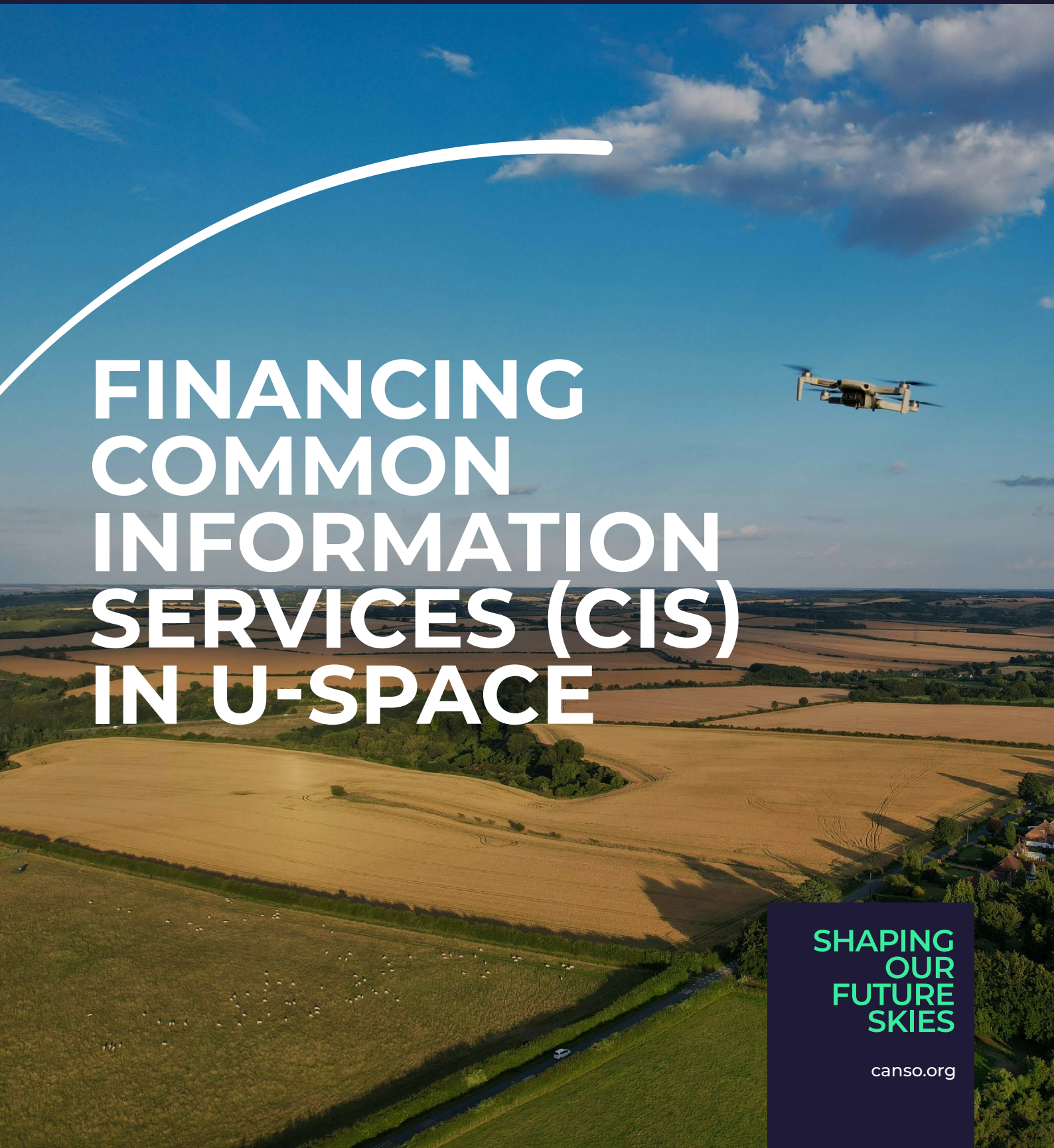


THINK PAPER

OCTOBER 2023



FINANCING COMMON INFORMATION SERVICES (CIS) IN U-SPACE

SHAPING
OUR
FUTURE
SKIES

canso.org

CANSO THINK PAPER ON FINANCING COMMON INFORMATION SERVICES (CIS) IN U-SPACE

CANSO, the Civil Air Navigation Services Organisation, embraces the new regulatory framework¹ for integrating Unmanned Aircraft Systems (UAS) and establishing U-Space. This regulatory package enables EU Member States to deploy U-space and make a decisive step forward in the provision of UAS services and Urban Air Mobility (UAM) in Europe. It was put in place on 26 January 2023.

U-Space deployment will accommodate, in particular, commercial drone operations, introducing two key service providers: the Common Information Service Provider (CISP) and the U-Space Service Provider (USSP).

Role of the Common Information Service Provider (CISP):

The CISP, integral to the Common Information Service (CIS), plays a pivotal role in disseminating relevant operational data necessary for establishing UAS access areas in U-Space. This ensures safety in U-Space operations by sharing common information from Competent Authorities, ANSPs, and USSPs with clients.

Harmonised Implementation Challenges:

To unlock the potential of the drone industry, a harmonised regulatory framework for U-Space is imperative, whether through EU legislation or Performance Review Board recommendation. Key elements that are still unresolved include:

- Establishing sustainable financing for CIS in the European Union;
- Engaging all stakeholders in the regulatory process;
- Enhancing certification processes and distinguishing roles (ANSP, CISP, USSP).

High Level Framework

As defined in Commission Implementing Regulation (EU) 2021/664, the CIS encompasses disseminating static and dynamic data for U-Space traffic management.

As the services provided to uncrewed aviation are deemed vital components of future civil and military infrastructure, some States opt to retain control over service provision, often through a national ANSP designated as the nationwide single CISP. Additionally, according to a survey by CANSO, most Members are willing to follow this option. Other States may opt to designate a CISP for each designated U-Space airspace rather than having a single nationwide CISP.

CISP		
Entities Involved	Customers	Services Provided
<ul style="list-style-type: none"> • Competent authority (i.e., State) • ANSP • CAA • Providers of Common information • Other additional information providers • UAS Operators 	<ul style="list-style-type: none"> • USSPs • Military • National Security Services • ATSP • UAS Operators 	<ul style="list-style-type: none"> • Reference to Regulation 2021/664, Article 5, Common Information Services

¹ The U-space regulatory package is primarily constituted by Regulation (EU) 2021/664, establishing rules and procedures for the safe operation of UASs in U-Space airspace, supplemented by two implementing regulations (Regulation (EU) 2021/665 and Regulation (EU) 2021/666)

High Level Framework (continued)

The CIS will undoubtedly introduce a new regulated service into the aviation ecosystem either as a separate entity (spin off) from an ANSP or as a part of an ANSP with a separate accounting scheme according to the regulatory framework in force.

Therefore, before any decision, it will be important to undertake a study on the U-Space market to achieve a possible picture on the evolution of the demand for these services. Likewise, the elaboration of a business plan will be of paramount importance to face eventual caveats and to allow a higher degree of maturity for sustainability issues. Finally, the systematic collaboration and cooperation between all stakeholders will also play a pivotal role to assess the impact of these services on an ANSP.

CISP Architecture

The CISP can be envisioned either as a standalone entity or as a regulated service provided by an ANSP, complete with distinct financial accounting and subject to specific certification processes under the U-Space Regulatory Framework.

The market environment, ranging from highly regulated markets with price control to contestable markets, influences the charging scheme that the provider will need to determine for the CIS provision. However, due to the developing nature of the market structure and the potential uncertainties surrounding demand and competition, certain factors need to be considered:

- Costs of creating and maintaining the new CISP service, including potential investment risks.
- Uncertainty regarding current and future service demand.
- Unknown level of current and potential competitors delivering the service or parts of it.

Financial Considerations and Funding Schemes

Given market uncertainties, determining how the CISP service will be charged to users post-development is crucial. Factors to consider include:

- Costs of creating and maintaining the new CISP service, including potential investment risks;
- Uncertainty regarding current and future service demand.

Charging Mechanism Options:

Various user charging schemes are possible:

- Potential government-funded service for a fixed period, with no recovery of funds, to incentivise market adoption;
- User-pay scheme based on usage of the service, such as a pay-as-you-go model or monthly/annual subscriptions;
- Government funds the service during the first years of CISP service provision, under the condition that the cost of the service is recovered in the following years once the market is established;
- Similar to the previous option, CISP is financed through private capital investment for a first period of time and then, when there is a high number of operations, sets a fee to recover the first period during a second period at an appropriate commercial rate.

These discussions encompass regulatory intervention and agreement on the charging mechanism, with two possible approaches:

- Ex-ante: Charging mechanisms are agreed upon before service delivery to ensure fairness. This can be defined as a cost-based pricing strategy;
- Ex-post: Charging schemes are set by CISPs, with subsequent evaluation of costs and pricing fairness, i.e., outcome-based pricing strategy.

Financial Considerations and Funding Schemes

Given market uncertainties, determining how the CISP service will be charged to users post-development is crucial. Factors to consider include:

- Costs of creating and maintaining the new CISP service, including potential investment risks;
- Uncertainty regarding current and future service demand.

CANSO Conclusions and Recommendations for financing the CISP

- 1. Financing of the CISP:** The financing of the CISP implementation and service requires close State support to determine the most appropriate investment, cost recovery and pricing for the service, taking in to account the following points.
- 2. Certification by the competent authority:** The CISP should undergo a certification process, where a business plan has to be presented to the relevant authority to ensure compliance with regulatory standards.
- 3. Organisational considerations:** The establishment of a new organisational structure or the reorganisation of existing structures may be necessary to effectively manage the CISP.
- 4. Staffing:** Adequate staffing is crucial, including the implementation of a quality and safety management system to ensure data quality and security. Training programs should be provided to enhance staff expertise.
- 5. Development, procurement, or upgrade of supporting IT systems** for UAS Operations to be valid in U-space framework. Connectivity with the USSP systems is also essential. ANSP's legacy systems should be adapted or integrated into new IT systems capable of exchanging relevant operational data with CISP under 373/2017 cost.
- 6. Connectivity with ATM systems and third parties:** When U-space is established within controlled airspace, the CISP should establish connectivity with Air Traffic Management (ATM) systems for dynamic airspace reconfiguration. Collaboration with local authorities, police, national trust organisations, national conservation institutions, and other relevant stakeholders should also be considered.
- 7. Education and training:** Ongoing education and training programs should be implemented to ensure that supporting staff possess the necessary knowledge and skills.
- 8. Engagement of experts:** The involvement of experts in various fields such as ATM, AIS/AIM, MET, ASM, IT, safety, and security, as well as collaboration with USSPs and UAS stakeholders is vital to the success of the CISP.

Navigating the complex landscape of U-Space integration requires careful planning, stakeholder collaboration, and financial sustainability. The role of the CISP is pivotal in ensuring the safety and efficiency of U-Space operations, and the decisions made today will shape the future of aviation.