SHEPHERD

EASA.2022.C05

D1.1-D1.2
Industry standards assessment criteria and work methodology

An Agency of the European Union

Disclaimer

SUMMARY

This document details the work methodology used by the "Standards Evaluation Project supporting European Regulations for Drones", referred hereafter as "SHEPHERD project", for the technical assessment of the suitability of the standards proposed by AW-Drones project as good candidates to fulfil the requirements contained in the Specific Operations Risk Assessment (SORA) as adopted by EASA, EASA's Special Condition (SC) Light-UAS for Medium Risk. and Commission Implementing Regulation (EU) 2021/664.

The work methodology outlines the identification of the standards in scope based on the AW-Drones project deliverables and in line with the EUSCG U-RDP; the identification of the requirements to assess the standards against based also on the AW-Drones project deliverables; the structured categorisation of the requirements; the "4-eye" independent assessment of the proposed standards based on a set of clear criteria, as well as their rating; and the summary of the standard assessment.

CONTENTS

ABBREVIATIONS

ACRONYM	DESCRIPTION
AMC	Acceptable Means of Compliance
API	Application Programming Interface
CAA	Civil Aviation Authority
ConOps	Concept of Operations
EASA	European Union Aviation Safety Agency
EU	European Union
EUSCG	European UAS Standards Coordination Group
GM	Guidance Material
IR	Implementing Regulation
MoC	Means of Compliance
N/A	Not applicable
NPA	Notice of Proposed Amendment
OSED	Operational Services and Environmental Description
OSO	Operational Safety Objective
RDP	Rolling Development Plan
SAIL	Specific Assurance and Integrity Level
SC	Special Condition
SDO	Standards Development Organisation
SHEPHERD	Standards Evaluation Project supporting European Regulations for Drones
SORA	Specific Operations Risk Assessment
UAS	Unmanned Aircraft Systems
U-RDP	UAS Standardisation Rolling Development Plan
TC	Type Certificate
TLS	Transport Layer Security

1. Introduction

The main objective of the SHEPHERD project is to build upon the work performed by the AW-Drones project by complementing its analysis through the **technical assessment of the suitability of the standards** listed by AW-Drones as good candidates to fulfil the requirements contained in the following provisions:

- Specific Operations Risk Assessment (SORA), in line with the Acceptable Means of Compliance AMC1 to Article 11 of Implementing Regulation (IR) (EU) 2019/947 published in December 2020:

    o   mitigation means;

    o   operational safety objectives (OSOs); and

    o   requirements for the containment of the operation (i.e., Step #9);

- Special Condition (SC) Light-UAS Medium Risk, as published by EASA in December 2020;

- Chapters 2, 3, and 4, and Annex 3 to the U-space Regulation, IR (EU) 2021/664.

The list of standards is based on the AW-Drones deliverables. However, it is well understood that, because the development of standards by the different standards developing organisations (SDOs) is still ongoing, in particular in the field of U-Space, new standards related to the demonstration of compliance with Chapters 2, 3, and 4, and Annex 3 to the U-space Regulation, IR (EU) 2021/664, may be introduced in the Unmanned Aircraft Systems (UAS) Rolling Development Plan (U-RDP) by the European UAS Standards Coordination Group (EUSCG) up to 6 months before the expiration date of the contract. These standards will also be considered in the scope of the SHEPHERD project.

It is essential that the assessment performed by the SHEPHERD project is impartial, systematic, and consistent. This is ensured through the work methodology described in this document, which is based on the following core elements:

- "level of confidence that the standard meets the safety objective of the provisions"; and

- "easiness of the implementation of the standard(s)".

2. Work methodology for the standards' assessment

To evaluate the technical suitability of the standards, it is considered of paramount importance to develop a rigorous methodology assuring impartial, systematic, and consistent assessment results.

The work methodology proposed by SHEPHERD is composed of four steps:

- Step #1 - Identify the standards in scope and the requirements against which the standards need to be assessed;

- Step #2 - Categorise the requirements against which the standards in scope need to be assessed;

- Step #3 - Assess with a 4-eye independent principle each proposed standard linked to 'type A' requirements (objective-based);

- Step #4 - Summarise the assessment.

2.1 Step #1 - Identify the standards in scope and the requirements against which the standards need to be assessed

As explained in the introduction, the list of standards proposed to be considered within the scope of the SHEPHERD project is extracted from the AW-Drones project deliverables[1], which are aligned with the EUSCG U-RDP[2]:

- For SORA: AW-Drones D4.3.b) proposed standards | Section 4;

- For SC Light-UAS Medium Risk: AW-Drones D4.3.a) proposed standards |Sections 2.7, 3.6, 4.10, 5.5.4, 6.10, 7.5, and 8.5; and

- For U-Space:

    o AW-Drones D4.3.c) proposed standards | Sections 3.4, 4.4, 5.4, 6.4, 7.4, and 8.4;

    o EASA Notice of Proposed Amendment (NPA) 2021-14 | AMC1 & GM1 Art 5(1), GM1 Art 5(1)(b), GM1 Art 5(1)(f), AMC4 & GM2 Art 8(1), AMC1 Art 8(2), GM1 Art 8(3), GM1 Art 8(4), GM2 Art 9(2), and GM1 Art 10(5).

For each of the standards, the following is identified:

- title, version (year of publication or 'not yet published' status), and SDO;

- associated domain, in line with EASA.2021.HVP.22 Tender Specifications;

- allocation among SHEPHERD consortium members and contractors; and

- proposed priority (P1/P2).

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[1] https://www.aw-drones.eu/resources/
[2] https://www.euscg.eu/rdp/

In addition, a list of standards not yet published but identified in the various SDOs roadmaps is proposed to be included in the scope of the SHEPHERD project. If any of the standards proposed to be in scope are not published six (6) months before the end of the project, these would be descoped.

For each of the standards identified in scope, the list of requirements against which the standards need to be assessed is extracted from the AW-Drones project deliverables considering the following aspects:

● The SC Light-UAS Medium Risk contains a set of requirements which can be used in a design verification project (e.g., in the framework of an operational authorisation in the 'specific' category for a SAIL III or IV operation as defined in the SORA where the competent authority requires the use of a UAS with a design verification report - DVR) or a voluntary type certification (TC).

Note that the SC Light-UAS requirements has some limitations since the SC Light-UAS Medium Risk is limited to 600 kg contrary to the SORA methodology which does not provide any mass limitations. For this reason, some standards are proposed to be assessed against both SORA and SC Light-UAS requirements for completeness.

● In some cases, even if the requirements do not need Acceptable Means of Compliance (AMC) or Means of Compliance (MoC) with SC Light-UAS to refer to a specific detailed standard, some more high-level standards may still be considered as helpful guidance for the applicant; these cases will be indicated in the assessment summary for 'type A.1' and 'type A.2' requirements.

● Whenever a requirement includes several criteria which are matching different requirement categories (as defined in the next chapter), the different criteria are proposed to be assessed separately.

The list of standards, the applicable requirements to be assessed against, and the proposed priority are provided in the separate Excel file: "**2022-09-16 Scope, allocation, priorities for EASA review**".

Note - some requirements contained either in the JARUS SORA v2.5, the SC Light-UAS Medium Risk, as published by EASA in December 2020, or Chapters II, III, and IV, and Annex 3 to the U-space Regulation, IR (EU) 2021/664, are not covered by the scope of the SHEPHERD project since the starting point for the assessment is the list of standards (not the list of requirements).

2.2 Step #2 - Categorise the requirements against which the standards in scope need to be assessed

The requirements identified above are categorised either as:

● **objective-based** requirements; or

● **technology-dependent** requirements.

Technology-dependent requirements need an implementation technology (to be chosen by the applicant) before an AMC or a MoC can be identified. Objective-based requirements can be directly matched with a MoC that provides guidance for implementation.

Objective-based requirements are defined as 'type A'; these requirements are further refined into the following categories:

A.1. Technical objective-based requirements

- Technical objective-based requirements are performance-oriented requirements targeting a specific technical consideration or design but leaving flexibility on the implementation up to the UAS manufacturer.

- Example of 'type A.1' requirements: SC Light-UAS.2510(a) and SC Light-UAS2511(a) & (b)(2) requirements.

- Two types of standards could be considered as suitable MoC, although presenting different approaches:

    o standards proposing a specific implementation / architecture answering this requirement; or

    o standards proposing a methodology to support the compliance with the objective-based requirement.

A.2. Operational or organisational objective-based requirements

- Operational or organisational objective-based requirements are performance-oriented leaving flexibility on the implementation at operational (e.g., with respect to training / manual and procedures) or organisational levels up to the UAS operator.

- Example of 'type A.2' requirements: SORA remote crew training-related OSOs for operational aspects and OSO#02 for organisational aspects.

- Suitable standards for 'type A.2' requirements are expected to be standards providing general guidance to be adapted by the UAS Operator depending on the Concept of Operations (ConOps) or ConOps-dependent standards.

    o Example: guidance on how to organise a syllabus for remote crew training without imposing systematic specific subjects to be covered, as SORA remote crew training-related OSOs are ConOps-dependent.

B. Technology-dependent requirements

- These requirements provide performance requirements whose implementation will strongly depend on the technology chosen by the applicant.

- Example of 'type B' requirements: SORA OSO#06 and OSO#13.

- It is expected that many standards could be considered as suitable depending on the technology chosen and the ConOps retained by the UAS Operator.

    o In such a case, many standards could be considered intrinsically valid (again, depending on the ConOps and technology chosen by the applicant) and generic criteria to assess the suitability of standard may not be relevant.

    o Therefore, assessing the suitability of a standard beyond what has already been performed by AW-Drones is not considered pertinent and, thus, falls outside the scope of SHEPHERD.

- Instead, the SHEPHERD project proposes to build a mapping of existing suitable standards organised by technology and providing a summary of the ConOps / OSED addressed by the standard.

Depending on the category of requirement (i.e., types A.1, A.2, or B), different approaches are chosen to optimise the assessment and developed in the following sections of the SHEPHERD Work Methodology.

The categorisation of the requirements within scope of the SHEPHERD project is provided in the separate Excel file: "**2022-09-16 Scope, allocation, priorities for EASA's review**".

2.3 Step #3 - Assess with a 4-eye independent principle each standard linked to 'type A' requirements (objective-based)

The third step of the methodology consists in technically assessing the standards related to 'type A' requirements (objective-based).

Step #3.1 - Preliminary high-level assessment

A preliminary high-level assessment is deemed necessary in order to clearly identify (and isolate) those sections, subsections, or paragraphs which do not address the requirement(s) that a given standard is to be assessed against or which address them at a very high level (e.g., at a regulatory-like level) with no further guidance, criteria, or best practices. In such cases, rationale will be provided to justify that no detailed technical assessment is needed.

The preliminary high-level assessment will be performed using the template provided in tab "**Preliminary high-level assessment**" of the separate Excel file "**Assessment Templates**" and be performed for every requirement identified within the scope of SHEPHERD.

In the case a given standard is to be assessed by two or more SHEPHERD consortium members or contractors, a unique, consistent, and consolidated preliminary high-level assessment will be provided.

Level of granularity of the assessment

The preliminary high-level assessment and, where applicable, the subsequent detailed technical assessment need to be performed in a systematic manner at a section, subsection, or paragraph level in order to isolate the cases where a standard may contain elements that do not pertain to the objective of the requirement(s).

For their part, as far as the requirements are concerned, the preliminary high-level assessment and, where applicable, the detailed technical assessment may also be divided according to the different sub-requirements they may contain. As a way of illustration, a given standard section, subsection, or paragraph may only address the integrity, and not the assurance, of a given OSO, or cover only sub-requirement (x) of SC-Light.UAS.2yyy.

Step #3.2 - Detailed technical assessment

A detailed technical assessment will be performed only to those sections, subsections, or paragraphs identified in the preliminary high-level assessment as potentially addressing the particular requirement(s), making use of:

- the guidance provided in Sections 2.3.2.1, 2.3.2.2, and 2.3.2.3 below; and

- the template(s) provided in the respective tab "**Standard xxx | requirement yyy**" of the separate Excel file "**Assessment Templates**" identical to Table 1 below, which provides an example for OSO#07.

Table 1 - Technical assessment template example (OSO#07)

Standard assessed	Standard section(s) or paragraph(s) thereof (if applicable)	Relevant requirement			Level(s) of robustness	Associated SAIL	Requirement type (A.1 or A.2)	Detailed standard assessment			Standard section / subsection / paragraph assessment rating	Additional optional information
		OSO	Integrity / Assurance	Criterion				Criteria	Standardised technical assessment result	Comments / rationale		
Standard xxx	Section xxx	OSO#07	Integrity	Single	Low (L)	SAIL I SAIL II	A.2. Operational / organisational	C1.1 - Completeness / coverage	• **C**: Completely addresses the OSO/mitigation criterion, SC Light-UAS requirement or U-Space requirement assessed • **Pa**: partially addresses the OSO/mitigation criterion, SC Light-UAS requirement or U-Space requirement assessed • **N/A**: does not addresses the OSO/mitigation criterion, SC Light-UAS requirement or U-Space requirement assessed	Free text	**Recommended** or **Not recommended**	Optional free text, as per section 2.3.2.3
								C1.2 - Correctness	• **A**: Applicable as it is • **I**: Intent of the requirement can be applied, provided some specific (slight) adaptations are made • **T**: to be Tailored, meaning that some parts have to be removed, adapted or completed, to make it applicable to UAS	Free text		

							C1.3 - Proportionality	• **Pr**: the standard is proportionate to the associated SAIL(s) • **not Pr**: the standard is not proportionate to the associated SAIL(s)	Free text
								C1.4 - Interoperability	• **Interoperable** • **Not interoperable** • **N/A**	Free text
								C2.1 - Proven implementability / maturity	• **Proven** to be **implementable / mature** • **Not proven** to be **implementable / mature**	Free text
								C2.2 - Implementation agnostic	• **Implementation agnostic** • **Not implementation agnostic**	Free text
					Medium (M)	**SAIL III** **SAIL IV**	**C1.1 - Completeness / coverage**	…	…	…	…
							C1.2 - Correctness	…	…
							C1.3 - Proportionality	…	…
							C1.4 - Interoperability	…	…
							C2.1 - Proven implementability / maturity	…	…
							C2.2 - Implementation agnostic	…	…

Standard	Section	OSO	Assurance type	#	Level	SAIL	Category	Criteria				
					High (H)	SAIL V SAIL VI		C1.1 - Completeness / coverage	…		…	
								C1.2 - Correctness	…		…	
								C1.3 - Proportionality	…		…	
								C1.4 - Interoperability	…		…	… …
								C2.1 - Proven implementability / maturity	…		…	
								C2.2 - Implementation agnostic	…		…	
Standard xxx	Section xxx	OSO #07	Assurance	#1	Low (L)	SAIL I SAIL II	A.2. Operational / organisational	C1.1 - Completeness / coverage	…		…	
								C1.2 - Correctness	…		…	
								C1.3 - Proportionality	…		…	
								C1.4 - Interoperability	…		…	… …
								C2.1 - Proven implementability / maturity	…		…	
								C2.2 - Implementation agnostic	…		…	

									Criteria				
						Medium (M)	SAIL III SAIL IV		C1.1 - Completeness / coverage	…		…	
									C1.2 - Correctness	…		…	
									C1.3 - Proportionality	…		…	
									C1.4 - Interoperability	…		…	…	…
									C2.1 - Proven implementability / maturity	…		…	
									C2.2 - Implementation agnostic	…		…	
						High (H)	SAIL V SAIL VI		C1.1 - Completeness / coverage	…		…	
									C1.2 - Correctness	…		…	
									C1.3 - Proportionality	…		…	
									C1.4 - Interoperability	…		…	…	…
									C2.1 - Proven implementability / maturity	…		…	
									C2.2 - Implementation agnostic	…		…	

Standard xxx	Section xxx	OSO #07	Assurance	#2	Low (L)	SAIL I SAIL II	A.2. Operational / organisational	C1.1 - Completeness / coverage	...	...	...	...
								C1.2 - Correctness	...	...		
								C1.3 - Proportionality	...	...		
								C1.4 - Interoperability	...	...		
								C2.1 - Proven implementability / maturity	...	...		
								C2.2 - Implementation agnostic	...	...		
					Medium (M)	SAIL III SAIL IV		C1.1 - Completeness / coverage	...	...	...	...
								C1.2 - Correctness	...	...		
								C1.3 - Proportionality	...	...		
								C1.4 - Interoperability	...	...		
								C2.1 - Proven implementability / maturity	...	...		

					High (H)	SAIL V SAIL VI			C2.2 - Implementation agnostic	... ...		...	...
									C1.1 - Completeness / coverage	... ...			
									C1.2 - Correctness	... ...			
									C1.3 - Proportionality	... ...			
									C1.4 - Interoperability	... ...			
									C2.1 - Proven implementability / maturity	... ...			
									C2.2 - Implementation agnostic	... ...			

Criteria for the detailed technical assessment

The detailed technical assessment will be carried out based on the criteria outlined in Table 2 below.

Table 2 - Criteria to assess the suitability of industry standards linked to 'type A' requirements

Criteria	Standardised assessment result	Comments
C1 - Level of confidence that the standard meets the requirement		
C1.1 - Completeness / coverage	• **C**: Completely addresses the OSO/mitigation criterion, SC Light-UAS requirement, or U-Space requirement assessed • **Pa**: partially addresses the OSO/mitigation criterion, SC Light-UAS requirement, or U-Space requirement assessed • **N/A**: does not address the OSO/mitigation criterion, SC Light-UAS requirement, or U-space requirement assessed	Examples of evidences to be captured in column "Comments / Rationale" of Table 1: The identification of the operational concept associated with a standard may help assess whether the standard applies to the 'open', 'specific' and/or 'certified' category of operations. It may help as well to link a standard to a specific level of robustness and/or SAIL. References to the operational concept associated to a standard may be made through: • a reference to another standard (e.g. OSED - Operational Services and Environmental Description); or • a reference to a specific section / appendix of the standard; or • various elements disseminated in the standard.
C1.2 Correctness	• **A**: Applicable as it is • **I**: Intent of the requirement can be applied, provided some specific (slight) adaptations are made • **T**: to be Tailored, meaning that some parts have to be removed, adapted, or completed to make it applicable to UAS	Examples of evidences to be captured in column "Comments / Rationale" of Table 1: • In case 'I' is proposed, evidence and justification should be captured as regards where and which adaptations are needed. • In case 'T' is proposed, evidence and justification should be captured as regards which parts are to be removed, adapted, or completed.

C1.3 Proportionality	• **Pr**: the standard is proportionate to the associated SAIL(s) • **No Pr**: the standard is not proportionate to the associated SAIL(s).	The size of the organisation is implicitly covered by the proportionality to the SAIL. Typically, SAIL I and II operations can be carried out by single person organisations, so a standard assessed proposed for compliance to SAIL I and II requirements would need to reflect the reality of such organisations.
C1.4 Interoperability (if applicable, for instance, when exchanges of information between systems is necessary for technical or operational purposes)	• **Interoperable** • **Not interoperable** • **N/A**	Examples of evidences to be captured in column "Comments / Rationale" of Table 1: Use of Open Industry Standard-based Interfaces (i.e., application programming interfaces, APIs) which permit communication between software applications
C2 - Easiness of the implementation of the standard		
C2.1 Proven implementability / maturity	• **Proven** to be **implementable/mature** • **Not proven** to be **implementable/mature**	Examples of evidences to be captured in column "Comments / Rationale" of Table 1: • Demos have proven the implementability of the standard • Already recognised by other international CAAs using a similar framework • Already used in traditional manned aviation (either general or commercial) for which an equivalent TLS is expected
C2.2 Implementation agnostic	• **Implementation agnostic** • **Not implementation agnostic**	Evidence and justification should be captured in column "Comments / Rationale" of Table 1 as regards whether the implementation of the standard is specific to, for instance, a given type of operation, class of airspace, operating environment, or unmanned aircraft.

Assessment rating definition (Recommended / Not recommended)

The assessment rating (Recommended / Not recommended) will reflect the technical adequacy of the section, subsection, or paragraph under assessment to demonstrate compliance with the objective of the requirement. The following principles will be followed:

- **Recommended** - will be assigned to a section, subsection, or paragraph when, at a minimum the following conditions are met:

  - C1.1 - Completeness / coverage: **C** (i.e., completely addresses the OSO/mitigation criterion, SC Light-UAS requirement or U-Space requirement assessed) **or Pa** (i.e., partially addresses the OSO/mitigation criterion, SC Light-UAS requirement, or U-Space requirement assessed), **AND**

  - C1.2 Correctness: **A** (i.e., applicable as it is) **or I** (i.e., intent of the requirement can be applied, provided some specific (slight) adaptations are made), **AND**

    - C1.3 Proportionality: **Pr** (i.e., proportionate to the associated SAILs for which the standard is targeted), **OR**

    - C1.4 Interoperability (if applicable): **Interoperable.**

- **Not recommended** - will be assigned to a section, subsection, or paragraph when 'Recommended' cannot be assigned.

Additional optional information (e.g., limitations)

It is anticipated that some standards (or sections, subsections, or paragraphs thereof) will only be applicable to, for instance, some configurations (e.g., rotary / fixed wing, small / large, etc.) or classes of airspaces; the fact that a standard (or a section, subsection, or paragraph thereof) only addresses one or some possible configuration(s) or classes of airspace(s) should not be an exclusion criterion, since it is difficult to develop unique standards fitting for all possible ConOps.

This could result in several standards (or sections, subsections, or paragraphs thereof) being considered fully suited for a given requirement but applicable to different aircraft configurations or classes of airspace.

In addition, standards related to 'A.1 type' requirements may be classified as:

- Methodologies supporting compliance with the objective-based requirement; or

- Standards proposing a specific implementation / architecture answering the objective-based requirement.

These information will not be considered for the assessment rating, but will be provided in the field "Additional optional information" available in each template provided for each requirement in the respective tab "**Standard xxx | requirement yyy**" of the separate Excel file "**Assessment Templates**", and for which Table 1 provides an example for OSO#07.

Step #3.3 - Independence of the assessment

The independence will be ensured by using at least two experts from two different companies for each standard assessment.

2.5 Step #4 - Summarise the assessment

Once the previous steps are completed, an assessment summary will be produced for each standard, covering all the requirements assessed against.

The way to present such an assessment summary will depend on the type of requirements (i.e., 'type A' and 'type B' requirements) assessed against, as explained in Sections 2.4.1 and 2.4.2 below.

Step #4.1 - Standard assessment summary per 'type A' requirement (A.1 or A.2)

For each 'type A' requirement assessed against, the standard assessment summary will, as a minimum, explain and justify the following:

- all the sections, subsections, or paragraphs rated as 'Recommended', including, where applicable:

  - the evidence and justification captured as regards where and which adaptations are needed (e.g., when rated as 'I' under criterion C1.2 Correctness);

  - those sections, subsections, and/or paragraphs that, individually "partially addressing the requirement" under criterion C1.1 Completeness / coverage, may be combined to conform to an encompassing MoC, as well as, where applicable and relevant, any limitations and adaptations that such an eventual MoC may, respectively, have and need;

  - any additional information deemed relevant (e.g., limitations).

- where appropriate, any other relevant outcome of the preliminary high-level assessment or the detailed technical assessment.

An example of how this standard assessment summary will look like for a given standard XXX is provided in Table 3 below.

Note: As indicated in Section 2.3.1.1 of this document, for certain requirements, the assessment summary per 'type A' requirement may be divided into the different sub-requirements such 'type A' requirements may contain.

Table 3 - Assessment summary template example for standard XXX and 'type A' requirements (i.e., A.1 or A.2)

Requirement	Level of robustness (if applicable)	'Type A' Requirement subtype (A.1 or A.2)	Recommended standard XXX's sections, subsections, paragraphs, or combination thereof	Remarks
Light-UAS.2xxx	SAIL III to IV	A.1: Technical objective-based requirement OR	Std XXX §1	Free text
			Std XXX §4.5	Free text
	SAIL V to VI	A.2: Operational or organisational objective-based requirement	Std XXX §4.8	Free text
			Std XXX §4.9 combined with §4.10	Free text
Light-UAS.2yyy(a)	SAIL III to IV	A.1: Technical objective-based requirement OR A.2: Operational or organisational objective-based requirement	Std XXX §5.y	Free text
			…	…
Light-UAS.2yyy(b)	SAIL III to IV	A.1: Technical objective-based requirement OR A.2: Operational or organisational objective-based requirement	Std XXX §9.y combined with §12.1	Free text
			…	…
…	…	…	…	…

Step #4.2 - Standard assessment summary per 'type B' requirement (technology-dependent)

As explained in Section 2.2, for 'type B' requirements (**technology-dependent requirements**), it is expected that many standards could be considered as suitable depending on the intended ConOps and the technology chosen by the applicant.

In other words, many standards could be considered intrinsically valid depending on the ConOps and technology chosen by the applicant, and generic criteria to assess the suitability of standard may not be relevant.

In such a case, assessing the suitability of a standard beyond what has already been performed by AW-Drones is not considered pertinent and, thus, outside the scope of SHEPHERD.

Instead, the SHEPHERD project will provide a mapping of existing suitable standards per technology, along with a summary of the ConOps / OSED addressed by the standard, in line with the template provided in the respective tab "**Standard xxx | 'type B' requirements**" of the separate Excel file "**Assessment Templates**" identical to Table 4 below, which provides an example for OSO#06.

The last column contains additional information associated with each standard, such as information whether the standard is already operationalised or not, or whether a standard is finalised but not published.

Table 4 - Assessment summary template example (OSO#06) for 'type B' requirements

Requirement	Technology	Reference of the standard, including version, and relevant section(s), subsection(s), and/or paragraph(s) thereof	Type of standard (MOPS, MASPS)	OSED summary	Remarks
OSO#06	Mobile Network - 4G LTE	Std XXX §1.1 and Appendix I	MOPS	Free text	Free text
	Mobile Network - 5G	Std XXX §1.2 and Appendix II	MOPS	Free text	Free text
	C-Band Satellite - 5030-5091 MHz	Std XXX §2.1 and Appendix III	MOPS	Free text	Free text
	C-Band Terrestrial - 5030-5091 MHz	Std XXX §2.2 and Appendix IV	MOPS	Free text	Free text

3. Link to D2.x and D3.x deliverables

3.1 SHEPHERD deliverables D2.x

SHEPHERD deliverables D2.x will be reports related to the assessment of 'Recommended' industry standards. These reports will contain:

- the list of 'Recommended' standards (or sections, subsections, paragraphs, or combination thereof) for each requirement in scope, built upon the standard assessment summaries outlined in Sections 2.4.1 and 2.4.2; and

- a link to the assessment tables by standard, as per Section 2.3.2, providing a justification for the list of 'Recommended' standards' sections, subsections, paragraphs, or combination thereof.

3.2 SHEPHERD deliverables D3.x

SHEPHERD deliverables D3.x will be reports related to the assessment of 'Non-recommended' industry standards. These reports will contain:

- the list of 'Non-recommended' sections, subsections, or paragraphs of each standard assessed, built upon the outcome of the preliminary high-level assessment and the subsequent detailed assessment as detailed in Sections 2.3.1 and 2.3.2, including when applicable, how the standard could be improved in the future; and

- a link to the summary tables by standard, as per Section 2.3.2, providing a justification for the list of 'Non-recommended' standards' sections, subsections, or paragraphs.

Bibliography

European Union Aviation Safety Agency (EASA), Easy Access Rules for Unmanned Aircraft Systems – Revision from September 2022, September 2022.

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EASA

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