

White Paper on a Strategy for Enabling ‘Specific’ Category BVLOS UAS Operations at Scale in the EASA Framework

May 2025

Executive Summary

This joint UAS industry¹ White Paper sets out a phased strategy to enable ‘specific’ category Beyond Visual Line Of Sight (BVLOS) UAS operations at scale within the EASA framework, with a particular focus on very low-level (VLL) airspace and up to 1,000 ft above the ground level (AGL).

This strategy addresses key airspace-related blockers, such as the lack of electronic conspicuity (EC) in manned aviation or the limitations of the current SERA framework, for which multiple, complementary and mutually reinforcing pathways are proposed.

Structured across three time horizons—H1 2026, H2 2027, and H1 2029—, the White Paper outlines practical steps to incrementally unlock scalable BVLOS operations. Crucially, it calls for the initiation and progression of targeted regulatory activities under EASA rulemaking tasks (RMT), including, but not limited to, RMT.0476 on the *Regular Update of the Standardised European Rules of the Air (SERA)*, RMT.0729 on the *Regular Update of Implementing Regulation (EU) 2019/947 and of Delegated Regulation (EU) 2019/945*, and RMT.0730 on the *Regular Update of the AMC & GM to Implementing Regulation (EU) 2019/947*, to adapt relevant regulations guidance, and means of compliance in support of BVLOS operations at scale and the entire European UAS ecosystem.

The strategy urges the European Commission, EASA, and Member States to accelerate the deployment of enabling technologies and unlocking services while at the same time leveraging existing airspace solutions and regulatory mechanisms at the European and national levels.

Introduction and Scope

The proposed strategy outlined in this White Paper aims at enabling ‘specific’ category BVLOS UAS operations at scale in the EASA framework, with a specific focus on airspace considerations.

It initially concentrates on operations in VLL airspace —generally defined as the portion of airspace close to the ground, typically below 500 ft AGL, used mainly by UAS, but also flown through by manned aviation during take-off and landing, and by authorised State², helicopter emergency medical service (HEMS), and aerial work flights— and up to 1,000 ft AGL, as a stepping stone toward broader, more comprehensive airspace integration.

¹ Formally endorsed by AME, DAE, GUTMA, JEDA, and UAV DACH

² State flights include military, customs, police, search and rescue, firefighting, border control, coastguard or similar activities or services under the control and responsibility of a Member State, undertaken in the public interest by or on behalf of a body vested with the powers of a public authority.

Accordingly, this document is deliberately scoped to address current airspace-related blockers and potential enablers for scalable and sustainable BVLOS operations. It does not seek to cover the wider set of regulatory challenges under IR (EU) 2019/947 and SORA, such as the harmonisation of regulatory implementation and enforcement across EASA Member States, which are already being, or are planned to be, addressed separately through dedicated EASA UAS TeB Task Forces. In this sense, the industry urges EASA to ensure that these initiatives remain on track and are adequately staffed, and that the identified issues are tackled in a timely, risk-proportionate, and effective manner.

Vision and Foundational Considerations

While this White Paper considers ‘specific’ category BVLOS UAS operations outside U-space airspace, as requested by EASA, the European UAS industry urges the European Commission, EASA, and Member States to prioritise the designation, implementation, and operationalisation of U-space across Europe, including the associated certification of U-space service providers, as the most suitable framework it provides addresses the majority of airspace-related blockers identified herein.

Among them, insufficient electronic conspicuity of manned aviation, in combination with legacy rules of the air, stands out as the primary barrier to BVLOS operations at scale outside of U-space airspace. Therefore, in parallel with the proposals outlined in the table below for the short and medium terms, the industry urges EASA to pro-actively encourage and support EASA Member States in making use, in a harmonised and consistent manner, of already available tools, which include, but are not limited to, special use airspace (SUA) constructs in VLL airspace and up to 1,000 ft AGL, such as temporary reserved areas (TRA) with electronic conspicuity requirements for manned aviation or transponder mandatory zones (TMZ) with exemptions granted for UAS operations.

Moreover, in addition to the ADS-B equipage requirements already in place for certain manned aircraft types, the UAS industry strongly supports EASA’s ongoing iConspicuity efforts to promote affordable and interoperable ADS-L technologies, which are increasingly embraced by the General Aviation (GA) community in Europe as a practical step toward enhancing situational awareness and facilitating safe operations in shared airspace across diverse operational environments. In this sense, the UAS industry remains ready to contribute to the technical specification for ADS-L 4 MOBILE (telephony).

Phased implementation approach

This strategy is structured around three time horizons to provide a phased and realistic pathway toward enabling ‘specific’ category BVLOS UAS operations at scale:

- H1 2026—short term: focuses on immediate, practical steps that can build on ongoing initiatives and leverage existing regulatory frameworks;
- H2 2027—medium term: follow-on measures requiring additional development and coordination, with the brief 1.5 year-interval reflecting the expectation of a fast-paced, sustained progress; and

- H1 2029—longer term: targets more comprehensive airspace integration, requiring additional regulatory alignment, broader stakeholder alignment, and the deployment of mature enabling technologies.

Strategy for Enabling 'Specific' Category BVLOS UAS Operations at Scale in the EASA Framework

Item	Blocker	Short term (by H1 2026) proposal	Mid term (by H2 2027) proposal	Long term (by H1 2029) proposal
#0	Lack of a dedicated, coordinated mechanism within EASA for the timely and effective delivery of the actions outlined in this White Paper	0.1) Establish a Task Force under the UAS TeB responsible for coordinating and implementing the actions and priorities set out in this White Paper.	N/A	N/A
#1	Insufficient electronic conspicuity of manned aviation , compromising the ability of UAS operators to meet the relevant SORA tactical mitigation performance requirements (TMPPR).	1.1.1) Pro-actively promote and accelerate the adoption of ADS-B and ADS-L technologies among authorised VLL airspace users (e.g. blue light operators, incl. HEMS, SAR, police, etc.) and VFR aviation operating up to 1,000 ft AGL to enable detect-and-avoid (DAA) strategies by UAS, reducing unnecessary burden on operators, increasing safety, and enhancing situational awareness of all airspace users. 1.1.2) Initiate an activity within rulemaking task RMT.0476 for the amendment to Regulation (EU) No 923/2012 as regards ADS-L for VFR aviation outside of U-space airspace. 1.1.3) Adopt the technical specification for ADS-L 4 MOBILE (telephony), incorporating technical input from the UAS industry.	1.2) Publish an NPA on the update to Regulation (EU) No 923/2012 as regards ADS-L for VFR aviation outside of U-space airspace.	1.3) Publish an Opinion on the update to Regulation (EU) No 923/2012 as regards ADS-L for VFR aviation outside of U-space airspace following the associated NPA open consultation.

#2	Standardised European Rules of the Air (SERA), primarily designed with manned aviation in mind, rely heavily on pilot-in-command responsibilities based on visual awareness and direct situational assessment, which do not align well with BVLOS UAS operations. They offer limited flexibility to accommodate scalable, repeatable BVLOS use cases and create operational constraints for UAS operators.	2.1.1) Amend EASA's <i>Guidelines on operations in the open and specific category</i> [link] to clarify: • right-of-way rules between UAS, as determined by criteria such as the operational category, performance or manoeuvrability; and • the applicability of the relevant SERA operational requirements to BVLOS operations – UK AMC1 Article 7(2) [link] is deemed a good reference point or starting example. 2.1.2) Initiate an activity within RMT.0476 for the amendment to Regulation (EU) No 923/2012 as regards those aspects where current rules of the air are clearly conflicting with or not factoring in UAS of varying levels of automation, including right-of-way rules or rules concerning communication, which must evolve to support digital, automated and non-voice or human-signal-based interactions.	2.2.1) Formalise the guidance as new AMCs to Article 7(2) through an ED Decision under RMT.0730. 2.2.2) Publish an NPA on the update to Regulation (EU) No 923/2012 as regards UAS operations.	2.3) Publish an Opinion on the update to Regulation (EU) No 923/2012 as regards UAS operations following the associated NPA open consultation.
#3	Lack of standardised, up-to-date aeronautical data relevant for UAS operations (e.g., UAS geographical zones).	3.1) Enforce the widespread availability of up-to-date UAS-relevant data in an easy-to-access, machine-readable, standardised (ED-318) format, in adherence to Article 15(3) of IR (EU) 2019/947.	N/A	N/A
#4	Lack of clear mechanisms for validating and crediting DAA capabilities within airspace with residual ARC-b to ARC-d.	4.1.1) Actively engage in the ongoing and future work of Standards Development Organisations (SDOs), such as EUROCAE and ASTM, regarding the development of risk-proportionate and performance-based DAA standards³. 4.1.2) Lead a coordinated European effort to develop a representative, real-world data-based encounter model for assessing and validating performance of airborne and ground-based DAA systems in airspace with residual ARC-b to ARC-d, with a focus on VLL and up to 1,000 ft AGL.	4.2.1) Recognise appropriate DAA standard(s) in the form of AMC & GM to SORA TMPR through an ED Decision under RMT.0730. 4.2.2) Recognise the encounter model in the form of AMC to SORA TMPR through an ED Decision under RMT.0730.	N/A

³ Most existing DAA standards present significant limitations. First, they are not tailored to the unique characteristics of small UAS operated in the 'specific' category, potentially resulting in excessively large separation volumes that undermine the feasibility of real-world commercial operations. Second, many impose both cooperative and non-cooperative DAA requirements, which would be unnecessary and disproportionate in operational environments where manned aviation is required to be e-conspicuous. Finally, some standards prescribe specific solutions that raise proprietary ownership concerns.

#5	Insufficient deployment and recognition of industry standard-compliant UAS-specific services , hindering UAS scalability ^{4,5} .	5.1) Pro-actively promote and accelerate the deployment, operationalisation, and recognition of essential-for-safe-flight, industry standard-compliant U-space-like enabling services , in particular: • SCD / UAS flight authorisation service • Geo-awareness service	5.2) Pro-actively promote and accelerate the deployment, operationalisation, and recognition of additional industry standard-compliant U-space-like enabling services, such as: • Network identification service • Traffic information service	N/A
#6	Conservative consideration of atypical airspace in proximity of natural or artificial obstacles whose height is above 20 m.	6.1) Amend EASA's <i>Guidelines on operations in the open and specific category</i> to establish a uniform maximum vertical distance of 30 m from the top of the overflown obstacle, capped at 120 m AGL, for the purpose of defining atypical airspace, regardless of the obstacle's height.	2.2.1) Formalise the guidance in AMC6 Article 11 through an ED Decision under RMT.0730.	N/A

⁴ These actions should be launched in parallel with the designation of U-space airspaces.

⁵ The industry advocates for a targeted roll-out of industry standard-compliant UAS-specific services, particularly the core component of Strategic Conflict Detection (SCD), focusing on locations with substantial UAS traffic. The objective is to ensure these services can be actively used and credited in operational approvals for BVLOS flights at scale.

Conclusion and Call for Action

This White Paper outlines a realistic and phased strategy to unlock scalable, safe, and sustainable ‘specific’ category UAS BVLOS operations at scale within the EASA framework—particularly in VLL airspace and up to 1,000 ft AGL. The UAS industry now calls on:

- **European Commission** to ensure that EASA is equipped with the necessary resources, institutional and political backing, and political priority to adequately staff and fully support the above-mentioned activities, as well as to actively engage in them itself.
- **EASA** to take concrete steps toward the necessary regulatory updates identified, especially through timely progression of RMT.0476, RMT.0729, and RMT.0730, and to push forward on the adoption of ADS-B and ADS-L electronic conspicuity technologies across Member States.
- **EASA Member States** to actively support the implementation of existing regulatory tools—such as SUA constructs with targeted electronic conspicuity mandates—and accelerate the rollout of U-space and UAS-enabling services.
- **Industry stakeholders** to continue actively engaging in EASA’s rulemaking and policymaking activities, and collaborate with EASA and Member States in operational deployments that demonstrate the viability of safe BVLOS operations at scale.

All stakeholders to increase their active participation in the relevant SDO and Stakeholder Advisory Body (SAB) Action Group (AG) activities, which provide an ideal forum for EASA and Member States to provide strategic guidance and technical feedback to industry.