

Implementing U-Space/UAM

The Italian Perspective

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EU Drone Days

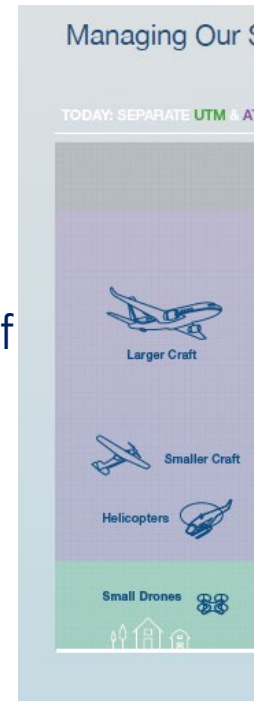
Brussels, 30 Novembre 2022



Technologies are changing mobility both on the ground and in the air for moving goods, people, and now aerial services which will increase the overall accessibility of the territory and we hope the quality of life

Our Skies are changing

The regulator's challenge is how to keep up



Enabling a sustainable and secure ecosystem is the key

Italian Ecosystem for Advanced Air Mobility | The Path so far



Dec '19 - Jun '20



Mar '21



Jul '21



Sept '21



Jan- Oct' 22

Creation of an Ecosystem

Signature of **Memorandum of Understanding** between ENAC and MITD

Roadmap

Regulatory and Technology gaps and challenges

Strategic National Plan

Vision, mission, objectives

Business Plan

Costs, investments and expected returns (GDP, jobs, etc.)

MoUs and regulatory sandboxes

Alliance with key regions, cities, aerodrome operators and ENAV

Activation of regulatory sandboxes for pilot project and U space services

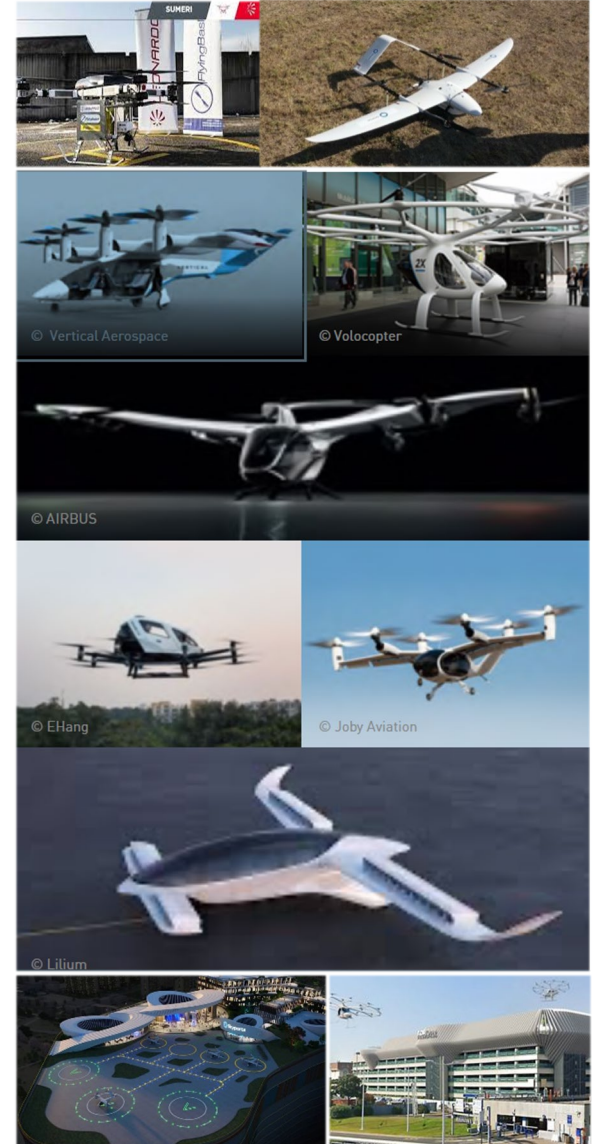
Our initial working definition for AAM & now IAS

Advanced Air Mobility (Italian Strategic National Plan 2021-2030 – ENAC)

A set of **innovative intermodal air transportation** of goods and people, and **services**, mainly carried out by manned, unmanned but also autonomous **eVTOL** vehicles. A critical element of AAM is the **infrastructure which supports** and makes possible safe and secure operations to achieve the goal of **enhanced accessibility** of cities and territories, **improved quality of life for citizens**, and a cleaner **environment**

Innovative Air Service (EASA NPA 2022-06)

The set of **operations and/or services** that are of **benefit to the citizens** and to the aviation market, and that are enabled by new airborne technologies; the operations and/or services include **both the transportation of passengers and/or cargo and aerial operations** (e.g. surveillance, inspections, mapping, telecommunications networking, etc.).



VISION



Regular, multi-domain integrated, sustainable mobility services in the context of digital and ecological transition (**Mobility as a Service**)

MISSION



Creation of an institutional, industrial, and social **ecosystem** favorable to the AAM

GOALS



Enhanced and **integrated regulatory framework** (not only aviation) able to accompany the evolution of the sector

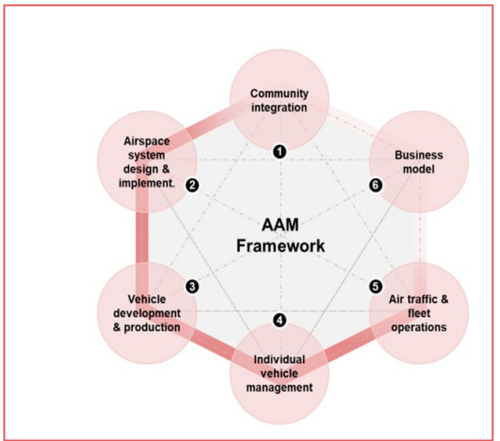
Public-Private investments models to accelerate a self-sustained ecosystem

Italian Strategic AAM Plan 2021-2030 | From Applications to a strategy



- 1 Air Taxi
- 2 Goods and Medical Delivery
- 3 Inspection and Mapping
- 4 Agricultural Support

Competence group



Road Map

Business Plan

4 Priorities & Applications → 6 Key Topics → Gap Analysis → 59 Actions


Piano Strategico Nazionale AAM (2021-2030)

per lo sviluppo della Mobilità Aerea Avanzata in Italia

ENAC
ENTE NAZIONALE PER L'AVIAZIONE CIVILE



Key Enablers



Regulation



Tecnologies



Infrastructure



Public
Acceptance



Growing but
unfocused
market

<p>1</p> <p>Airspace design for UAS integration</p> <p>Design layers, zones and airways to ensure safe use of airspace</p>	<p>2</p> <p>Workflow Automation for Mission Approval</p> <p>Ensure digital and automated management of operational and mission authorization at scale in line with European regulation</p>	<p>3</p> <p>U-Space/ATM cooperation</p> <p>Reduce interference risks between U-Space and ATM zones increasing the situational awareness cooperation</p>	<p>4</p> <p>U-space services consolidation</p> <p>Mitigate safety and security risks providing certified services to operators for mission execution</p>
<p>5</p> <p>Security</p> <p>Progressively reduce the cyber security risks related to vehicles management and</p>	<p>6</p> <p>Vehicles enabling technologies</p> <p>Identify, develop and test the most promising technological solutions to</p>	<p>7</p> <p>Platform Development</p> <p>Support industrial ecosystem to develop prototypes and products of subsystems</p>	<p>8</p> <p>Infrastructure and Planning</p> <p>Support AAM planning (PUMS, SUMS) and infrastructure development for tests, pilot commercial</p>

The first 4 clusters are needed to implement EU U-Space

Rationale for support



National ecosystems needs to transpose the european regulation in their system

- **Solid financial support coming from public entities**
- **Coordination of all stakeholders**

No single entity, public or private, has all the capabilities or resources necessary to develop and deploy a holistic **policy environment**



Institutional support to private and public entities has been growing.
Global competitiveness in this new aerospace sector has gained political will

Steps to accelerate

Alliances and Drivers



Alliances

MoU with



Population : 44%

Int

■

■

Pla

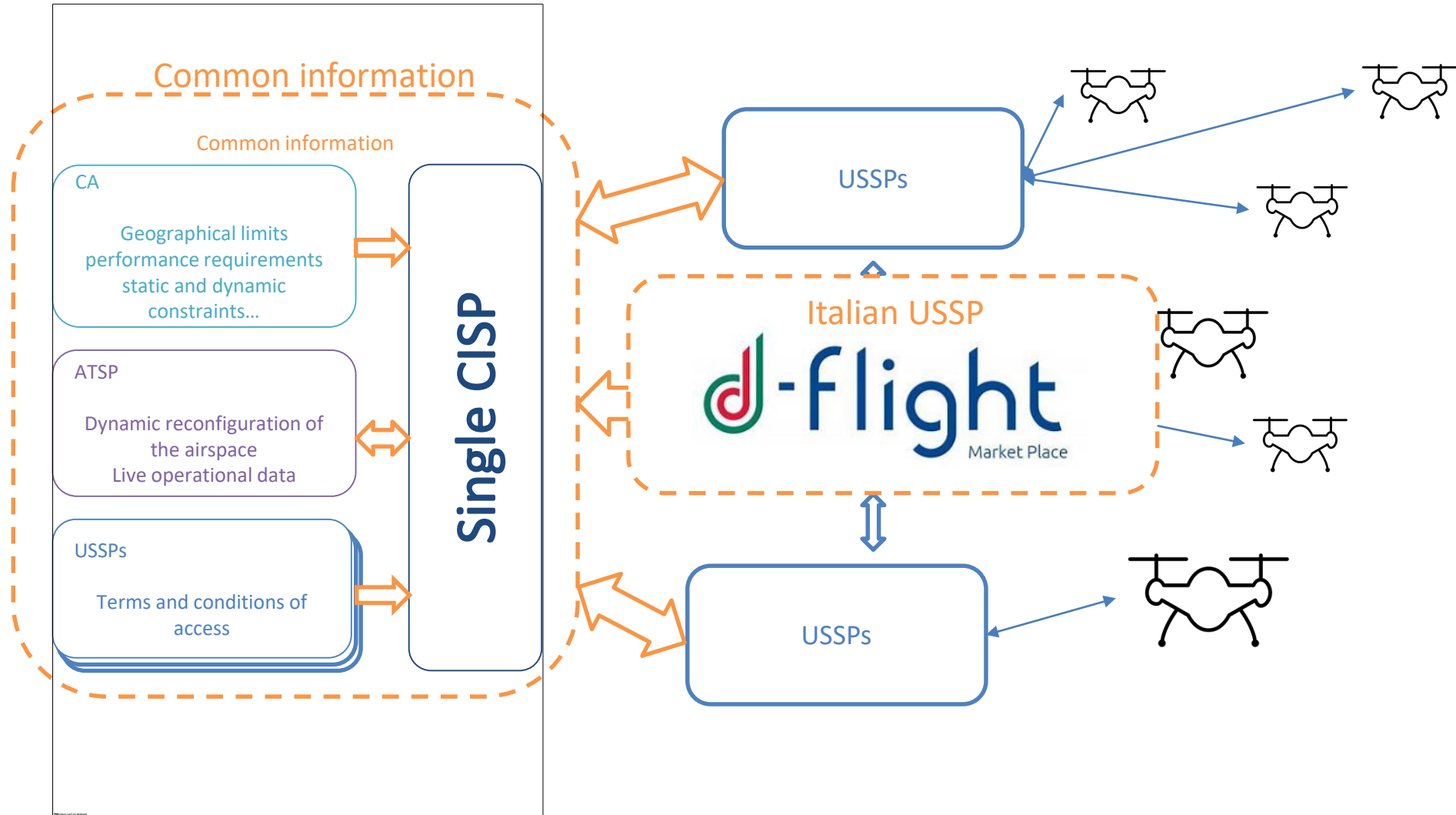
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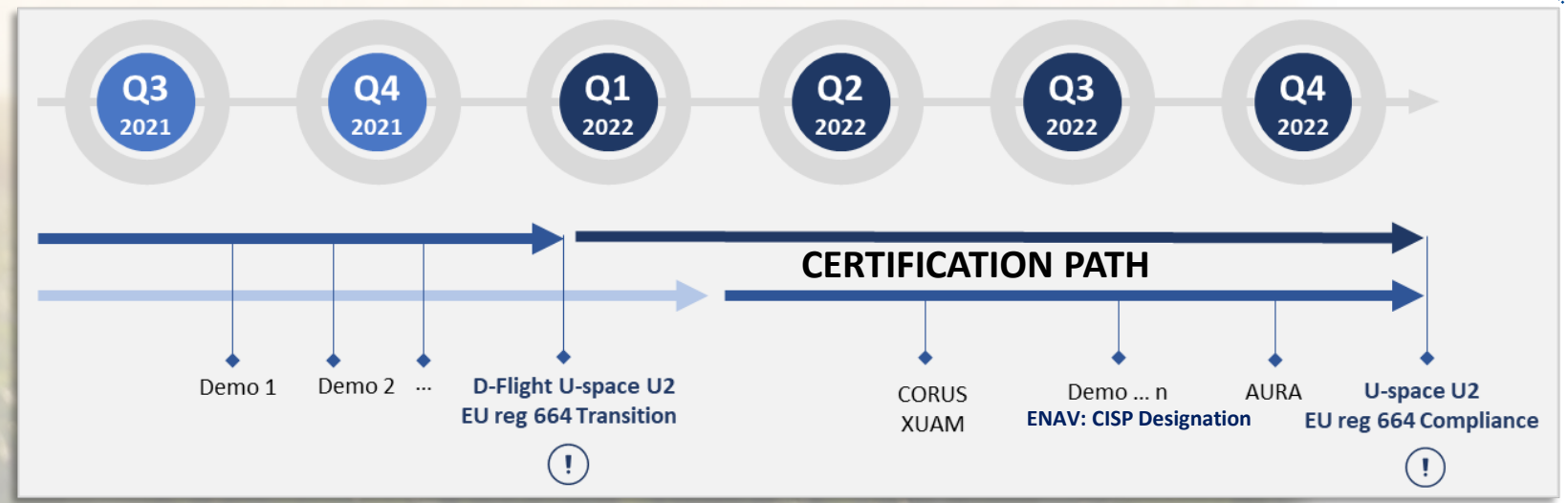
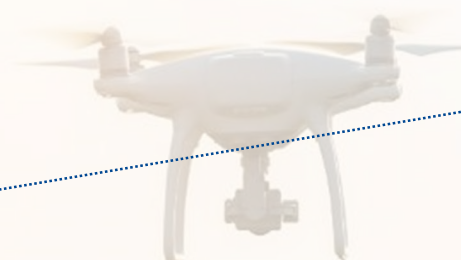


Steps to accelerate

Italian Centralised model of U-Space



Roadmap



- Legend:
- 1. █ Definition and Preparation
 - 2. █ Validation and Demonstration
 - 3. █ In Operation


Basic U-Space services


CI services


Full U2 U-Space portfolio ready



- **Carrying out public investment to enhance the conditions** for sustainable and inclusive growth
- **At first MS can absorb the costs** to maintain the affordability of U-space operations:
 - pricing of Dynamic Reconfiguration of Airspace
 - pricing of Common Information
- **Creating the right environment for private investment** to accelerate the transformation
- **Pilot Projects in Regulatory Sandbox** starting with Municipalities and Territories
- **Seize opportunities** provided by **big events** to accelerate and to attract investment (eg)
 - **Rome Jubilee 2025**(Rome Air taxi Project)
 - **Milan-Cortina Winter Olympic Games 2026** (AAM Olympic Project)

Finally of course dual use of U space and integration in ATM for military/state drones

Conclusions

- EU Agencies
- Public Institutions
- National Civil Aviation Authorities
- Environmental Protection Agencies
- Cultural Heritage Institutions
- Regions and Local Authorities
- Municipalities
- Citizens Associations



We need a global regulatory approach

Thank you for your attention

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