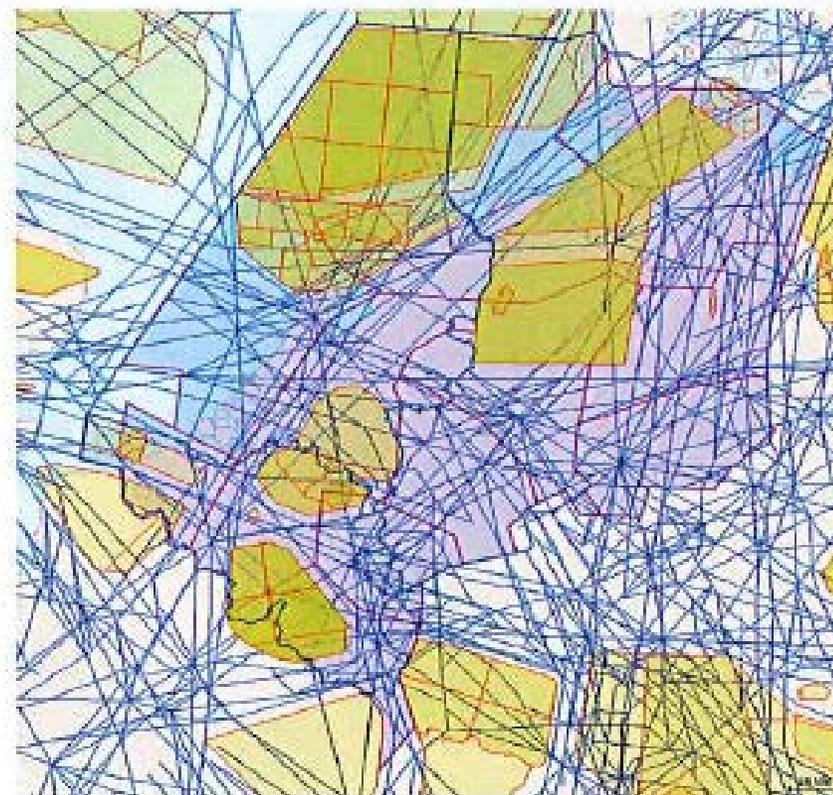
Providing Flight Efficiency, Airspace Capacity & Military Mission Effectiveness

Flexible Use of Airspace (FUA)

Military areas



ATS Route Network



Civil-Military Airspace Management / Flexible Use of Airspace

Within 3 ASM levels

Strategic Level

ASM Level 1

Establishment of pre-determined
airspace structures

Pre-tactical Level

ASM Level 2

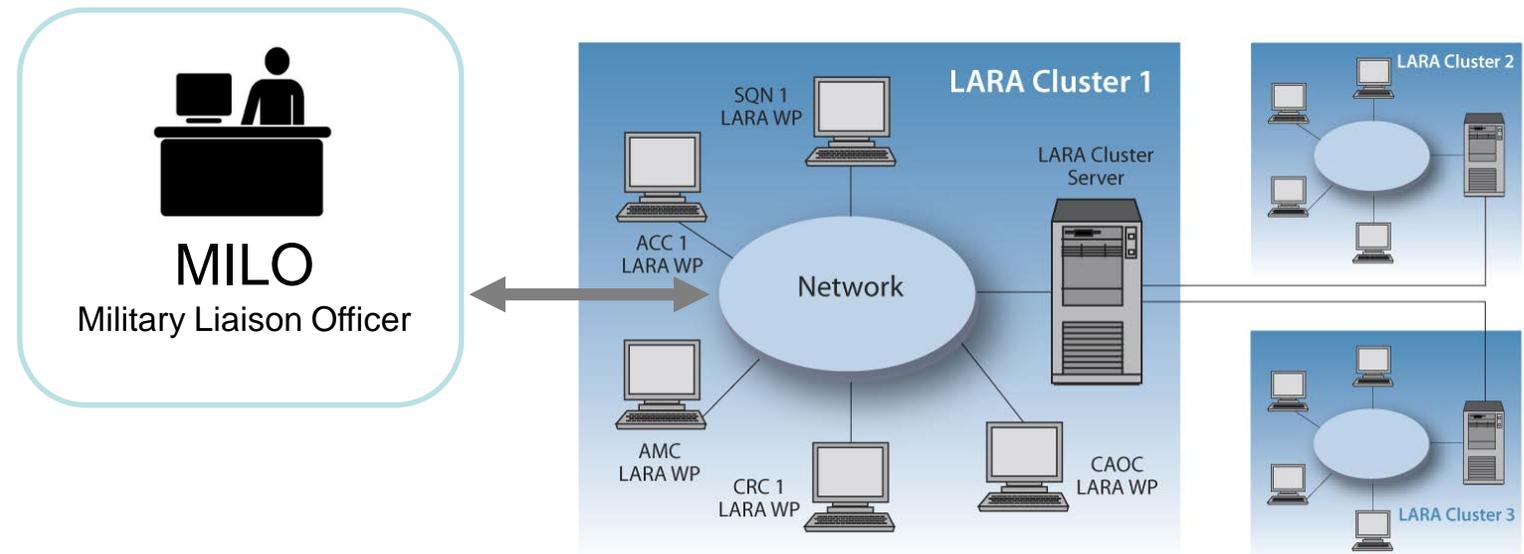
Day-to-day allocation of airspace
according to users' requirements

Tactical Level

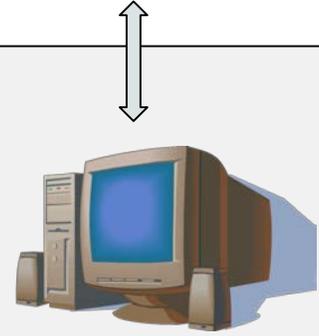
ASM Level 3

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

Airspace data sharing and collaboration



FUA Enablers



NM systems



Local ATC

AUP/UUP

LARA



Airspace Status

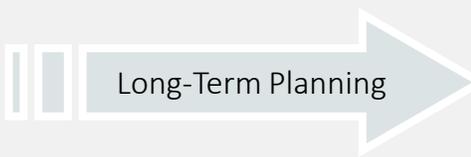
Airspace Status

CIMACT



Historical Data

PRISMIL



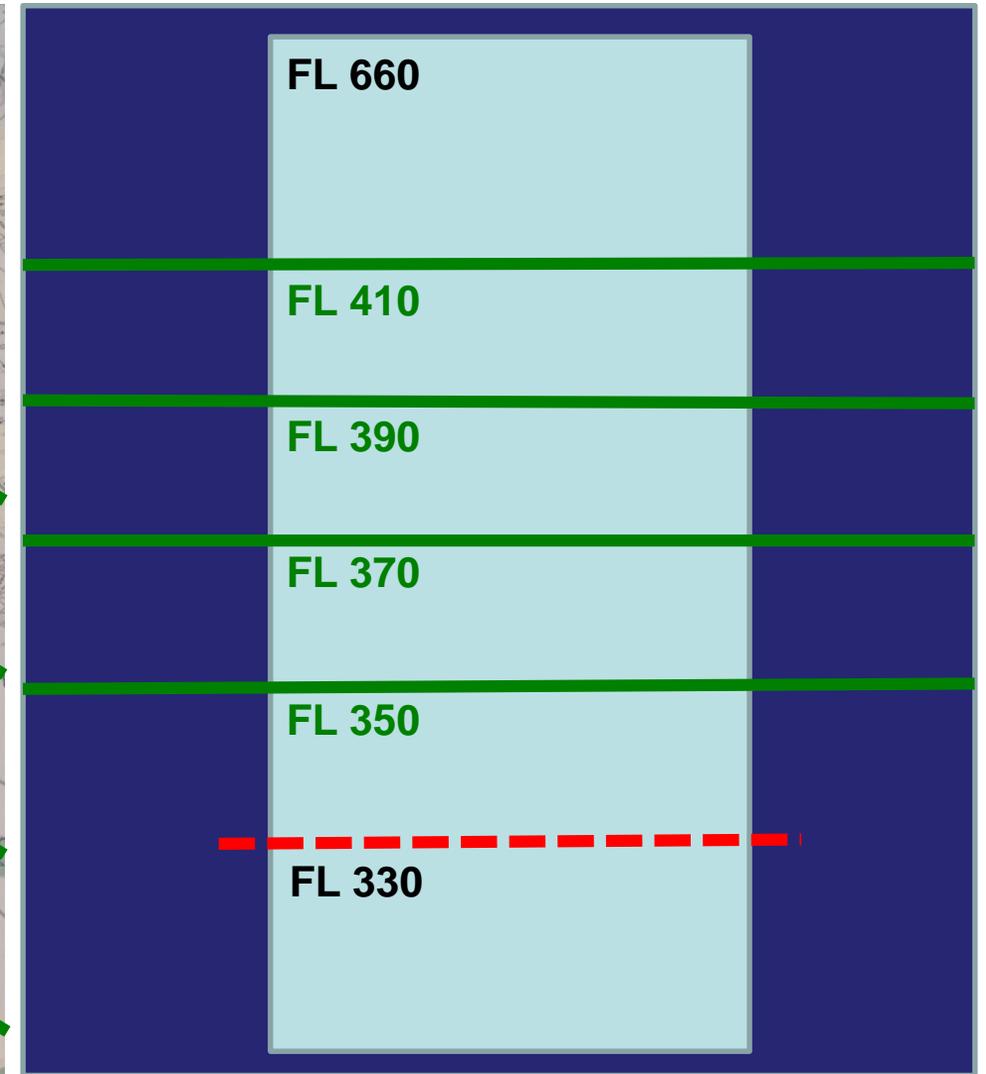
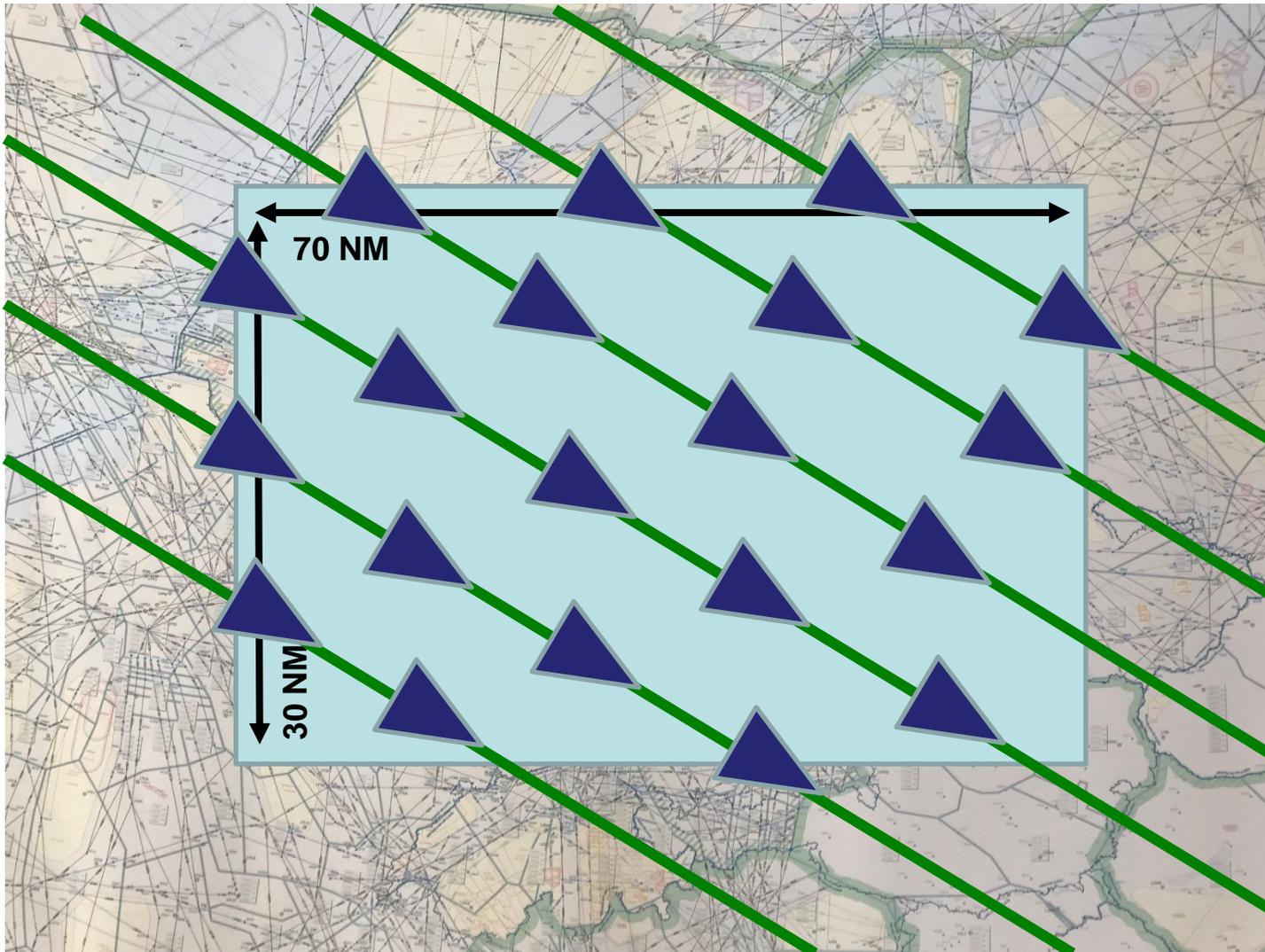
D-7

H-3

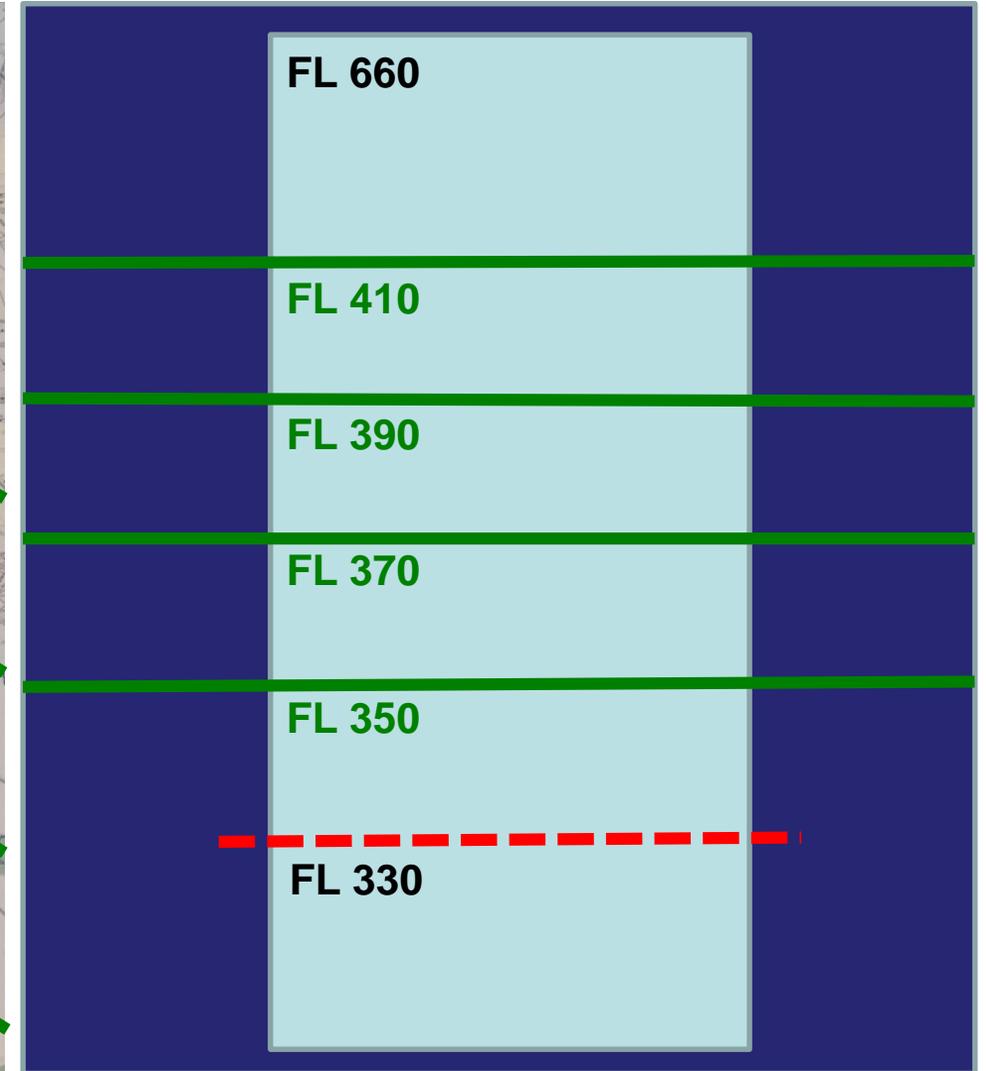
H



Challenge – facilitate future Civil Demand – Civil-Military CDM



Challenge – facilitate future Civil Demand – Civil-Military CDM



Civil-Military Cooperation

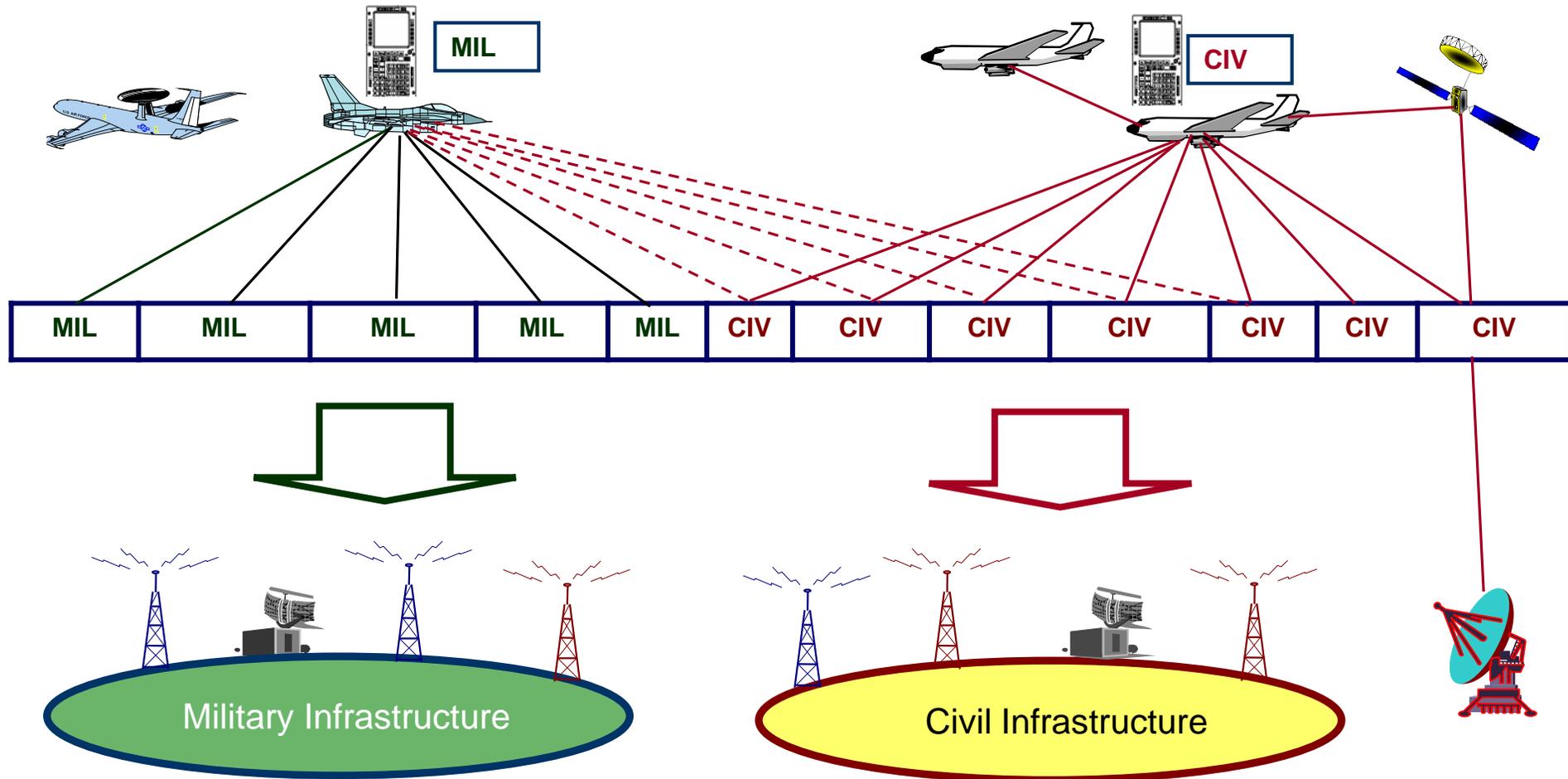
FUA provides benefits for Civil and Military

- **Flight Efficiency depends on Airspace Capacity**
- **Airspace Capacity depends on ASM/FUA and relevant enabling Systems**
- **Military Mission Effectiveness depends on Airspace Availability/Capacity as needed**
- **All together depends on well trained Staff, collaborative decision making (CDM) with TRUST & UNDERSTANDING**

Civil-Military Coordination & Cooperation

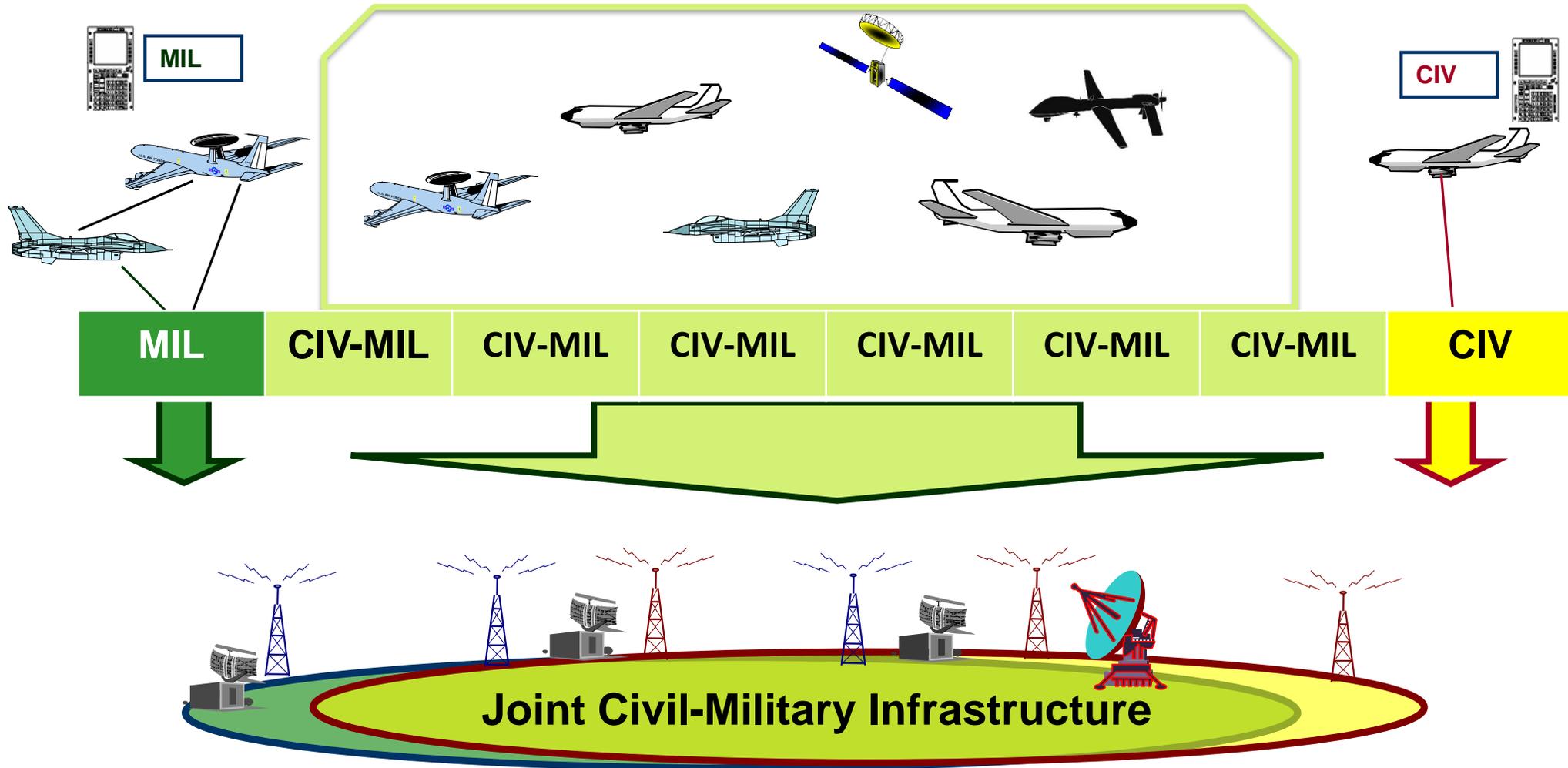
Civ-Mil Interoperability

Civil-Military CNS Interoperability today ?



Different equipage, exemptions, special handling, higher ATC workload

Civil-Military CNS Interoperability tomorrow = Max

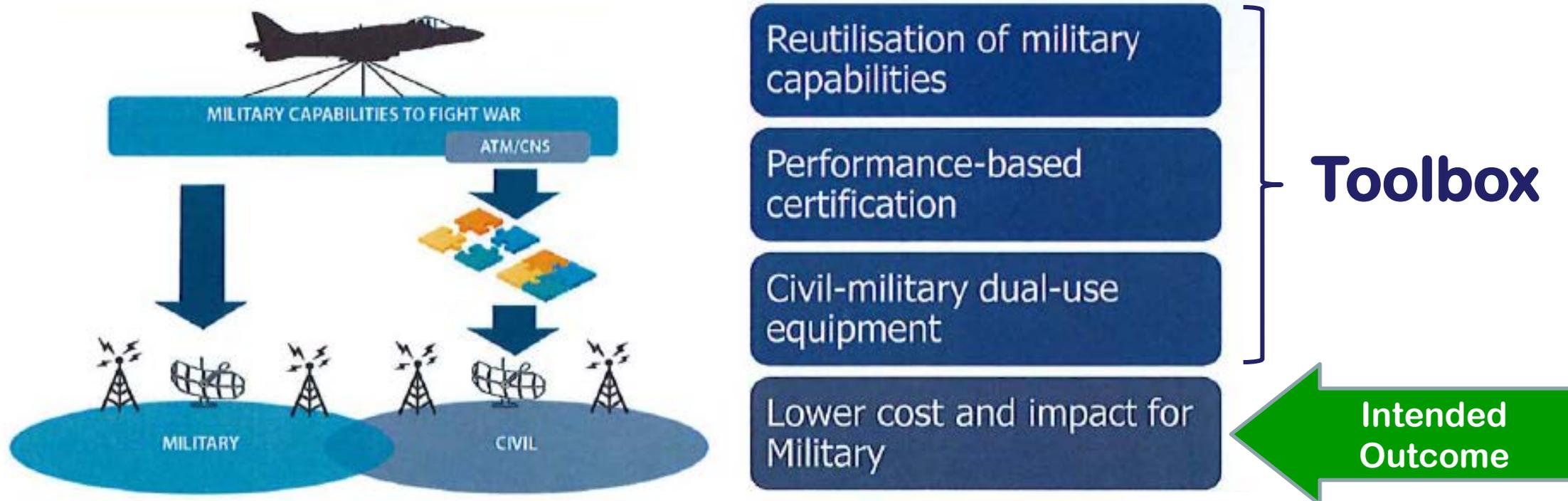


Similar equipage performance + joint infrastructure = more Capacity at reduced cost

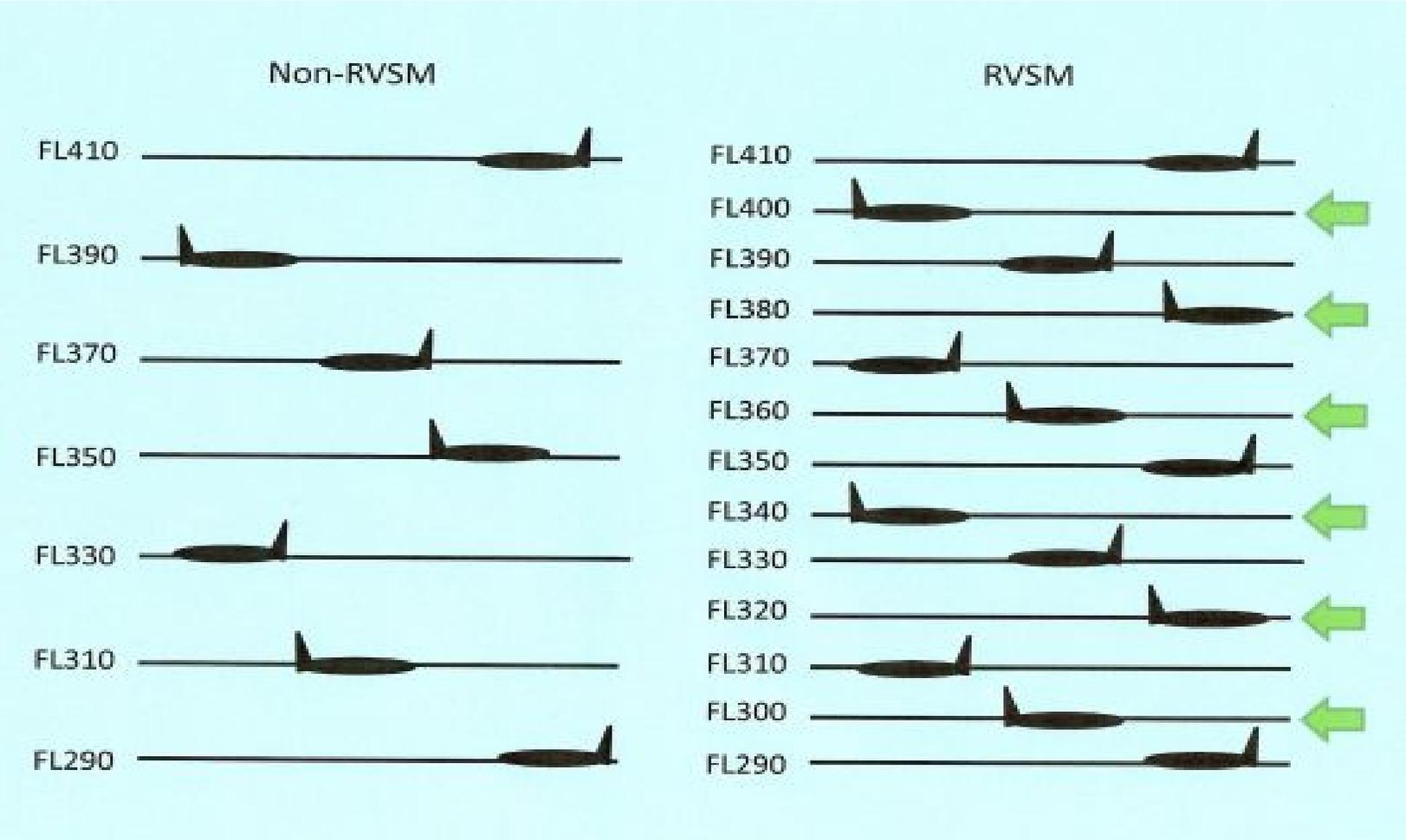
Civil-Military Cooperation

Creating a win-win Scenario – Civil-Military Interoperability

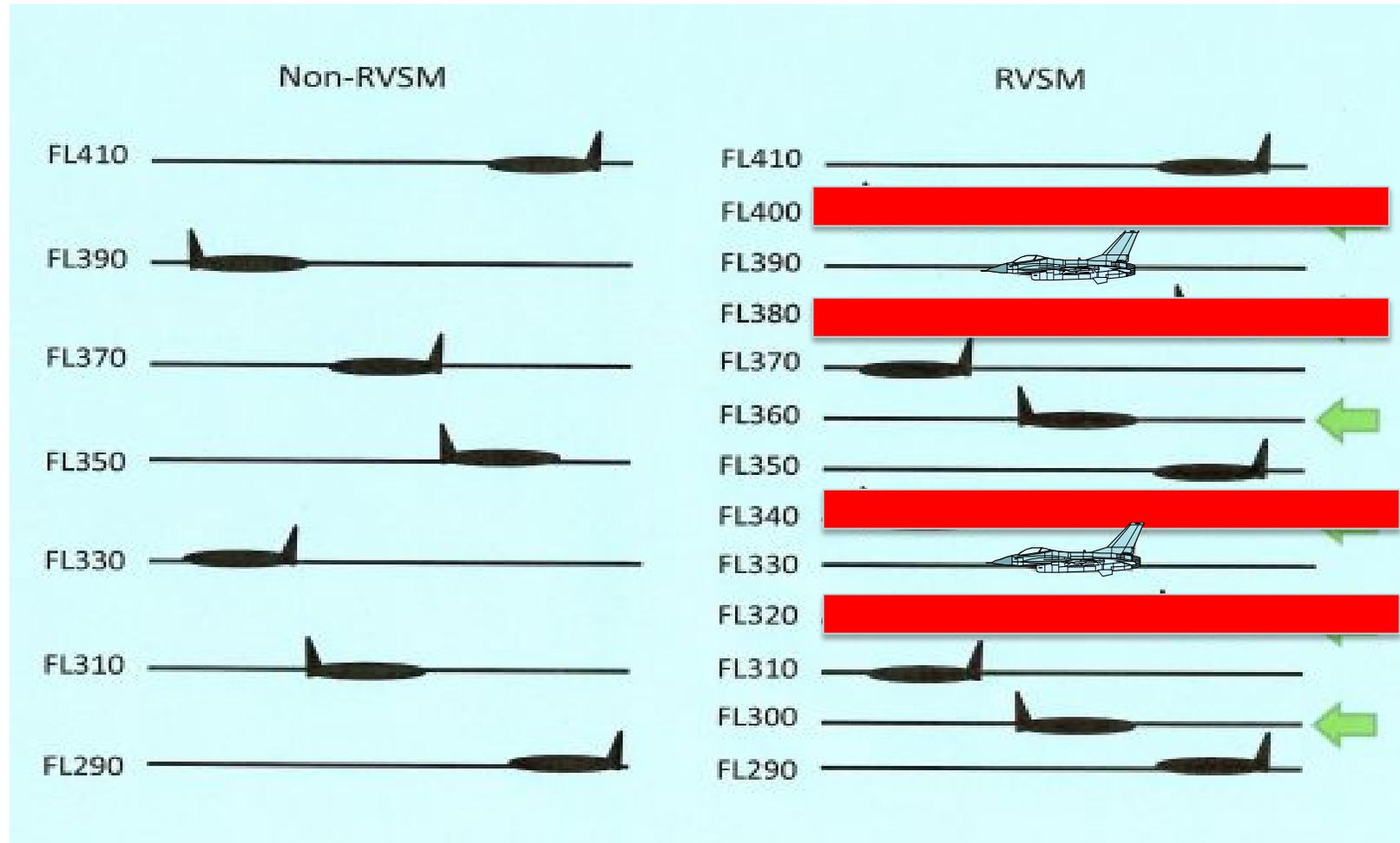
Future CNS Systems - Interoperability



Civil-Military Interoperability = Capacity Multiplier



No Civil-Military Interoperability = Capacity Divider





DECMA/CMC



Questions?