

The UK Proposed Approach to Common Information Service Provider (CISP) and Discovery and Synchronisation Service (DSS)

Industry Consultation Document CAP 3314

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CHAPTER 1

Introduction and Purpose

Why are we consulting?

- 1.1. This document sets out the Civil Aviation Authority's (CAA) consultation on components of a proposed approach to integrating Uncrewed Aircraft System (UAS) operations into the UK air traffic management (ATM) and air navigation service (ANS) environment, of which Uncrewed Aircraft System Traffic Management (UTM) forms an important part, with a focus on data sharing requirements and functionalities.
- 1.2. The Department for Transport (DfT) asked the CAA to develop and consult on a proposed approach to these requirements and functionalities. This consultation is a necessary step before any policy or legislative changes can be introduced. It provides relevant stakeholders with the opportunity to contribute their views and help shape how the proposed framework could be implemented in practice.
- 1.3. The CAA has developed a provisional approach, which is outlined in this document. Through this consultation, the CAA seeks views on whether the proposed approach is appropriate and how the associated requirements and functionalities can be designed and implemented in a practical, fair and effective manner.
- 1.4. To develop this proposed approach, the CAA has undertaken a project of work. This work has included analysis of existing policies, legislation, strategy etc., as well as international comparison, industry engagement, options evaluation across several lenses and technical design work. This has enabled us to reach a proposed approach which we are now testing with industry through this consultation.

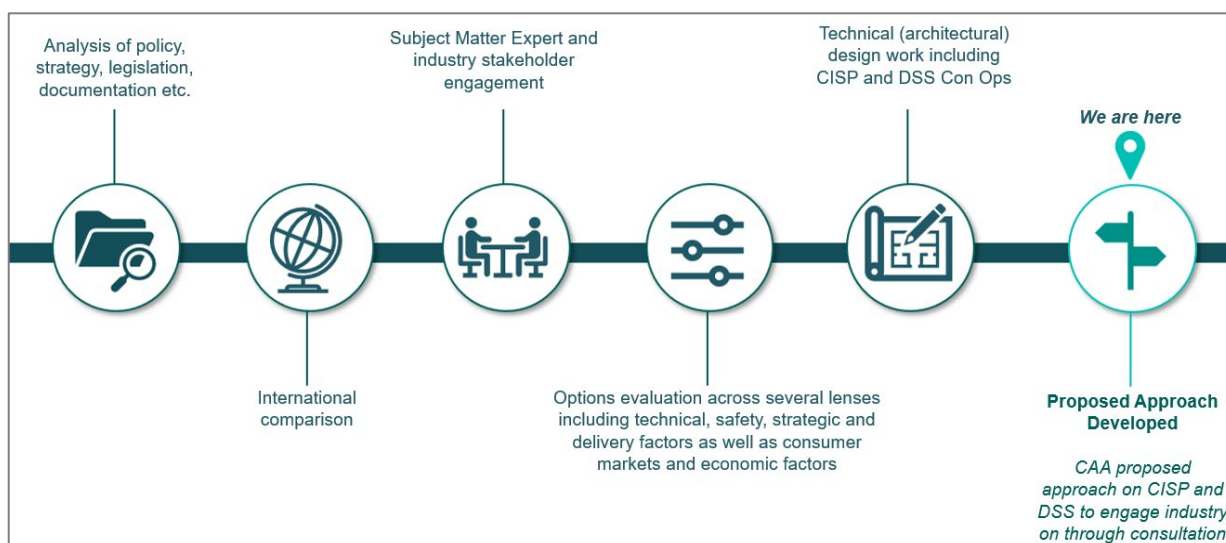


Figure 1 – CAA approach to developing a proposed approach to CISP and DSS.

What this consultation addresses (scope)

- 1.5. We are consulting on a component of the CAA's proposed approach to safely enabling UAS operations within the existing operational environment where ATS and UTM are provided. This includes proposed data sharing and associated functionalities between ATM and UTM systems, as well as among multiple UTM service providers (UTMSPs). Internationally, these requirements have been implemented in a variety of ways, including through differing approaches to the deployment of Discovery and Synchronisation Service (DSS) and the Common Information Service Provider (CISP) functionalities. Rather than mandating the use of a specific product or service provider, the UK has adopted a data-centric approach that focuses on defining the information that must be shared to support safe and effective operations. Where appropriate, the required functionality and proposed mechanisms for sharing that information have been identified.
- 1.6. This consultation document is not intended to serve as a regulatory document; instead, it outlines the current thinking on CISP and DSS functionalities in the context of UTM integration in the UK and will continue to evolve, informed by feedback from trials, industry engagement, collaboration with relevant standards organisations and the response from this consultation.
- 1.7. The CAA recognises that there are multiple ways in which the required information-sharing capabilities could be delivered. The descriptions of DSS and CISP within this consultation reflect the CAA's current thinking and are intended to provide a basis for discussion rather than represent final decisions. Alternative approaches may include, but are not limited to:
 - a predominantly federated model
 - a nationally centralised model
 - hybrid approaches combining centralised and federated features
 - alternative information-sharing approaches that do not rely on the specific DSS and CISP conceptual functionalities described in this document.

The CAA welcomes evidence regarding the advantages, disadvantages and practical implications of alternative approaches, including their impacts on safety, resilience, competition, scalability, interoperability and affordability.

Relationship to wider UTM work and consultation

- 1.8. The increasing use of UAS operations across commercial, government, and recreational domains represents a transformative shift in the aviation landscape. This growth brings with it multiple opportunities yet also presents significant

challenges. Notably, how to integrate these emerging airspace users safely, efficiently, and at scale into the existing aviation system.

- 1.9. One of the strategic elements of the CAA's Airspace Modernisation Strategy (AMS)¹ clearly articulates the UK's vision for incorporating emerging airspace users. The AMS recognises that traditional Air Traffic Management/Air Navigation Services (ATM/ANS) frameworks will require updating and modernising to accommodate the unique characteristics of high-density and increasingly autonomous UAS operations. To address this gap, a dedicated UTM framework has been developed, including a Policy Concept and a Concept of Operations (Con Ops) and a 373 Certification consultation.
- 1.10. The UTM Con Ops, which has recently concluded industry consultation, highlights the presence of CISP and DSS functionalities at a high level, related to the data sharing, both existing ATM to UTM and inter-UTM, required to enable BVLOS operations at scale in the UK. The CAA has now concluded further work to evolve thinking and define the detail beneath these high level concepts.
- 1.11. This consultation aims to explain the proposed detail behind these concepts including the proposed definitions of the functionalities and the proposed high-level architecture.

How this consultation works and how to respond

- 1.12. This consultation follows the established legal principles that apply to public consultations by public bodies. This means consulting at a stage when views can genuinely influence the outcome, providing enough information for meaningful responses, allowing sufficient time to respond, and carefully considering all responses before any decision is made.
- 1.13. No final decisions on the data sharing requirements and associated functionalities discussed in this consultation will be made until all responses have been carefully considered.
- 1.14. [Chapter 6](#) explains how to respond to this consultation, including the closing date and how to submit your views. You do not need to answer every question. Please focus on the sections most relevant to your interests, experience or operations, and support your views with evidence and practical experience where possible.
- 1.15. [Chapter 3](#) explains the CAA proposed approach. As such, the consultation questions are oriented primarily around this chapter.

¹ [About the strategy | UK Civil Aviation Authority](#)

- 1.16. Before responding to questions within this specific consultation, please read the UTM [Policy Concept](#), [Con Ops](#) and [373 Certification](#) consultations. It is advised that particular attention is paid to the term UDSP within the '373 Certification' consultation. These documents further explain the strategic and technical context for this consultation.

This consultation is intended to gather evidence and stakeholder views to inform future policy development relating to:

- the minimum information required to support BVLOS operations at scale
- the responsibilities of UTMSPs, ATS providers and other stakeholders
- the possible role of DSS and CISP functionalities within a UK UTM framework
- interoperability requirements
- regulatory oversight and implementation approaches

This consultation does not determine:

- the appointment of any specific provider to perform future functions
- adoption of a specific implementation model
- the detailed licencing framework
 - future procurement decisions or future legislation.

Terminology used in this consultation

'Uncrewed' Aircraft Systems

- 1.17. The terminology relating to **UAS** requires clarification at the outset of this document. The bulk of domestic and assimilated aviation legislation uses "unmanned" rather than "uncrewed". Our approach for the purposes of this consultation has been to adopt gender-neutral terminology where possible. This approach is consistent with the recently updated British Standards Institution Flex 1903: Future flight systems – Vocabulary. In addition, this approach aligns with the International Civil Aviation Organization (ICAO) Assembly Resolutions: A41-26 promoting gender equality, advocacy and cultural change across aviation. Although we acknowledge that our use of non-gender specific terminology is a departure from the terminology used in legislation and by some stakeholders, the substance of the terminology is the same.
- 1.18. Our use of gender-neutral terminology is for the purposes of the consultation only. We do not intend to pre-empt the terminology to be used in the drafting of any

subsequent legislation or policy. We are also conscious of the need to ensure domestic law is consistent with the terminology used in international law.

Refer to the Annex for the full list of key terms used in this consultation.

ANSP providing ATS

- 1.19. The CAA's proposed approach references data sharing requirements for different actors and in different circumstances. We refer to the 'organisation providing ATS' as the stakeholder responsible for delivering the CISP functionality and sharing the relevant ATM/ANS data. In most cases, this would be the ANSP responsible for the provision of services in a defined airspace, commonly the ANSP providing ATC services in a defined controlled airspace, but the concept of CISP functionality could apply to any ATS provision when deemed appropriate for safety.

CHAPTER 2

Context and Operating Environment

Drivers for change

Airspace modernisation

- 2.1. The AMS sets out the long-term evolution of the UK air navigation system, including the design and operation of UK airspace. One of its aims is to support the safe introduction of new types of aviation, including BVLOS operations, satisfying wherever possible the requirements of operators of all classes of aircraft.
- 2.2. Bringing remotely piloted and aircraft with greater autonomy into shared airspace creates additional challenges for avoiding airborne conflict. Where aircraft cannot reliably detect each other electronically, it may be harder for different types of aircraft to operate in the same airspace safely and efficiently. That has the potential to increase the need to keep some types of operations segregated, which may reduce flexibility and access for all users.
- 2.3. There is an evolving policy position for UA-to-UA traffic awareness. In addition, the CAA sees a need to share critical data between current ATM and UTM to maintain safety and help different types of aircraft share the same airspace. This could also reduce the need to keep different aircraft types segregated and helping protect the needs of airspace users.

The need to enable UAS to operate in the existing operational environment, where air traffic services (ATS) and UTM are being provided

- 2.4. The global aviation landscape is undergoing a period of unprecedented transformation, characterised by the integration of UAS into a traditional ATM environment that was originally designed for human-centric control of crewed aircraft. Legacy ATM systems, specifically with respect to multiple ATS providers, face significant limitations, including disparate services, reliance on congested voice communications, and rigid airspace divisions that fail to maximise capacity.

- 2.5. To accommodate new entrants such as UAS, RPAS², and eVTOL aircraft safely and efficiently, the industry must transition to a framework that does not compromise the resilience of the national air navigation system. UTM serves as the digital framework designed to manage these uncrewed aircraft without overwhelming traditional ATS provision. This involves 'pragmatic integration', where the level of integration and oversight of these UAS operations into traditional operating environments depends on the volumes, the complexity and the actors involved.
- 2.6. As per the global 'Single Airspace Continuum' principle, related to the UK Airspace Modernisation Strategy, and a concept that derives from the ICAO GATMOC Doc 9854, all airspace is a usable resource managed flexibly and dynamically for both crewed and uncrewed operations. Strategic, pre-tactical and tactical services are, according to principles of the Airspace Management (ASM), fundamental to both the UTM and the evolution of integration with crewed traffic and operational scalability. To eliminate operational discontinuities, transitions between different classes of airspace or service providers must be transparent to the user. This strategic direction requires a shift from manually managing individual flights to managing synchronised 4D trajectories (latitude, longitude, altitude, and time) across the entire system.

Regulatory alignment and global interoperability

- 2.7. It is important that as the UK CISP and DSS architecture continues to evolve through consultation, it endeavours to align with and ensure international interoperability. Therefore, this proposed approach is anchored in established and emerging global regulatory frameworks:
- **ICAO Alignment:** The proposed approach facilitates alignment with ICAO's Aviation System Block Upgrades (ASBUs), as defined in the Global Air Navigation Plan (GANP). The UK approach follows ICAO's SWIM concept (Doc 10039) and the SWIM Implementation Manual (Doc 10203). Furthermore, the management of data across the CISP and DSS is rooted in the Information Management principles defined in ICAO Doc 9854, ensuring the provision of accredited, quality-assured, and timely information.
 - **European Regulatory Context:** The proposed architecture acknowledges the principles of European Union Regulation 2021/664 regarding the dissemination of static and dynamic data (including geofencing and ATM-derived constraints) through designated providers, whilst adapting as appropriate to suit the UK's multi-ANSP environment.

² RPAS operations are expected to operate under the existing ATM provisions in the near term.

- **EUROCONTROL Technical Specifications:** To guarantee technical and semantic interoperability, the UK SWIM Implementation Framework provides an overview of the relevant standards and technical specifications applicable to UK SWIM Stakeholders
- **Industry Standards for UAS Identification and Interoperability:** To ensure compatibility with emerging uncrewed aviation ecosystems and support the safe integration of uncrewed aircraft within shared airspace, the architecture also acknowledges key industry standards governing identification, tracking, and network-based information exchange. Together, these standards contribute to ensuring that the UK SWIM-enabled ecosystem remains technically compatible with international uncrewed traffic management frameworks, facilitating secure data exchange, cross-border interoperability, and alignment with the broader evolution of global ATM/UTM integration.

CHAPTER 3

The CAA Proposed Approach

This chapter explains the CAA proposed approach. As such, the consultation questions are oriented primarily around this chapter.

Problem Statement

- 3.1. The CAA's preliminary assessment is that existing ATM and emerging UTM ecosystems may encounter challenges in supporting integrated BVLOS operations at scale without enhanced information-sharing arrangements.

Potential issues include:

- coordination failures between independent actors
- limited interoperability between service providers
- safety risks arising from incomplete situational awareness
- inefficient airspace utilisation
- inconsistent access to authoritative operational information
- barriers to scaling operations across multiple airspace environments
- resilience considerations within a growing digital aviation ecosystem.

The purpose of the proposed intervention is to explore whether information-sharing requirements and associated enabling functions can address these issues in a proportionate manner whilst supporting safety, innovation and market development.

The CAA welcomes evidence on whether these are the correct problems to be addressed and whether alternative solutions may be more effective.

What data is needed in the UK: Three categories of data are required to enable the integration and delivery of safe and efficient BVLOS at scale

- 3.2. When defining the CAA proposed approach to facilitating enablement of UAS to operate in environments where ATS are being provided, the focus is not on

architecture but on the minimum data for safe integration, particularly data that helps facilitate deconfliction. The data required to enable BVLOS can be considered in **three categories**.

Category 1: Specific data required to be shared between UTMSPs

- 3.3. Specific operational intent data from each individual UTMSP with regards to the flight intent of each of the UAVs they are managing, will be shared with the other UTMSPs managing UAVs in that same airspace. This facilitates intra-UTM coordination, transparency and strategic deconfliction.

Minimum required data fields in this category:

- UTMSP Operational Flight Intent
- Information on how to communicate with conflicting UTMSP to facilitate strategic deconfliction

Category 2: Specific data required to be shared from ATS providers to UTMSPs

- 3.4. The appropriate data to facilitate safe operations is to be shared by an organisation providing ATS. This data should be shared with UTMSPs, to enable UTMSPs to have the information they require to operate safely in airspace where ATS is provided.

Specific data about the airspace should be shared, from each individual ATS provider to the UTMSPs managing UAVs in that same airspace.

The common example of Category 2 data sharing is an ANSP providing ATC in controlled airspace sharing data with operating UTMSPs in the same airspace.

Minimum required data fields in this category (in controlled airspace example):

- Surveillance data (likely primary and secondary radar)
- Real-time airspace management notifications specific to the airspace being managed

Category 3: Other data required by UTM operations

- 3.5. A proportion of data will be required for UTM operations and will originate from a variety of providers. This varies by data set but ultimately these additional datasets would provide consistent baseline data across the ecosystem and therefore

supports safe and effective operations. The exact data that is required will emerge as UTM policy finalises, but as an example of Category 3 data is a common picture of terrain data, this to be provided direct by a geospatial data provider and available across all UAS stakeholders could be foreseen. The appropriate level of regulation will be applied here.

- 3.6. Recognising information sharing is an important enabler of safe and scalable BVLOS operations, the CAA also recognises that unrestricted access to all information may not always be appropriate.

Factors that may limit, restrict or condition data sharing include:

- operational security requirements;
- national security considerations;
- law enforcement activities;
- emergency service operations;
- commercial confidentiality;
- contractual restrictions associated with data ownership;
- data protection requirements;
- cyber-security considerations.

- 3.7. The CAA's current view is that information-sharing arrangements should be proportionate and based upon operational need. Access to information should be limited to authorised users with a legitimate requirement to receive it and appropriate safeguards should exist regarding information handling, security and onward dissemination.

Respondents are invited to provide views on:

- what restrictions may be necessary;
- how access should be controlled;
- what information should remain protected;
- how such controls may impact operational effectiveness.

UTM concepts used internationally to enable safe UAS operations

Discovery and Synchronisation Service (DSS)

- 3.8. As referenced at a high level in the UTM consultation, DSS is a functional component found within UTM operations globally. In summary, the function of the

DSS is intended to facilitate strategic deconfliction of UAS operations by facilitating the sharing of data between UTMSPs operating in the same airspace.

- 3.9. While the term is widely used internationally, its implementation and governance can vary between States depending on regulatory frameworks, market structures, and technological approaches to UTM service provision. The variance in the precise role and deployment model of the DSS across States reflects choices such as to whether UTM services are delivered by a centralised system or a federated network of providers, the extent of State versus commercial ownership of data infrastructure, and the maturity of the regulatory environment. In some contexts, the DSS is operated as a neutral, shared service accessible to all authorised providers, while in others its functions may be distributed or embedded within broader UTM platforms. In certain States, alternative mechanisms for data exchange may reduce or delay the need for a formal DSS layer.
- 3.10. Enabling scalable, integrated Beyond Visual Line of Sight (BVLOS) operations³ requires real-time coordination and information exchange between multiple UTMSPs. In many countries, the DSS functionality is designed to support this by ensuring that all participants have consistent access to key operational data, thereby reducing the risk of conflicting operations and enabling strategic deconfliction.

Common Information Service Provider (CISP)

- 3.11. A CISP is an emerging concept within uncrewed aviation, with no formal definition established by ICAO. Internationally, the CISP term is used variably to describe mechanisms for providing common aviation data to the uncrewed aviation community. In this context, 'common aviation data' refers to the shared, authoritative information that all airspace users need in order to operate safely and consistently. However, its precise meaning and role vary by State, reflecting differences in national aviation structures and policy choices. These include, for example, whether a State operates a single or multiple Air Navigation Service Providers (ANSPs), whether the airspace vision is segregated or integrated, and whether aviation data is owned and managed by the State or by commercial entities.
- 3.12. Enabling integrated Beyond Visual Line of Sight (BVLOS) operations⁴ requires data sharing between Air Navigation Service Providers (ANSPs) and UTMSPs. Some States have chosen to use the CISP as a solution to enable this. In some States, the CISP concept is not currently considered necessary.

³ [CAP3182: Future of Flight BVLOS Roadmap | UK Civil Aviation Authority](#)

- 3.13. When defining the UK approach to enabling UAS to operate in the existing operational environment and enable integrated BVLOS at scale, the relevance and role of both the CISP and DSS solutions has been considered.

How this should be delivered in the UK: Proposed functionalities to enable sharing of this categorised data in UK

Category 1: UTMSP to UTMSP sharing of operational flight intent data enabled through Discovery and Synchronisation Service (DSS)

Definition

- 3.14. To fulfil the requirement for UTMSP-UTMSP data sharing (category 1), the proposed approach for the UK is that the DSS is the enabling functionality and is required in all airspace in which multiple UTMSPs are operating. This facilitates multiple UTMSPs, managing one or more UAS Operators, to operate in the same airspace.
- 3.15. Initially, DSS will facilitate strategic deconfliction of BVLOS UA operations by enabling UTMSP-UTMSP data sharing. The DSS essentially allows each UTMSP to understand the planned UA operations managed by other UTMSPs operating in the same airspace to strategically deconflict. This functionality, involving inter-UTMSP data sharing of operational flight intent, enables them to 'discover' other UTMSPs with whom data exchange may be required directly to 'strategically deconflict' flight intents. Future scope of data to be shared between UTMSPs could be much wider as a result of industry adaptation.

Architecture

- 3.16. The CAA's position for consultation is that DSS functionality is decentralised and each UTMSP is responsible for facilitating the DSS functionality for the traffic they manage.
- 3.17. The proposal for consultation, and to be trialled, is the DSS component described in the ASTM Standard F3548-21 UAS Service Supplier Interoperability⁵.
- 3.18. At a high level, likely delivery against the standard utilises a distributed model for resilience, and operates by sharing, amongst other data, the spatial and temporal bounds (the 4D volume) of an operation and a contact URL for the UTMSP holding the further data. Thus, it facilitates horizontal (UTMSP-UTMSP) integration for the drone ecosystem.
- 3.19. It ensures that relevant participants in a shared airspace environment use current and consistent operational data to enable strategic deconfliction of operations. In

⁵ [F3548 Standard Specification for UAS Traffic Management \(UTM\) UAS Service Supplier \(USS\) Interopera...](#)

addition, the standard offers further functionality to facilitate policy derived prioritisation of operations, and the standard enables the opportunity for future inter-UTMSP data sharing.

Standards and international interoperability

- 3.20. To maximise interoperability, minimise implementation risk and support international harmonisation, the proposed approach is that the DSS data-sharing interfaces should be based on internationally recognised and proven UTM standards. The current considered approach (to be trialled and being consulted on) is that the DSS should align with the ASTM F3548-21 UAS Service Supplier (USS) interoperability standard⁶, which defines the mechanisms for operational intent sharing, strategic conflict detection and UTMSP-to-UTMSP coordination. This standard has been adopted and trialled across UTM ecosystems internationally and underpins DSS implementations across a range of UTM environments. This standard will be further analysed through trials throughout the UK.
- 3.21. Leveraging established industry standards will reduce barriers to market entry, facilitate international interoperability and avoid the risks associated with developing UK-specific proprietary data-sharing approaches.
- 3.22. The CAA position is that this federated approach to delivering DSS functionality brings resilience and redundancy.

Category 2: Airspace data shared from Controlling Authority or ANSP to UTMSP enabled through CISP functionality

Definition and Purpose

- 3.23. The proposed approach for the UK is that the Common Information Service Provider (CISP) is the functionality that enables ATM/ANS data to be shared between an organisation providing air traffic services (ATS) and the UTMSPs operating within the same airspace. A common example of this would be the ANSP managing controlled airspace sharing data to UTMSPs operating within that airspace. In principle, the function of a CISP could be regarded as the 'data sharing bridge between UTMSPs and the existing ATS providers'.
- 3.24. The initial role of the CISP will be to ensure that UTMSPs have access to the appropriate real-time operational ATM/ANS data that they need to support safe and efficient UAS operations in airspace. In addition, as BVLOS operations scale, the function of the CISP could evolve to enable UTMSPs to share data about their operations i.e., flight intent, with an ANSP managing the airspace.

⁶ In UK, the proposed equivalent is a UTMSP.

Why is it needed?

- 3.25. As BVLOS operations scale, UTMSPs require access to information that currently resides within the ATM/ANS environment, including surveillance data and airspace management data. Without a mechanism to share this information, UTMSPs may not have a consistent and authoritative understanding of the airspace in which they are operating.

What information would it provide?

- 3.26. Initially, the UK proposed approach focuses on a potential minimum dataset comprising:
- Surveillance data (for example, radar-derived information regarding crewed aircraft)
 - Airspace management information (for example, restrictions, notifications and changes affecting use of the airspace)
- 3.27. Additional datasets may be considered in the future as operational and regulatory requirements evolve.

Who would provide it?

- 3.28. The proposed UK approach is that the organisation responsible for providing ATS within a particular volume of airspace would be responsible for making this information available. Again, the common example would be, an ANSP responsible for controlled airspace.
- 3.29. In controlled airspace, the proposed UK approach is that the organisation responsible for providing ATS would be responsible for providing the CISP function and making this information available. Where ATS are provided outside of controlled airspace, if it is determined that the service the organisation provides is needed safe for UAS operations, the function that enables this information to be shared with UTMSPs will also be defined as a CISP.
- 3.30. The proposal is therefore based on the principle that the organisation holding the authoritative information should make that information available when it is required for safe UAS operations.
This responsibility could be delivered in multiple ways, directly by the organisation itself or by another organisation on their behalf. The focus is on the need to share data.
- 3.31. The UK CISP does not mandate a specific product or organisation, nor a single national platform or technical solution. Instead, it focuses on ensuring that the required information is made available by the organisation providing ATS. This consultation uses the term "CISP" to describe the function being performed rather than mandating a specific implementation.
- 3.32. It is recognised that these requirements may not align entirely with existing policies and legislation and, following this consultation and further development of the UTM policy concepts, any tangible CISP solutions that emerge may require changes to legislation and policy.

Category 3: Other data required for UTM operations shared from a variety of providers in a SWIM compliant manner

- 3.33. To fulfil the proposed required data sharing of other aviation data for UTM operations from a variety of data providers (category 3), the proposed approach for the UK is that, instead of being shared through a mandated product or functionality, the data should be shared in a SWIM compliant manner, in accordance with SWIM standards, by the relevant provider. This data should be accessed directly from (authoritative) data sources, depending on the data type. The data requirements should be determined by operational approval i.e., SORA authorisation and / or as a result of operational requirements from the upcoming UTM policy and legislation. In future, the need to certify these data sources may arise, depending on regulatory changes.

Potential Delivery Model Trade-Offs

- 3.34. Different approaches to information-sharing architecture may deliver different benefits and challenges.

A more centralised approach could potentially:

- simplify governance and oversight;
- promote data consistency;
- reduce the complexity of interoperability arrangements;
- provide a common national capability.

However, it may also:

- create reliance on a smaller number of providers;
- increase barriers to market entry;
- reduce flexibility for innovation;
- introduce concentration risks.

A more federated approach could potentially:

- encourage competition and innovation;
- support resilience through distributed provision;
- allow providers flexibility in implementation.

However, it may also:

- increase interoperability challenges;
- require stronger technical standards;
- increase coordination requirements between participants.

The CAA has not reached a final view regarding the relative merits of different models and welcomes evidence regarding the benefits, costs and risks associated with each.

Delivering functionality through a risk-based model using operational scenarios and component mandates

- 3.35. Based on the proposed approach of what minimum data is required to be shared, along with the proposed functionalities to enable this, the successful integration of UAS operations into the existing operational environment requires an architecture that balances the oversight necessary for ATM/ANS, with the automated coordination required for high-density UAS operations in an efficient manner.
- 3.36. The CAA proposed viewpoint for consultation is that the DSS functionality is federated and delivered by the UTMSPs operating in that airspace. The DSS functionality is required only when there are multiple UTMSPs operating, as it is related to the need for different UTMSPs to deconflict. This data sharing and associated DSS functionality is not required when only one UTMSP is operating in that airspace. Moreover, the CISP functionality enabling ANSP-UTMSP data sharing is required to be delivered in airspace where ATS are being provided e.g., the ANSP managing a volume of controlled airspace and delivering ATS. This data sharing and associated CISP functionality is not required when ATS are not being delivered.
- 3.37. This results in a 'risk-based model' for the functionality, whereby the data sharing and associated functionality is only needed in certain scenarios and is proportionate to the risk i.e., multiple UTMSPs or the presence of ATS provision. The risk-based approach and associated example operational scenarios are detailed in the next section. Using a risk-based model provides the required flexibility for the evolving UTM industry to grow and adapt, whilst still delivering safe and effective operations.

System Wide Information Management (SWIM)

- 3.38. The entire hybrid architecture is underpinned by SWIM, which provides the common information fabric: a decentralised, service-oriented environment where stakeholders publish, discover, and consume assured information services. SWIM detailed policy and guidelines are evolving, but the high level concept remains applicable to the CISP and DSS environment.

Operational Scenarios in the risk-based model

3.39. The CAA's viewpoint for consultation is that the airspace complexity and competitive landscape of service providers determine the extent to which different data sharing and therefore different functionalities are required. This is related to the 'pragmatic integration' where the level of integration and oversight of these UAS operations into traditional operating environments depends on the volumes, the complexity and the actors involved. By mapping these, we define when and where these components are required to maintain safety and interoperability.

Scenario Summary

3.40. As detailed in the definition and architectures, the risk-based model is based on the principle that the requirement for the functionalities is proportionate to the risk and therefore influenced by whether ATS are being delivered in that volume of airspace, as well as the number of UTMSPs operating in that airspace.

3.41. To illustrate the concepts, operational scenarios have been used. These example operational scenarios have been chosen to illustrate how ATS services and service provider complexity influences the data sharing and associated functionality required. This includes using the primary examples of comparing between controlled and uncontrolled airspace (no ATS provision) along with comparing the presence of a single vs. multiple UTMSPs, to demonstrate how this influences whether CISP and DSS functionalities are required.

Example Operational Scenario	ATS provided	Amount of UTMSPs	Data that <u>must</u> be shared			Required Functionality / Delivery Mechanism			Airspace Type Example for the purpose of discussion
			Data category 1	Data category 2	Data category 3	DSS functionality between UTMSPs	CISP functionality between ANSP and UTMSP(s)	Determined by operational requirements, SWIM compliant	
Scenario A	Yes	Multiple	R	R	R	R	R	R	Controlled
Scenario B	Yes	Single		R	R		R	R	Controlled

Scenario C	No	Multiple	R	R	R	Uncontrolled (no ATS provision)
Scenario D	No	Single	R		R	Uncontrolled (no ATS provision)

Table 1 – Required data sharing and functionality with example operational scenarios

Key:

R

= Required

Consultation Questions

Question 1.

The consultation references sharing information between multiple UTMSPs, and between the organisation providing ATS and UTMSPs to enable scalable BVLOS operations in integrated airspace.

What role, if any, should information sharing between UTMSPs and between ATS providers and UTMSPs play in enabling scalable BVLOS operations in integrated airspace? Please explain:

- what information sharing is required;
- why it is required;
- whether alternative approaches could achieve the same outcome.

Question 2.

The consultation identifies three categories of data that may be required to support BVLOS operations at scale:

- UTMSP-to-UTMSP data;
- ATS provider-to-UTMSP data; and
- other required aviation data.

Are these the correct categories of data? Please provide views on:

- whether any categories are missing;
- whether any identified categories are unnecessary;
- how the categories could be improved or simplified.

Question 3.

The CAA's viewpoint for consultation focuses on defining the minimum data required to support BVLOS integration.

What data, if any, do you consider essential for safe and efficient BVLOS operations? Please explain:

- why the data is required;
- who should provide it;

- who should consume it.

Question 4.

What information should UTMSPs share, if any, to support strategic deconfliction and safe operations? Please explain:

- which information should be mandatory;
- which information should be optional;
- whether any information should not be shared;
- implications of your proposed approach.

Question 5.

What mechanisms should be used to enable information sharing between UTMSPs?

Please comment on:

- DSS-based approaches;
- ASTM F3548-21;
- alternative standards or approaches;
- benefits and limitations of each option.

Question 6.

The consultation proposes that at a minimum, the CISP functionality would be required in controlled airspace and involves the sharing of surveillance and airspace management data by the ATS provider.

Do you agree that these datasets are the minimum necessary to enable BVLOS operations in airspace where ATS are being provided? Please explain:

- which datasets are most important;
- whether additional datasets are required;
- whether alternative mechanisms could be used.

Question 7

The CAA's proposed approach requires ATS providers and UTMSPs to exchange certain information. However, there are different ways regulation could achieve this.

Should the CAA:

A. Mandate a specific information-sharing function (for example, a defined CISP capability or architecture); or

B. Mandate that certain information must be made available to authorised users, while allowing organisations flexibility in how they provide it?

Where possible, please explain:

- which approach you support and why;
- the risks and benefits of each approach;
- implications for safety, interoperability and competition;
- implications for implementation costs; and
- any alternative approaches the CAA should consider

Question 8.

The consultation references a risk-based model, whereby only the minimum necessary functionality is required, including UTMSP-to-UTMSP coordination and ATS provider-to-UTMSP information provision.

The consultation references that the requirement for functionality could be determined by:

- whether air traffic services are being provided; and
- the number of UTMSPs operating in the airspace.

What factors should determine when information-sharing functionality is required within UK airspace? Please explain:

- what alternative models should be considered;
- how would they improve outcomes;
- what new challenges might they create?

Question 9.

The CAA's proposed approach is that DSS functionality is unnecessary where only a single UTMSP is operating.

Do you agree with this assumption? Please explain:

- any situations where DSS may still be beneficial;
- any situations where it should remain mandatory.

CHAPTER 4

Enabling Changes Required to the Current System

Enabling Responsibilities

- 4.1. In order to enable the proposed required data sharing detailed in Chapter 3, which is required to enable integrated BVLOS operations at scale, there are several required associated responsibilities introduced for stakeholders including UTMSPs, organisations providing ATS, and the CAA.

What will UTMSPs be required to do

- 4.2. When facilitating UAS operators to operate BVLOS, in all types of airspace, UTMSPs have responsibility to deliver the required UTM services which includes fulfilling DSS functionality. This involves sharing data about an operator's flight intent with other UTMSPs, to enable strategic deconfliction
- 4.3. In airspace where air traffic services (ATS) are being delivered, the UTMSPs have responsibility to use data about the specific airspace to manage UAS operations. This data will be made available to them by the organisation providing ATS, through CISP functionality. A primary example of this is the ANSP responsible for a specific volume of controlled airspace.

What will organisations providing ATS be required to do

- 4.4. In airspace where ATS are being delivered such as controlled airspace, the organisation providing ATS has responsibility to fulfil CISP functionality. This involves sharing ATM/ANS data about the volume of airspace they manage, including airspace management notifications and surveillance data, to the UTMSPs operating in the airspace they provide ATS in.

This responsibility could be delivered in multiple ways, directly by the organisation itself or by another organisation on their behalf. The focus is on the need to share data.

What will the CAA be required to do

- 4.5. Due to its role as the regulator, and as a result of the aforementioned new responsibilities introduced for both ATS providers and UTMSPs, the CAA may be

required to license, regulate and oversee these actors accordingly across areas such as safety and economic factors.

Affordability, proportionality and cost allocation

- 4.6. The CAA recognises that different implementation approaches may result in significantly different cost profiles, both during implementation and in ongoing operation.

Factors that may influence overall value for money include:

- degree of centralisation or federation
- cost of technical integration
- cost of regulatory oversight
- operational resilience requirements
- market participation levels
- future scalability requirements

The CAA welcomes evidence regarding:

- affordability of different models
- ongoing operating costs
- likely funding mechanisms
- cost recovery approaches
- how costs should be distributed between stakeholders
- impacts on market entry and competition
- implications for public sector funding requirements

Consultation Questions

Question 10.

What responsibilities, if any, should be placed on UTMSPs in relation to information sharing and interoperability? Please explain:

- any responsibilities that should be added;

- any responsibilities that should be removed or amended.

Question 11.

The CAA's proposal for consultation is that the organisation providing ATS within the relevant airspace should be responsible for providing the CISP functionality and associated surveillance and airspace management information.

To what extent do you agree or disagree with this proposal? Please explain:

- operational implications;
- technical implications;
- implementation challenges;
- regulatory considerations;
- costs and resource requirements; and
- whether an alternative allocation of responsibility should be considered.

Question 12a.

In relation to the overall proposed approach presented in the consultation, what benefits do you expect to be delivered? Please consider the below and any other impacts you perceive:

- safety;
- scalability of BVLOS operations;
- airspace access;
- interoperability;
- innovation and market development.

Question 12b.

In relation to the overall proposed approach presented in the consultation, what risks, barriers or unintended consequences could arise? Please consider the below and any other impacts you perceive:

- operational impacts;
- commercial impacts;
- competition impacts;

- technical complexity;
- safety risks.

Question 12c.

In relation to the overall proposed approach presented in the consultation, what are the likely costs and resource implications of implementing the proposed approach? Please consider the below and any other implications you perceive. Where possible, please provide evidence:

- development costs;
- integration costs;
- ongoing operational costs;
- compliance and assurance costs.

Question 13.

How should future information-sharing arrangements support:

- law enforcement operations
- emergency service operations
- national security activities
- protection of sensitive operational information
- cyber security and resilience?

Please explain:

- what safeguards are required
- what information should be restricted
- how access should be controlled
- any operational implications

Question 14.

What information or evidence can you provide regarding the affordability, value for money and cost allocation implications of different implementation models, including centralised, federated or hybrid approaches?

Question 15.

Are there international models, standards or implementations that the CAA should consider when developing its approach? Please explain:

- what elements should be adopted;
- what elements should be avoided;
- please explain any comments made

Question 16.

What alternative approach would you propose to achieve safe and scalable BVLOS operations in UK airspace? Please explain:

- how your approach differs from the CAA's preferred approach;
- what advantages it would provide;
- any challenges associated with implementing it.

CHAPTER 5**Summary of Consultation Questions**

Below is a consolidated list of the questions asked in each section of this consultation.

Please provide evidence and reasoning to support your responses where possible.

Question 1.

The consultation references sharing information between multiple UTMSPs, and between the organisation providing ATS and UTMSPs to enable scalable BVLOS operations in integrated airspace.

What role, if any, should information sharing between UTMSPs and between ATS providers and UTMSPs play in enabling scalable BVLOS operations in integrated airspace? Please explain:

- what information sharing is required;
- why it is required;
- whether alternative approaches could achieve the same outcome.

Question 2.

The consultation identifies three categories of data that may be required to support BVLOS operations at scale:

- UTMSP-to-UTMSP data;
- ATS provider-to-UTMSP data; and
- other required aviation data.

Are these the correct categories of data? Please provide views on:

- whether any categories are missing;
- whether any identified categories are unnecessary;
- how the categories could be improved or simplified.

Question 3.

The CAA's viewpoint for consultation focuses on defining the minimum data required to support BVLOS integration.

What data, if any, do you consider essential for safe and efficient BVLOS operations? Please explain:

- why the data is required;
- who should provide it;
- who should consume it.

Question 4.

What information should UTMSPs share, if any, to support strategic deconfliction and safe operations? Please explain:

- which information should be mandatory;
- which information should be optional;
- whether any information should not be shared;
- implications of your proposed approach.

Question 5.

What mechanisms should be used to enable information sharing between UTMSPs?

Please comment on:

- DSS-based approaches;
- ASTM F3548-21;
- alternative standards or approaches;
- benefits and limitations of each option.

Question 6.

The consultation proposes that at a minimum, the CISP functionality would be required in controlled airspace and involves the sharing of surveillance and airspace management data by the ATS provider.

Do you agree that these datasets are the minimum necessary to enable BVLOS operations in airspace where ATS are being provided? Please explain:

- which datasets are most important;

- whether additional datasets are required;
- whether alternative mechanisms could be used.

Question 7

The CAA's proposed approach requires ATS providers and UTMSPs to exchange certain information. However, there are different ways regulation could achieve this.

Should the CAA:

A. Mandate a specific information-sharing function (for example, a defined CISP capability or architecture); or

B. Mandate that certain information must be made available to authorised users, while allowing organisations flexibility in how they provide it?

Where possible, please explain:

- which approach you support and why;
- the risks and benefits of each approach;
- implications for safety, interoperability and competition;
- implications for implementation costs; and
- any alternative approaches the CAA should consider

Question 8.

The consultation references a risk-based model, whereby only the minimum necessary functionality is required, including UTMSP-to-UTMSP coordination and ATS provider-to-UTMSP information provision.

The consultation references that the requirement for functionality could be determined by:

- whether air traffic services are being provided; and
- the number of UTMSPs operating in the airspace.

What factors should determine when information-sharing functionality is required within UK airspace? Please explain:

- what alternative models should be considered;
- how would they improve outcomes;

- what new challenges might they create?

Question 9.

The CAA's proposed approach is that DSS functionality is unnecessary where only a single UTMSP is operating.

Do you agree with this assumption? Please explain:

- any situations where DSS may still be beneficial;
- any situations where it should remain mandatory.

Question 10.

What responsibilities, if any, should be placed on UTMSPs in relation to information sharing and interoperability? Please explain:

- any responsibilities that should be added;
- any responsibilities that should be removed or amended.

Question 11.

The CAA's proposal for consultation is that the organisation providing ATS within the relevant airspace should be responsible for providing the CISP functionality and associated surveillance and airspace management information.

To what extent do you agree or disagree with this proposal? Please explain:

- operational implications;
- technical implications;
- implementation challenges;
- regulatory considerations;
- costs and resource requirements; and
- whether an alternative allocation of responsibility should be considered.

Question 12a.

In relation to the overall proposed approach presented in the consultation, what benefits do you expect to be delivered? Please consider the below and any other impacts you perceive:

- safety;
- scalability of BVLOS operations;
- airspace access;
- interoperability;
- innovation and market development.

Question 12b.

In relation to the overall proposed approach presented in the consultation, what risks, barriers or unintended consequences could arise? Please consider the below and any other impacts you perceive:

- operational impacts;
- commercial impacts;
- competition impacts;
- technical complexity;
- safety risks.

Question 12c.

In relation to the overall proposed approach presented in the consultation, what are the likely costs and resource implications of implementing the proposed approach? Please consider the below and any other implications you perceive. Where possible, please provide evidence:

- development costs;
- integration costs;
- ongoing operational costs;
- compliance and assurance costs.

Question 13.

How should future information-sharing arrangements support:

- law enforcement operations
- emergency service operations

- national security activities
- protection of sensitive operational information
- cyber security and resilience?

Please explain:

- what safeguards are required
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Question 14.

What information or evidence can you provide regarding the affordability, value for money and cost allocation implications of different implementation models, including centralised, federated or hybrid approaches?

Question 15.

Are there international models, standards or implementations that the CAA should consider when developing its approach? Please explain:

- what elements should be adopted;
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- please explain any comments made

Question 16.

What alternative approach would you propose to achieve safe and scalable BVLOS operations in UK airspace? Please explain:

- how your approach differs from the CAA's preferred approach;
- what advantages it would provide;
- any challenges associated with implementing it.

CHAPTER 6

Consultation Process and Next Steps

How to respond to this consultation

- 6.1. The CAA welcomes responses from anyone with an interest in this consultation, including service providers, operators, pilots, aircraft owners, manufacturers, maintenance organisations, representative bodies, air traffic controllers, flight information service officers, airspace users and members of the public.
- 6.2. Responses should be submitted by 30 November 2026.
- 6.3. You can respond through the CAA's dedicated online consultation platform at: <https://consultations.caa.co.uk/air-traffic-management/proposed-approach-to-cisp-and-dss>
- 6.4. You do not need to answer every question. You can respond only to the sections that are most relevant to your interests, experience or operations. Where possible, please support your views with evidence, data or practical experience.
- 6.5. Responses should address the issues raised in this document. You are also welcome to suggest alternative approaches that you consider would better achieve the objectives, provided you explain your reasoning and provide supporting evidence.

How responses will be treated

- 6.6. All responses received by the closing date will be considered. Responses received after the closing date may not be included in the analysis.
- 6.7. Responses will be analysed in a systematic and consistent way. The CAA will consider all views submitted. Views will be grouped by theme and weighted according to the evidence provided, the legal constraints, safety considerations, and the overall policy objectives. This consultation is not a referendum, and the CAA will not automatically adopt positions that receive the greatest volume of support. Where the views of respondent groups are materially different, this will be reflected in the CAA's analysis and response.
- 6.8. Not every suggestion can necessarily be adopted. Where the CAA does not accept a view expressed in the consultation, the consultation response document will explain why.

- 6.9. If responses raise issues that go beyond the scope of this consultation, those views will be noted. Any policy changes resulting from this consultation will focus on the issues described in this document.
- 6.10. We are aware that the recent CAA consultation on the UTM Con Ops referred to CISP and DSS functionalities at a high level. As such, any responses received from that consultation referencing these functionalities will be considered and analysed alongside any responses from this consultation. Subsequently, the CAA aims to respond to industry on these concepts through a coordinated response.

Confidentiality and data protection

- 6.11. The CAA intends to publish a summary of responses following the close of the consultation.
- 6.12. Individual responses will also be published on the consultation platform where the respondent has given permission through the consultation survey.
- 6.13. All personal data will be handled in accordance with applicable data protection legislation. Further information on how the CAA processes personal data is provided in the privacy notice accompanying this consultation, available on the consultation platform.

What happens next

- 6.14. Following the close of the consultation, the CAA will review and analyse all responses received. The CAA will then publish a consultation response document setting out:
- the main themes raised by respondents;
 - the CAA's conclusions on those themes;
 - the CAA's final policy position on the proposed approach;
 - the next steps in the policy and legal process.
 - The consultation response document will explain the basis on which the CAA has reached its conclusions. It will not necessarily reproduce every individual point made, but it will address the substantive issues raised.
 - This consultation does not determine the final design of the DSS / CISP. The CAA's policy position will be confirmed after all responses have been considered. Any license requirements or mandated changes would still need to go through the required steps to make it legally binding.

CHAPTER 7**Annex A - Abbreviations**

AMS	Airspace Modernisation Strategy
ANSP	Air Navigation Service Provider
ATC	Air Traffic Control
ATCO	Air Traffic Control Officer
ATM	Air Traffic Management
BVLOS	Beyond Visual Line of Sight
CDM	Collaborative Decision Making
CISP	Common Information Service Provider
DAA	Detect and Avoid
DfT	Department for Transport
DSS	Discovery and Synchronisation Service
EU	European Union
ICAO	International Civil Aviation Organization
IXS	Information Exchange Service(s)
P2P	Peer-to-Peer
SWIM	System Wide Information Management
TFR	Temporary Flight Restriction(s)
UA	Uncrewed Aircraft
UAS	Uncrewed Aircraft System
UAV	Uncrewed Aerial Vehicle
UTM	Uncrewed Aircraft System Traffic Management
UTMSP	UTM Service Provider
VLOS	Visual Line of Sight