RFI ICAO DroneEnable/5

RFI "A": Experiences and Best Practices from the Deployment/Implementation of UTM Systems or Services

Daniel García-Monteavaro — Head of Drone Business Development Department (ENAIRE)

Marina Estal — Head of Airspace Policy Area (DGAC)

October 15th 2022, Montreal

ENAIRE

GOBIERNO DE ESPAÑA — MINISTERIO DE TRANSPORTES, MOVILIDAD Y AGENDA URBANA

Regulation overview

(EU) 2021/664 sets out provisions to :

- UAS Operators
- U-space Service Providers (USSPs)
- Providers of common information services (CIS)

Exemptions:

- State operations
- Toy drones & Model Clubs
- Small aircrafts < 250 gr and VLOS (A1, C0)
- IFR flights (in accordance with SERA.5015)

23.4.2021   EN   Official Journal of the European Union   L 139/161

COMMISSION IMPLEMENTING REGULATION (EU) 2021/664

of 22 April 2021

on a regulatory framework for the U-space

(Text with EEA relevance)

THE EUROPEAN COMMISSION,

Having regard to the Treaty on the Functioning of the European Union,

Having regard to Regulation (EU) 2018/1139 of the European Parliament and of the Council of 4 July 2018 on common rules in the field of civil aviation and establishing a European Union Aviation Safety Agency, and amending Regulations (EC) No 2111/2005, (EC) No 1008/2008, (EU) No 996/2010, (EU) No 376/2014 and Directives 2014/30/EU and 2014/53/EU of the European Parliament and of the Council, and repealing Regulations (EC) No 216/2008 and (EC) No 552/2004 of the European Parliament and of the Council and Council Regulation (EEC) No 3922/91 (¹), and in particular Article 57 and Article 62(14) and (15) thereof,

Whereas:

Member States designate **UAS geographical zones(*) as U-space** airspace

March 2020
EASA Opinion

April 2021
Publication

January 2023
Entry into force

(*) 'UAS geographical zone' means a portion of airspace established by the competent authority that facilitates, restricts or excludes UAS operations in order to address risks pertaining to safety, privacy, protection of personal data, security or the environment, arising from UAS operations (REGULATION (EU) 2019/947)

EASA's Safety Promotion "Understanding how the new U-space will enable the safe integration of drones in the European airspace"

U-space Services

U-space is a set of <u>specific services</u> and procedures that have been designed to guarantee <u>safe, efficient and affordable access to airspace for UAS</u>, all based on technical developments with a high degree of digitization and automation.

- Network identification service
- Geo-awareness service
- Traffic information service
- UAS flight authorization service

Mandatory and necessary

- Weather information service
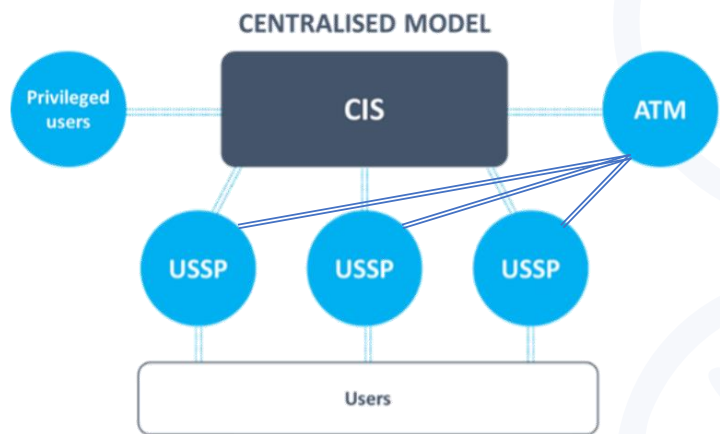- Conformance monitoring service

Optional non-essential

CIS Providers
- Common Information Services
- Share static & dynamic operational data

USSP Providers
- U-space Services Providers
- Coordinate with ATM

Member States may designate a single CISP
(Centralised Model)

CENTRALISED MODEL

Competent Authority

- Geographical limits of the designated U-space airspace
- Performance requirements
- A list of certified USSPs
- UAS geographical zones, relevant to the U-space airspace
- Static and dynamic constraints

ANSP

- Dynamic reconfiguration of the airspace
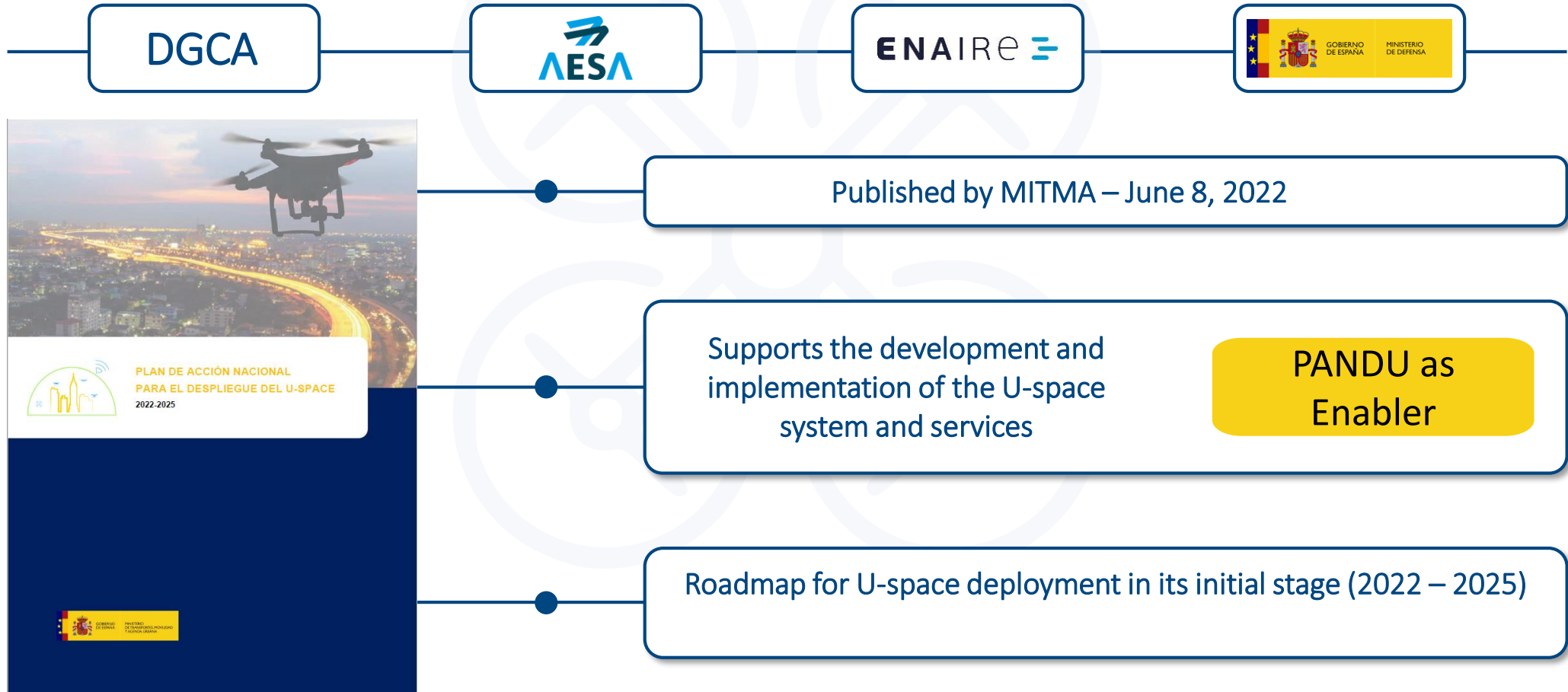- Live operational data

USSP

- Terms and conditions of U-space Services

Single CISP gathers common information from Competent Authority, ANSPs and USSPs and makes it available to all operational stakeholders
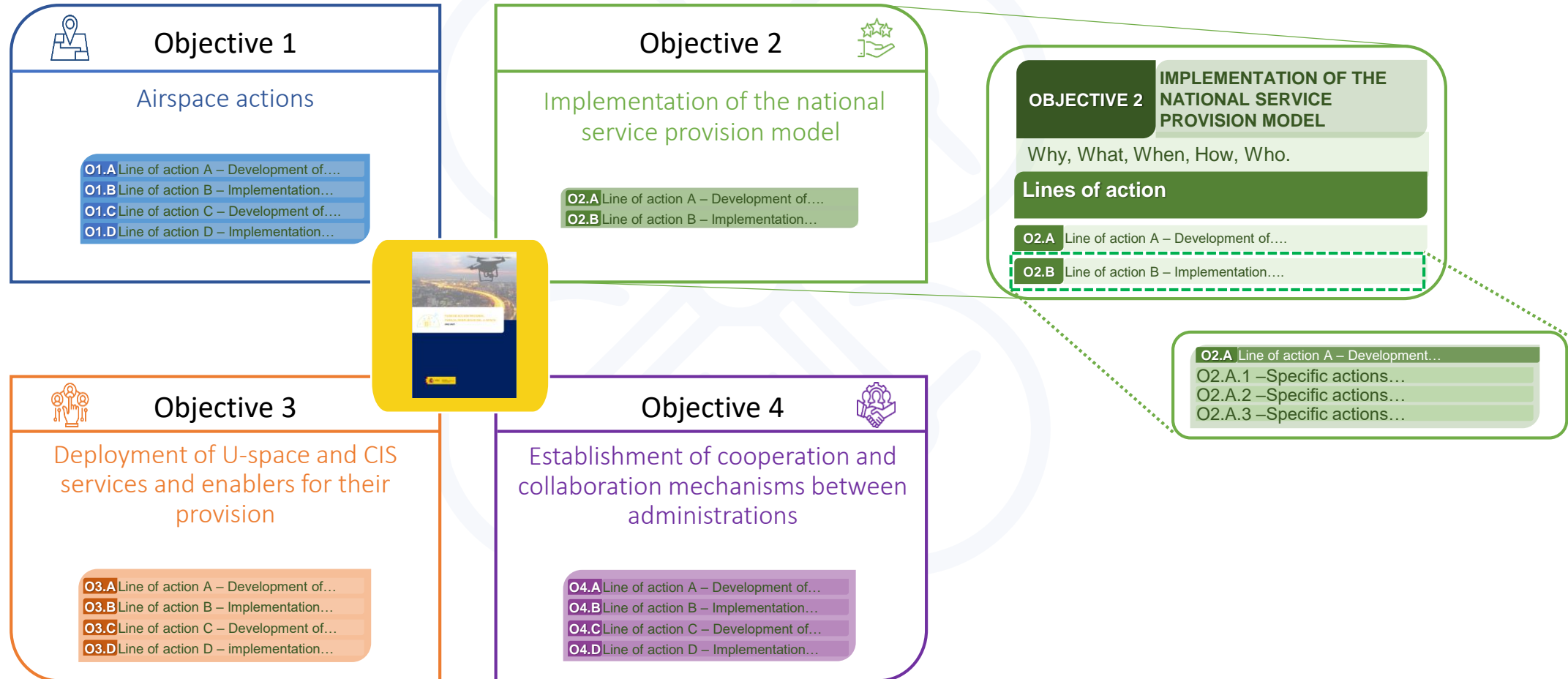
A Plan for the implementation of the U-space in Spain (PANDU)

Challenge: Coordinating the deployment of the U-space among public bodies with various roles and responsibilities

DGCA — AESA — ENAIRE — GOBIERNO DE ESPAÑA MINISTERIO DE DEFENSA

PLAN DE ACCIÓN NACIONAL PARA EL DESPLIEGUE DEL U-SPACE
2022-2025

Published by MITMA – June 8, 2022

Supports the development and implementation of the U-space system and services

PANDU as Enabler

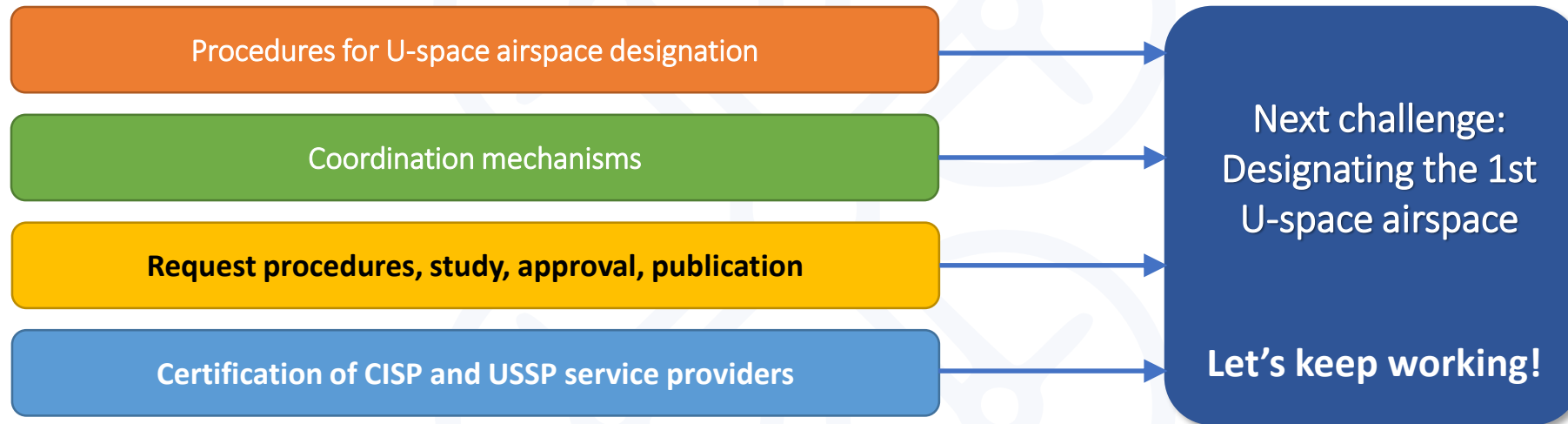Roadmap for U-space deployment in its initial stage (2022 – 2025)

A Plan for the implementation of the U-space in Spain (PANDU)

PANDU sets out four <u>objectives</u>, arranged into <u>lines of action</u> and <u>specific actions</u>:

Objective 1

Airspace actions

- **O1.A** Line of action A – Development of….
- **O1.B** Line of action B – Implementation…
- **O1.C** Line of action C – Development of….
- **O1.D** Line of action D – Implementation…

Objective 2

Implementation of the national service provision model

- **O2.A** Line of action A – Development of….
- **O2.B** Line of action B – Implementation…

Objective 3

Deployment of U-space and CIS services and enablers for their provision

- **O3.A** Line of action A – Development of…
- **O3.B** Line of action B – Implementation…
- **O3.C** Line of action C – Development of…
- **O3.D** Line of action D – implementation…

Objective 4

Establishment of cooperation and collaboration mechanisms between administrations

- **O4.A** Line of action A – Development of…
- **O4.B** Line of action B – Implementation…
- **O4.C** Line of action C – Development of…
- **O4.D** Line of action D – Implementation…

OBJECTIVE 2 — **IMPLEMENTATION OF THE NATIONAL SERVICE PROVISION MODEL**

Why, What, When, How, Who.

Lines of action

- **O2.A** Line of action A – Development of….
- **O2.B** Line of action B – Implementation….

- **O2.A** Line of action A – Development…
- O2.A.1 –Specific actions…
- O2.A.2 –Specific actions…
- O2.A.3 –Specific actions…

- The stakeholders, the Regulatory authority, the Supervisory authority, the Ministry of Defence and the service providers have all been involved since the very beginning to respond to these new challenges.

- The necessary pillars for the 1st U-space designation are:

Procedures for U-space airspace designation	
Coordination mechanisms	Next challenge: Designating the 1st U-space airspace
Request procedures, study, approval, publication	
Certification of CISP and USSP service providers	**Let's keep working!**

Up next **ΞΝΑΙRe** on its U-space platform development

Annual UAS Coordination of Operations – Historical evolution
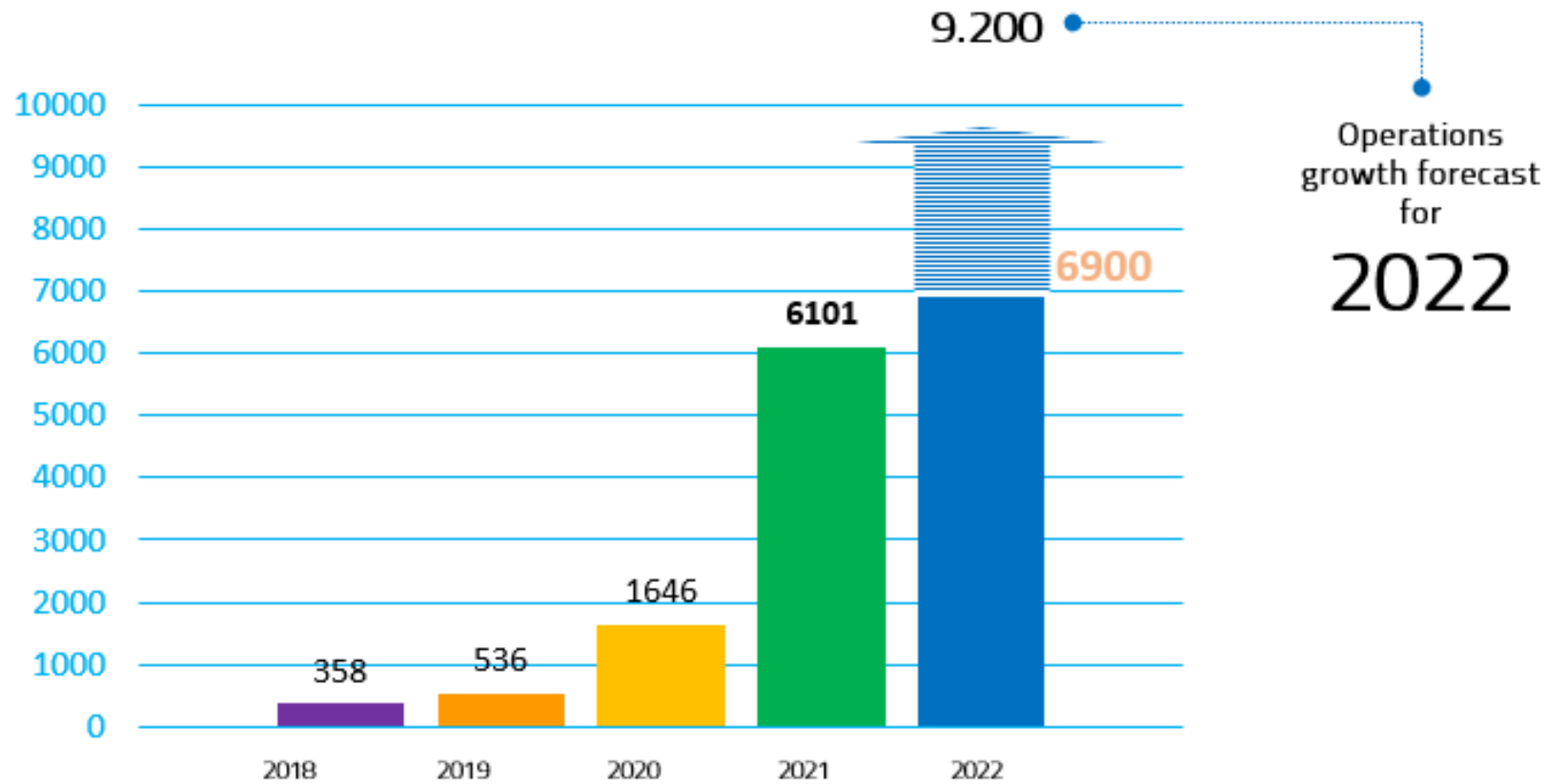
U-space High Level Concept & Stakeholders

ICAO's UTM FRAMEWORK (example)
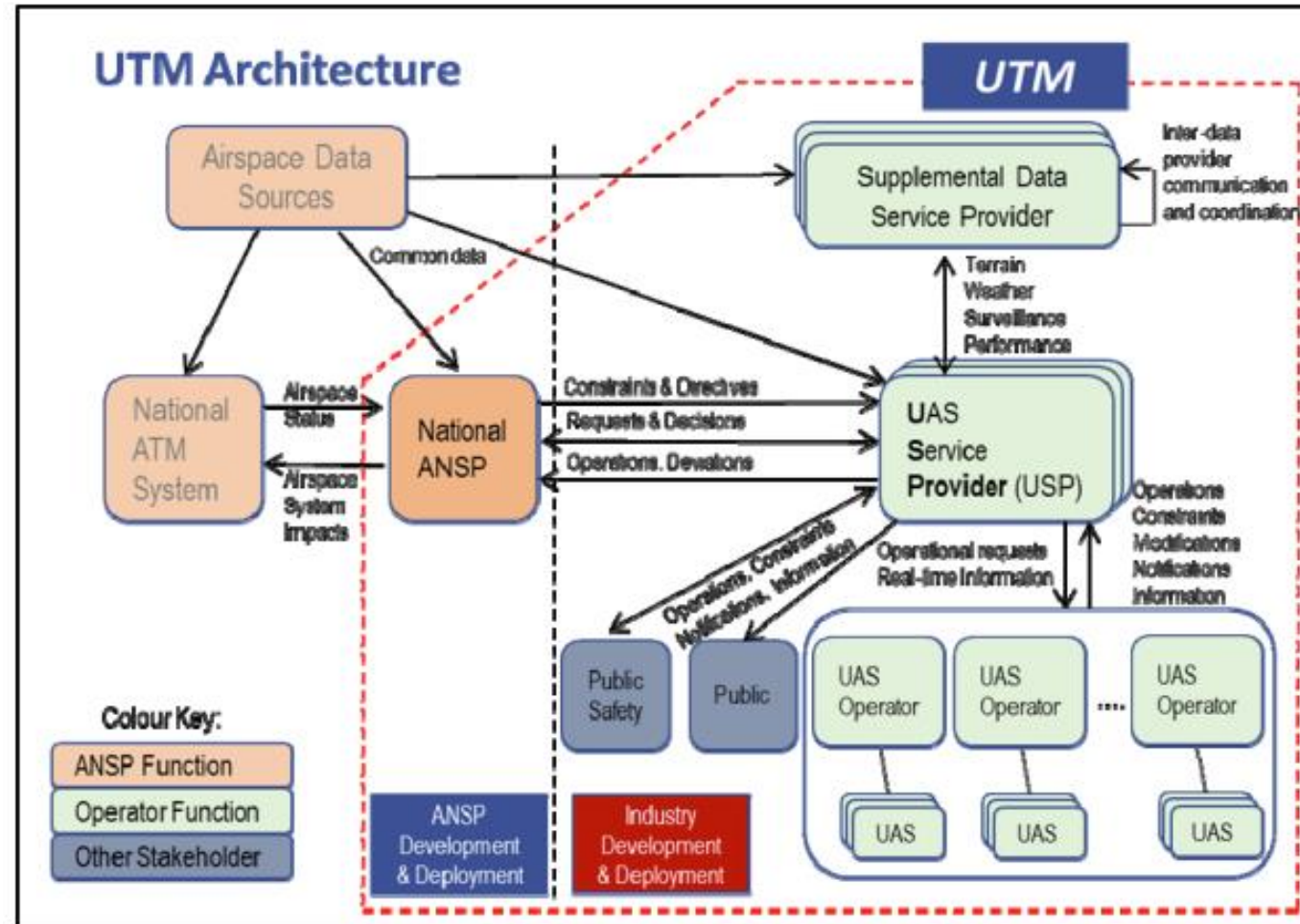
# ENAIRE U-space Platform Architecture
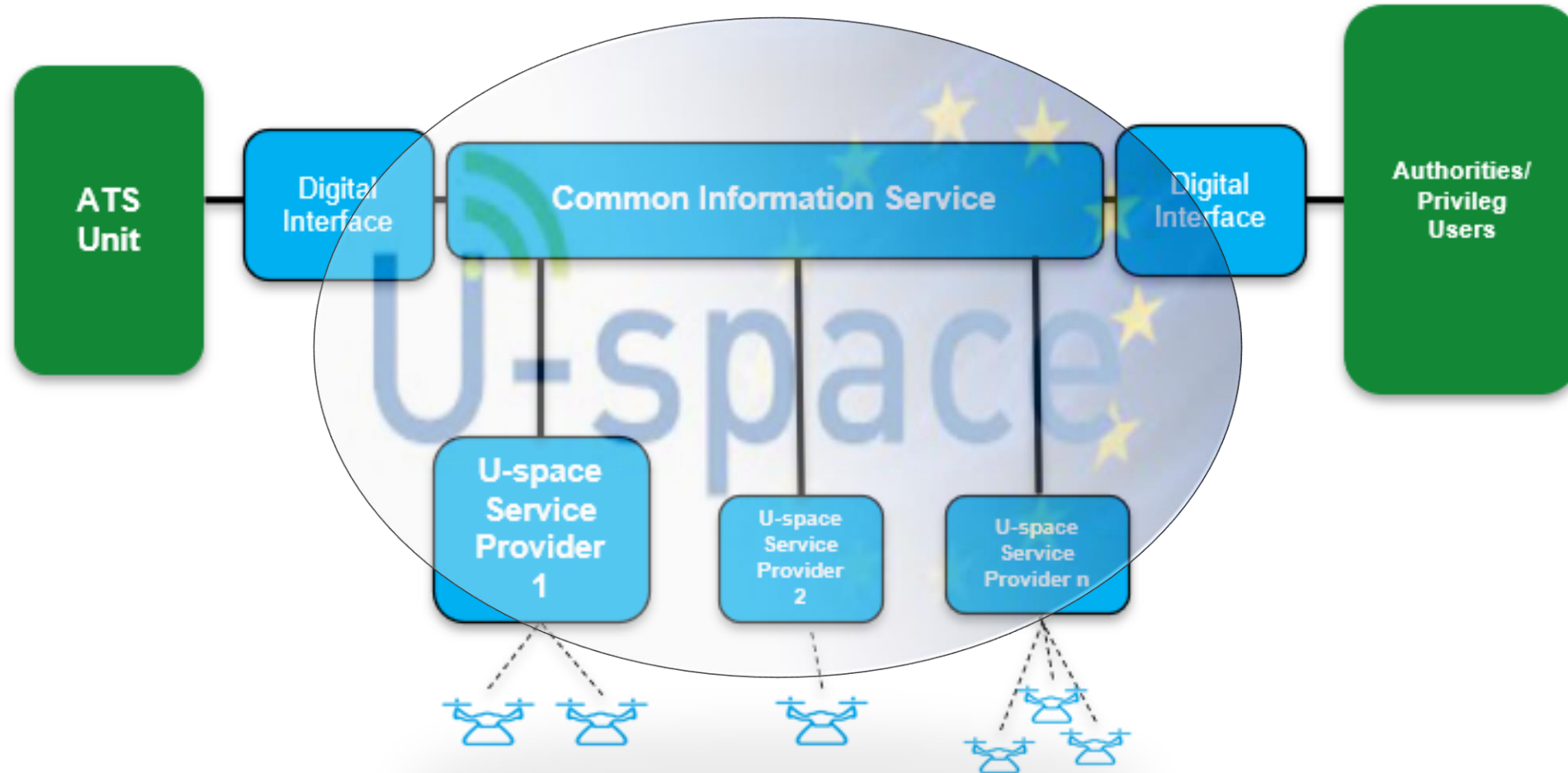
ENAIRE U-space Platform Tender Summary

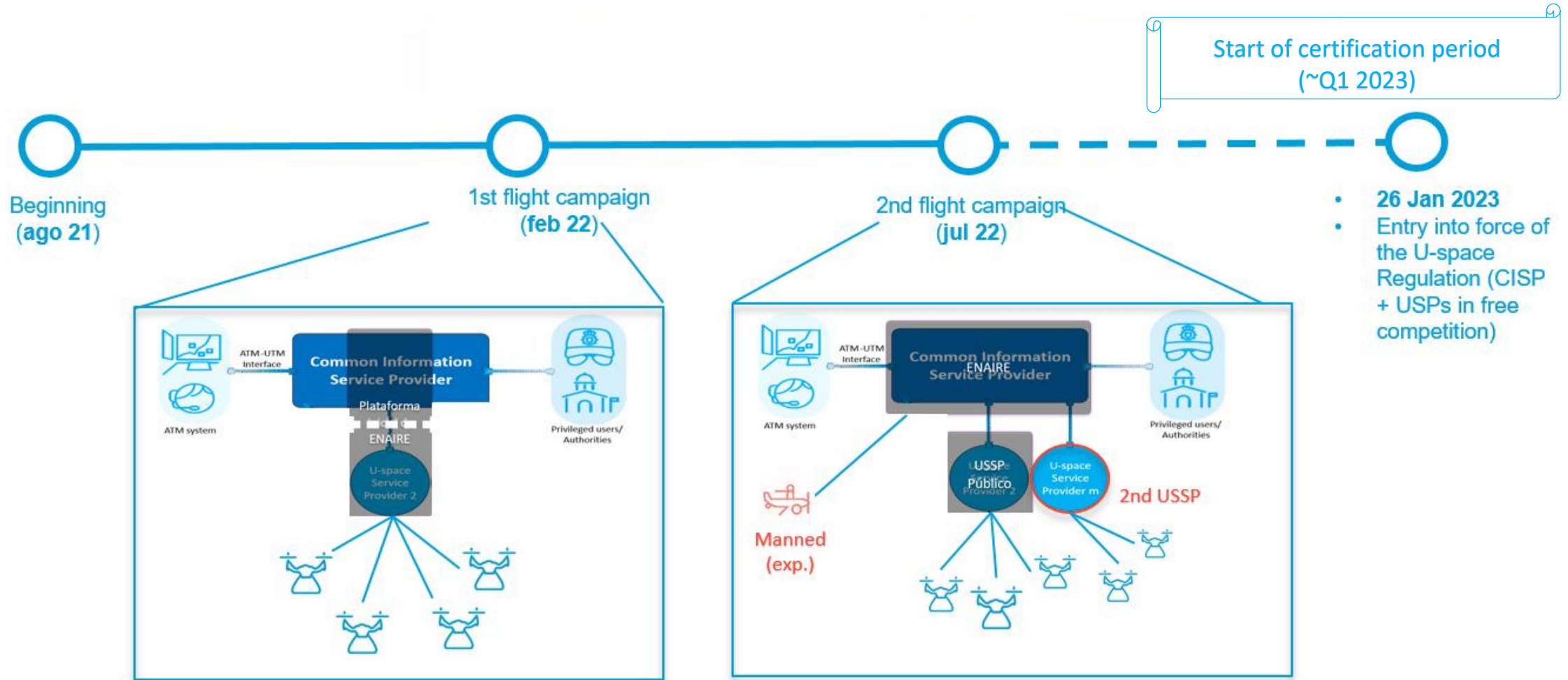❏ **Timeline:** <u>18 months</u> execution + 2 years Evolutionary maintenance

❏ **INDRA** as <u>prime contractor</u>: Project management, Support, system specification, Architectures, Cyber security, **CISP platform.**

❏ **Unifly** as Indra subcontractor for ENAIRE **USSP**.

❏ **Airbus** as **second USSP** platform for multi-USSP **during validation campaign**
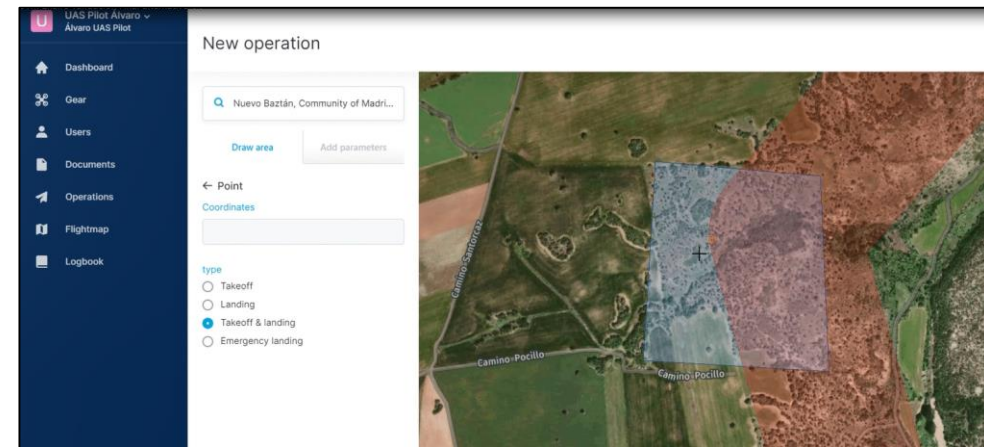
ENAIRE U-space Deployment

Main Challenges

Manned Aircraft Integration

Priority Flights (Strategic & Tactical)

Traffic Information for General Public

Secret Tracking Information from Army and Security Forces

Certification with servers in public Clouds

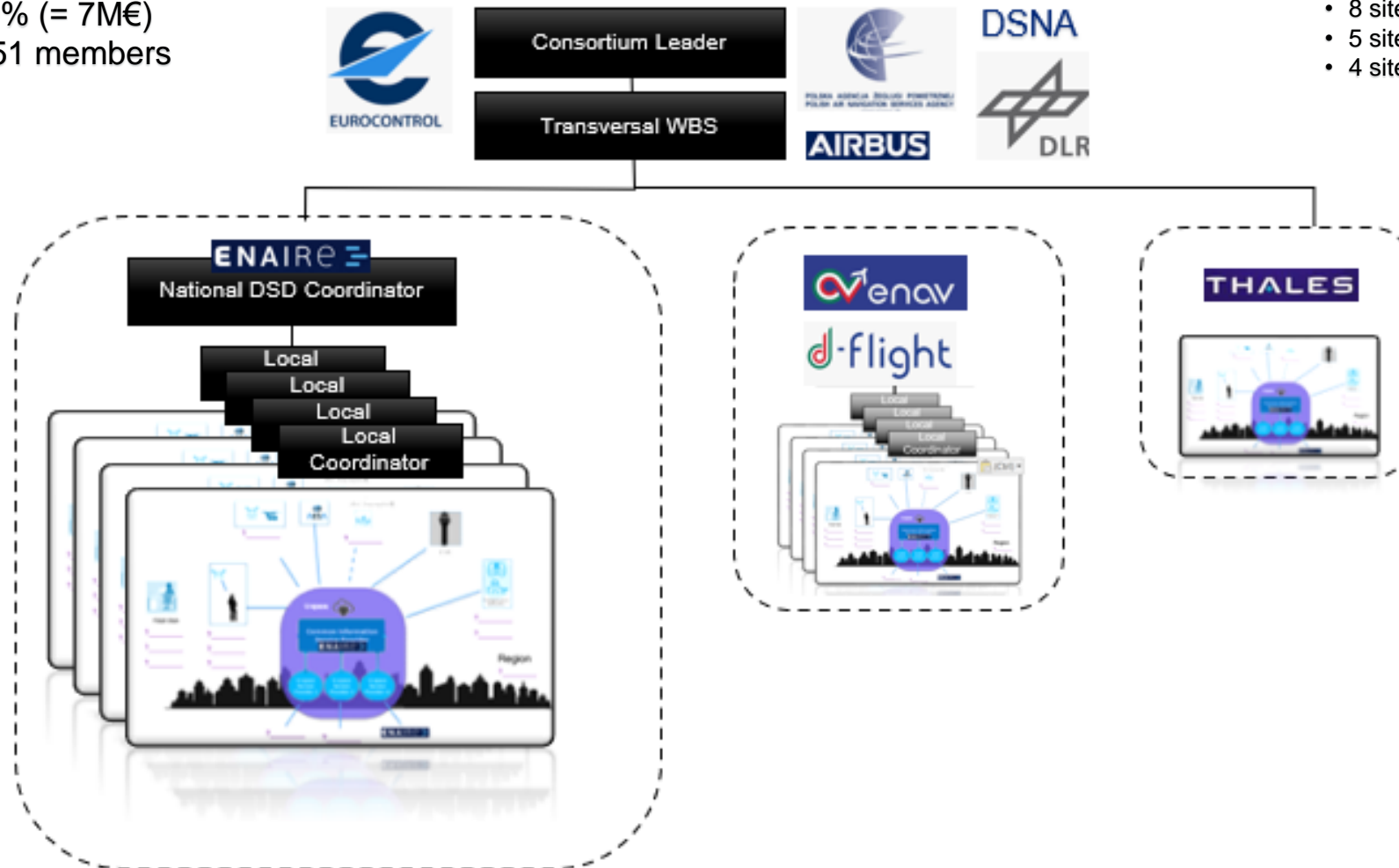Billing to Users / CISP Regulated fee / ANSP costs

CIBERSECURITY

U-ELCOME PROJECT led by ECTL

- Execution period: Nov 2022-Oct 2025
- Total budget: 14.000.000,00
- Financing: 50% (= 7M€)
- Consortium: 51 members

- Includes Interoperability with Italian USSP in Spain, and Spanish USSP in Italy.
- 8 sites in Spain
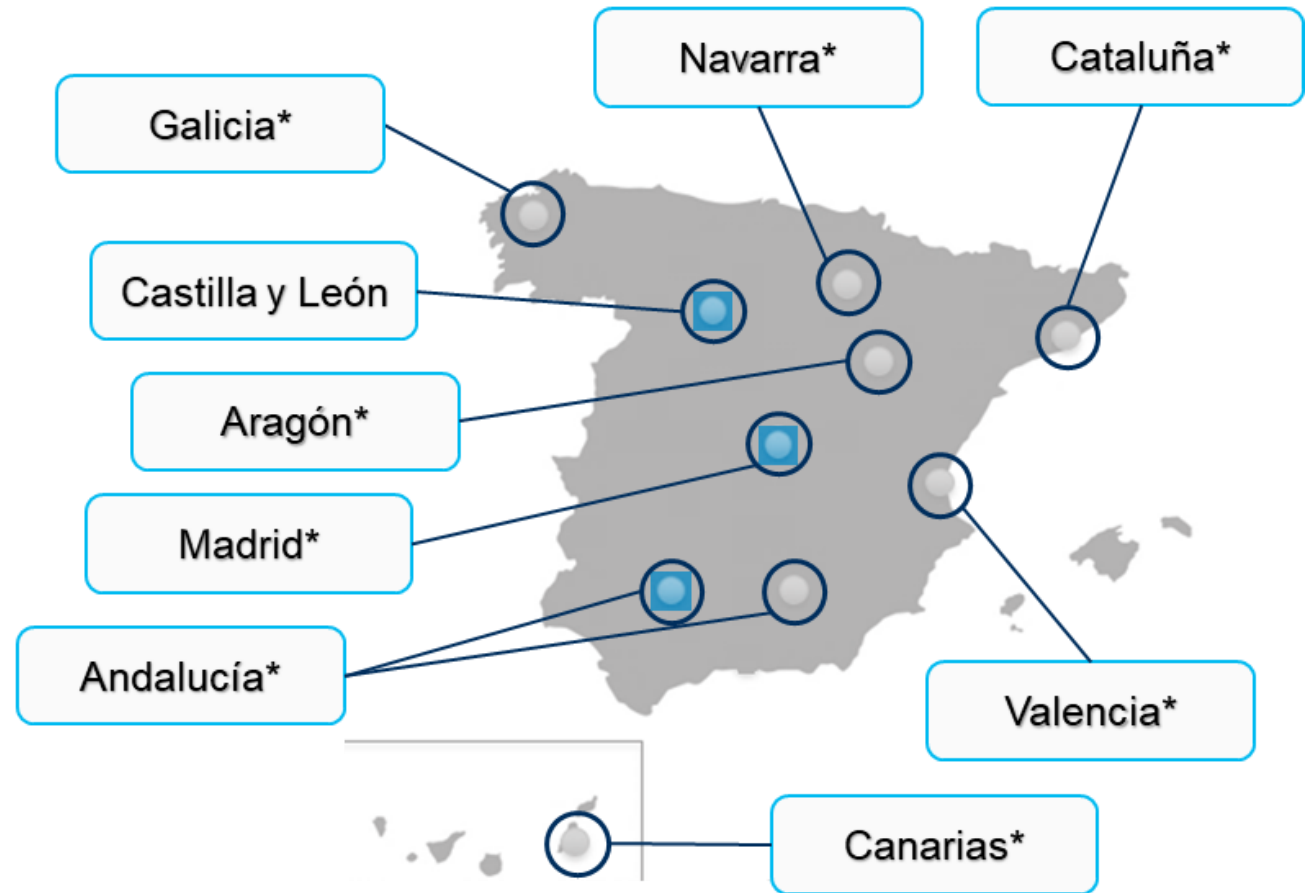- 5 sites in Italy
- 4 sites in France

ENAIRE PARTICIPATION IN U-SPACE/UAM PROJECTS

- Use Cases on ENAIRE U-space Platform: Collaboration Protocols with industry and administrations

- National Action Plan for U-space Deployment.

- SESAR3 Projects: collaboration with industry and universities on drone and U-space projects.

- (*)= U-ELCOME Sandbox

Galicia*

Navarra*

Cataluña*

Castilla y León

Aragón*

Madrid*

Andalucía*

Valencia*

Canarias*

THANK YOU,

?ANY QUESTIONS ?

ENAIRE

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Y AGENDA URBANA