

ECHO ConOps

Overview and key elements

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The background of the slide features several large, light-gray concentric circular arcs on the left side. Overlaid on these arcs are white line-art icons: a jet fighter at the top, a hot air balloon in the middle, and a commercial airplane at the bottom.

Overview

Where do we stand

Key elements

Way forward

Where do we start from?



Complex
operational
environment



Agreed legal
framework for
managing the
European ATM
network



Capabilities to
manage large scale
exercises (including
rocket launches)

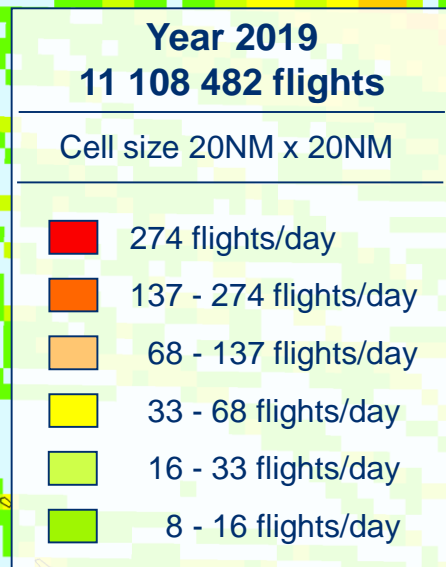


Transparent processes
to address demand
on airspace usage



Civil-military
cooperation
in ATM

EUROCONTROL NM AREA snapshot



Airspace Classification above FL660

Legend Airspace Classification

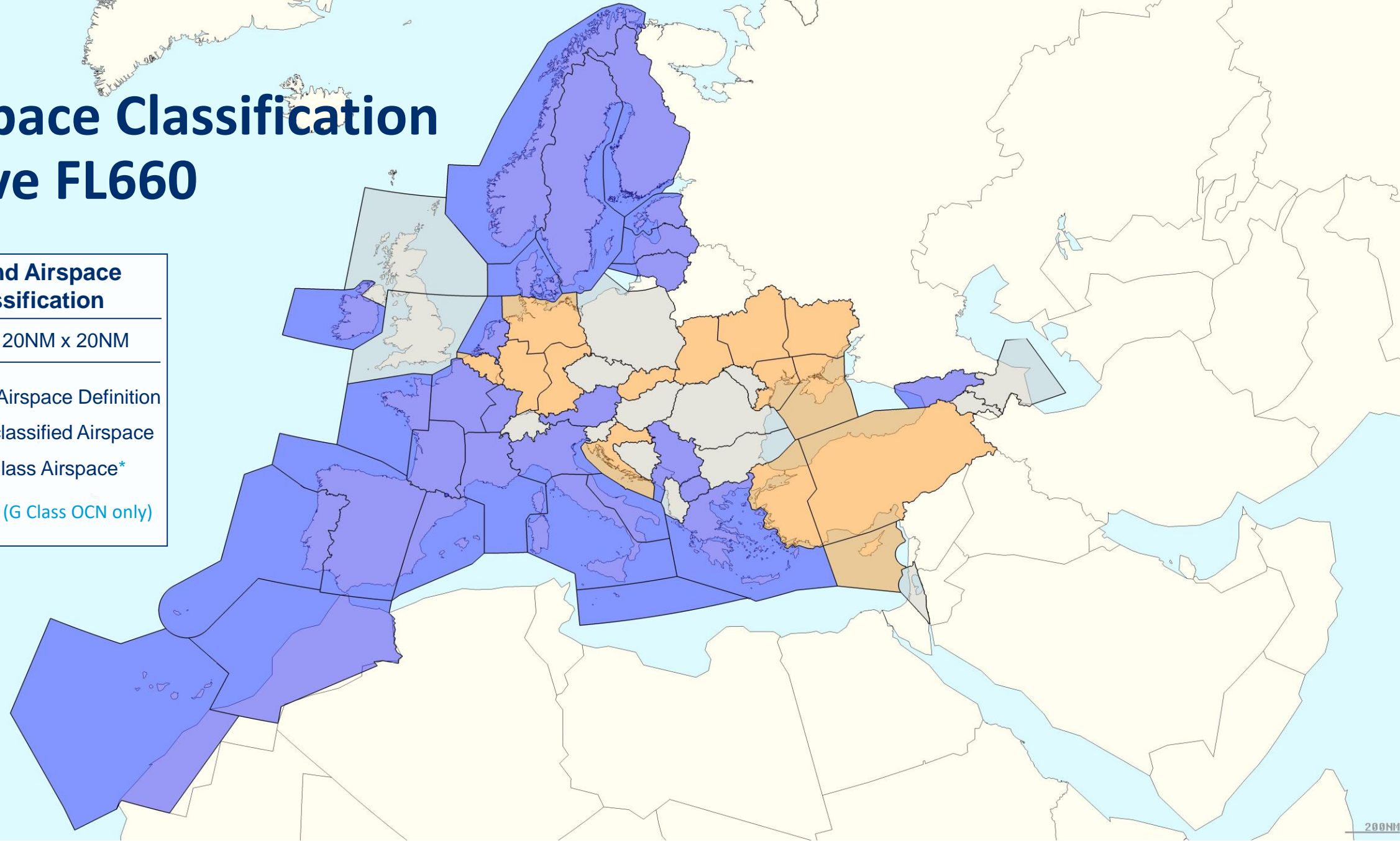
Cell size 20NM x 20NM

No Airspace Definition

Unclassified Airspace

G Class Airspace*

*Exc.: PRT (G Class OCN only)



FIR/UIR Upper Limit

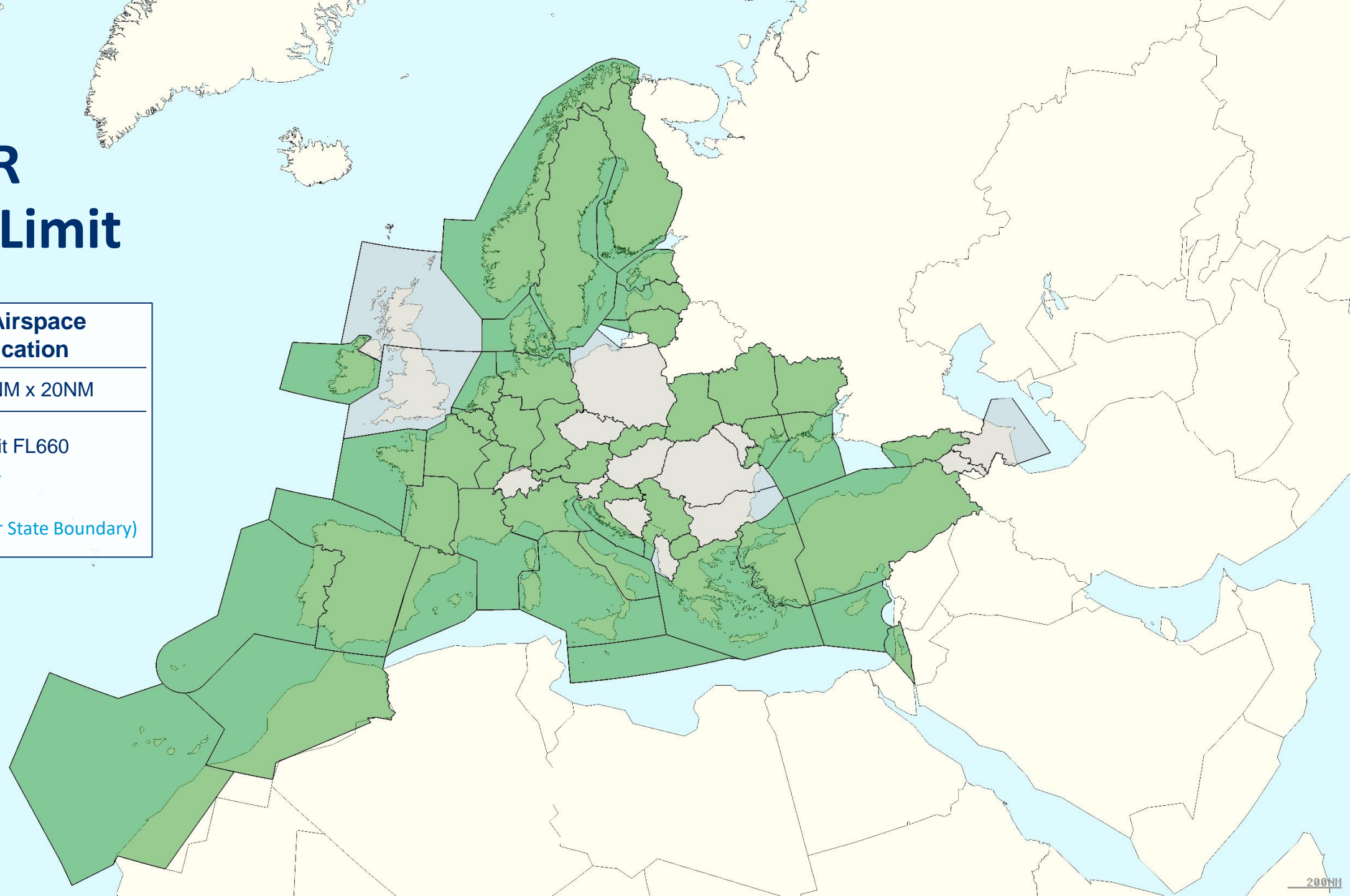
Legend Airspace Classification

Cell size 20NM x 20NM

Upper Limit FL660

Unlimited *

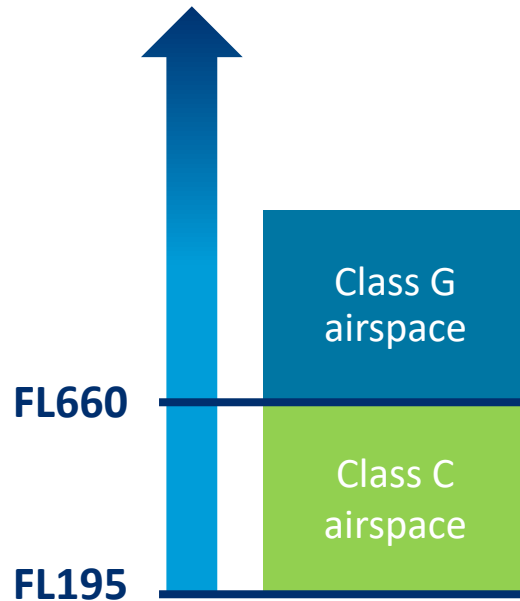
*Exc.: AUT (Upper State Boundary)



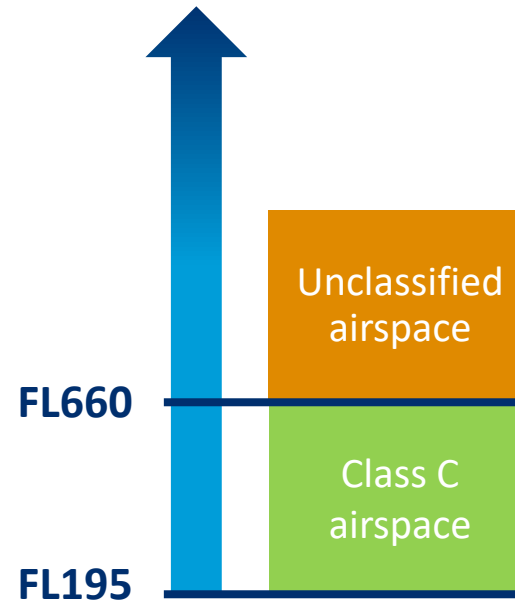
Airspace organisation summary



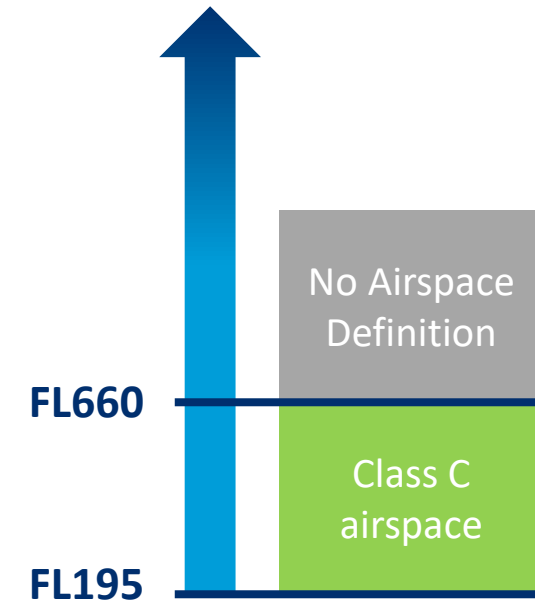
Scenario 1



Scenario 2



Scenario 3





Network
Operations Plan



European route
network design



Airspace management

AIRSPACE CONTINUUM

EUROCONTROL NETWORK MANAGER AREA

Airspace Management



Today

ASM and FUA based largely on need for Civil/Military Coordination and CDM



Tomorrow

New Civil Actors, advanced FUA, dynamic mobile areas

ATM-STM - Operational interfaces



ATM-STM - Operational interfaces



ATM-STM Launch planning



ATM-STM - Re-entry



Who?

**Space agencies, military,
NAA, EUROCONTROL
NM, ANSPs**

- Provide up to date information
- Operational interface – adapted to current volume/frequency of operations

Controlled

**Coordination, cross
border procedures**

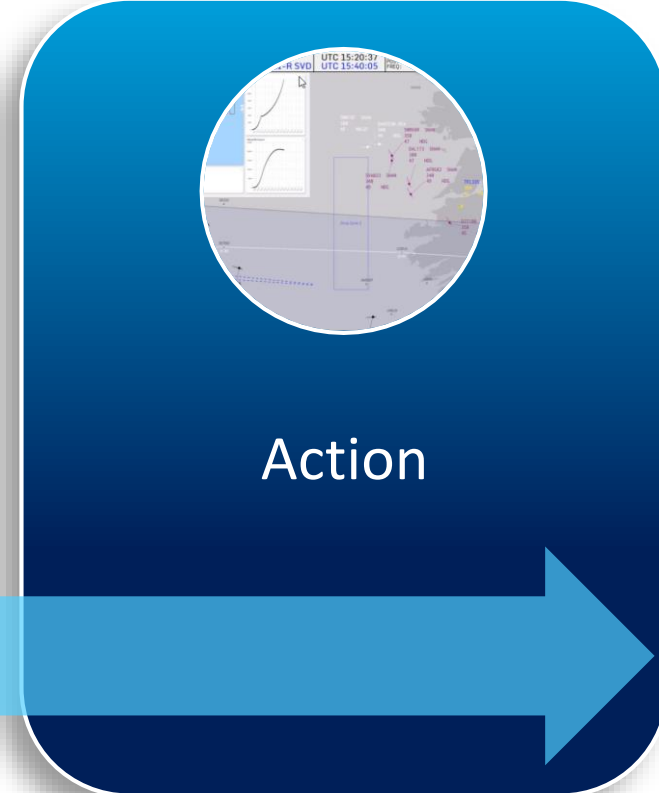
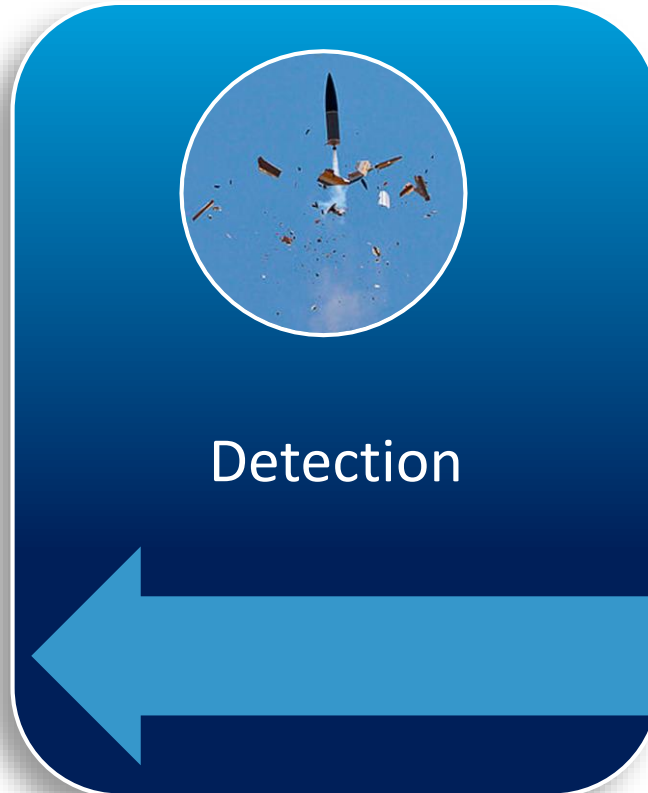
- New operational scenarios (point-to point rocket cargo)?
- Civil-military

Uncontrolled

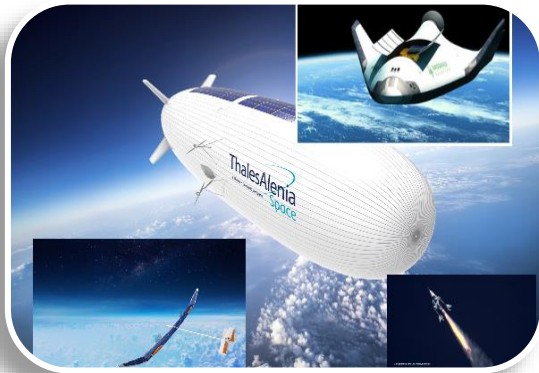
Dynamic situation

- Impact assessment – who?
- What can be done (realistically)?

ATM-STM - Debris



ATM-STM – contingency management



**New scenarios for
European ATM
network**



**From contingency to
emergency**



**Prepare - roles &
responsibilities,
procedures, systems**



**GLOBAL
INTERFACES**

ATM-STM – moving forward



ECHO – Types of services



START FROM FIRST PRINCIPLES

New capabilities
offer opportunities

EVALUATE

ICAO Annex 11 objectives
must be complied with

Existing procedures &
capabilities

Apply/adapt what
already works

INNOVATE

Create opportunities
for new solutions

TRANSIT TO HA

Distinct scenarios
(per new entrant type)

OPERATIONS

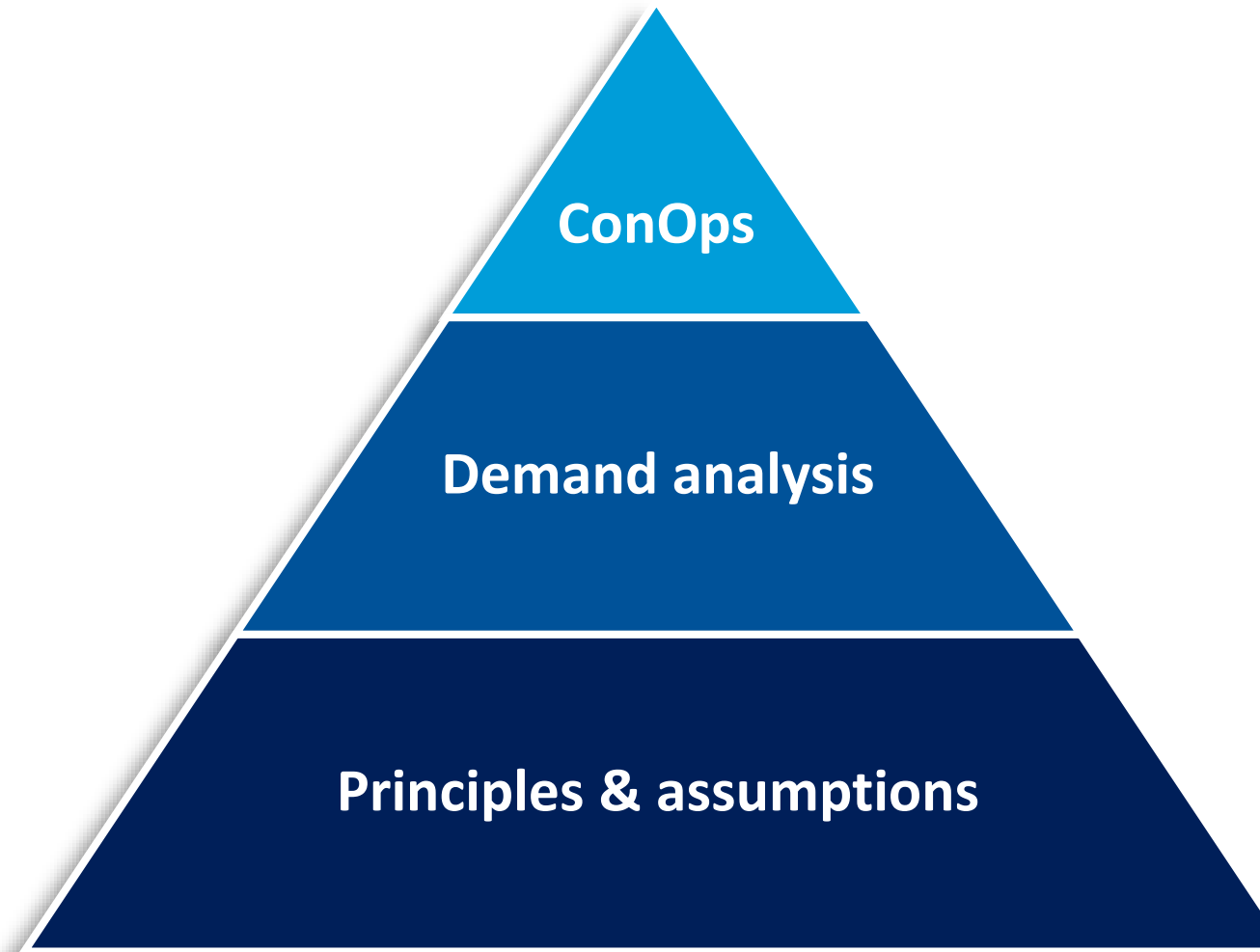
Different requirements
(e.g. passenger transportation vs. other)

TRAJECTORY BASED OPERATIONS

ECHO Type of services – qvo vadis?





ECHO – where are we?



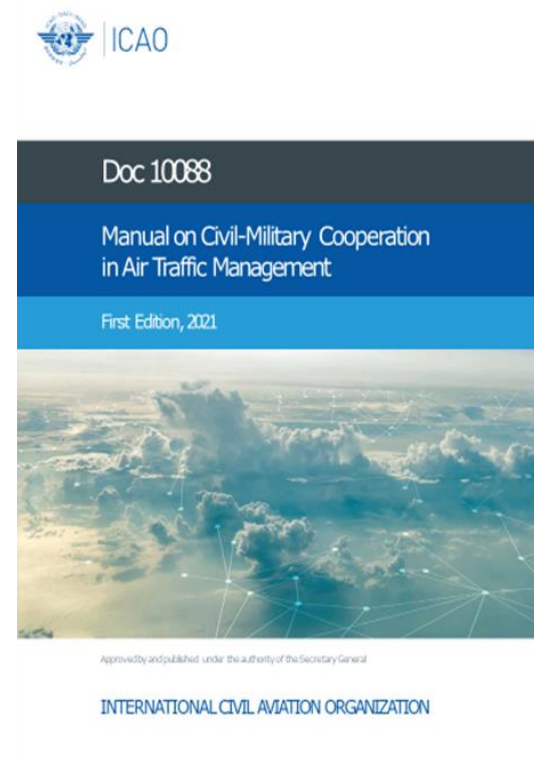
ECHO ConOps - bringing it all together



Appendix A ECHO ConOps Table of content

- 1. INTRODUCTION..... Error! Bookmark not defined.
 - 1.1 Document Objectives, Purpose and Scope
 - 1.2 Overview
- 2. Context and Definitions..... Error! Bookmark not defined.
 - 2.1 Context- Why We Need the ConOps
 - 2.2 Benefits
 - 2.3 Limitations
 - 2.4 Definitions
- 3. Assumptions, Principles, Challenges and Objectives..... Error! Bookmark not defined.
 - 3.1 Key Assumptions
 - 3.2 Key Principles
 - 3.3 Challenges Presented by New Entrants
 - 3.4 Objectives
- 4. Operational Environment Description..... Error! Bookmark not defined.
 - 4.1 Surface
 - 4.2 Airspace
 - 4.3 Space
- 5. managing Higher Airspace Operations Error! Bookmark not defined.
 - 5.1 Target Concept and Vision 2050
 - 5.2 Actors
 - 5.3 Roles and Responsibilities
 - 5.4 Processes
- 6. Development and implementation Roadmap Error! Bookmark not defined.



THANK YOU FOR YOUR ATTENTION