

Research project: SHEPHERD (UAS Standards)

Webinar: final dissemination event
23/04/24, 10:00-12:00 CET



Disclaimer



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Welcome to this webinar!



This webinar is the final dissemination event of this research project



This project has received funding from the European Union's Horizon Europe research and innovation Programme



The EC delegated the contractual and technical management of this research action to EASA



EASA contracted Deep Blue as Consortium lead for the implementation of the research action following a public tender procedure



EASA-managed projects are addressing research needs of aviation authorities and are an important pillar of the EASA R&I portfolio

The agenda

TIME	TITLE, SPEAKER
10:00 – 10:05	Welcome to the webinar Willy Sigl, EASA
10:05 – 10:15	Research scope and objectives Natale Di Rubbo, EASA
10:15 – 11:00	Overview of the project implementation and key results Marco Ducci, Deep Blue and Alexandra Florin, Wing
11:00 – 11:10	Benefits from the project, planned follow-up actions Natale Di Rubbo, EASA
11:10 – 11:55	Questions and answers Participants, Project Team from SHEPHERD, EASA
11:55 – 12:00	Concluding remarks Willy Sigl, EASA

Note: this webinar will be recorded and made available at the EASA website after the event.

Question and Answers

→ For sending questions and comments, please use the slido app, which is also accessible through WebEx:

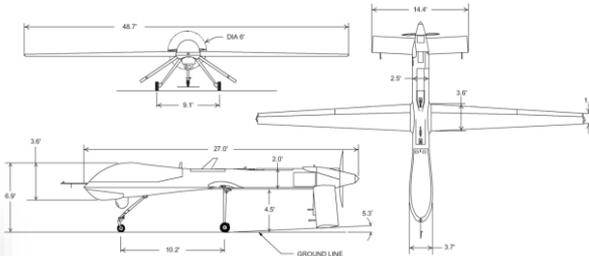
- www.slido.com
- event code: 1560086



Research Scope and Objectives

Standards for drone operations

How to comply with the EU drone regulation?



SC LIGHT-UAS





Rollout development plan

<https://www.euscg.eu/rdp/>



<https://www.aw-drones.eu/>



Overview of the project implementation and key results

SHEPHERD Consortium

- Project Coordinator
- Technical Lead
- Partners
- Subcontractors



Michael Allouche



VOLOCOPTER



MURZILLI
CONSULTING



SHEPHERD Stakeholders Consultation Group (SCG)

→ Role

- Provide review, recommendations and feedback on project activities and findings;
- Coordinate with standards development efforts currently on-going.

→ Composition – 10 experts from:

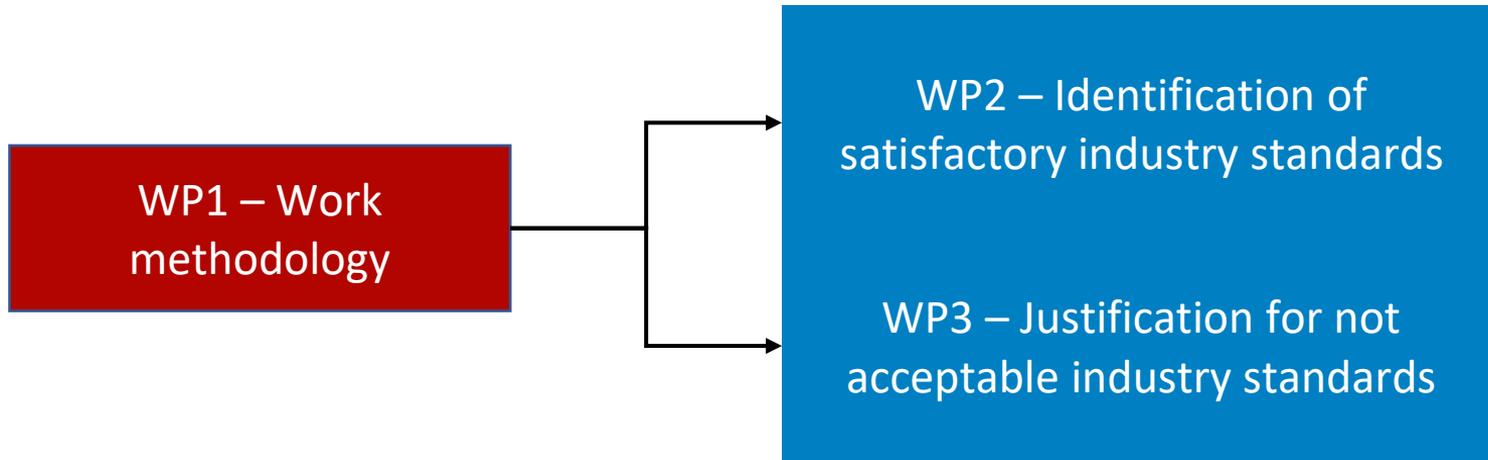
- SDOs: EUROCAE, ASTM, ASD-STAN
- Associations: GUTMA, JEDA
- Authorities/Organisations: CASA, EUROCONTROL

SHEPHERD Objectives

- **Define a methodology** for the technical assessment of UAS-related standards
- **Identify** which **standards** (or elements thereof) are considered **technically adequate** to demonstrate compliance with the requirements within the scope of the SHEPHERD project
- **Identify** which **standards** (or elements thereof) are **NOT** considered **technically adequate** to demonstrate compliance with the requirements within the scope of SHEPHERD project.

SHEPHERD Structure

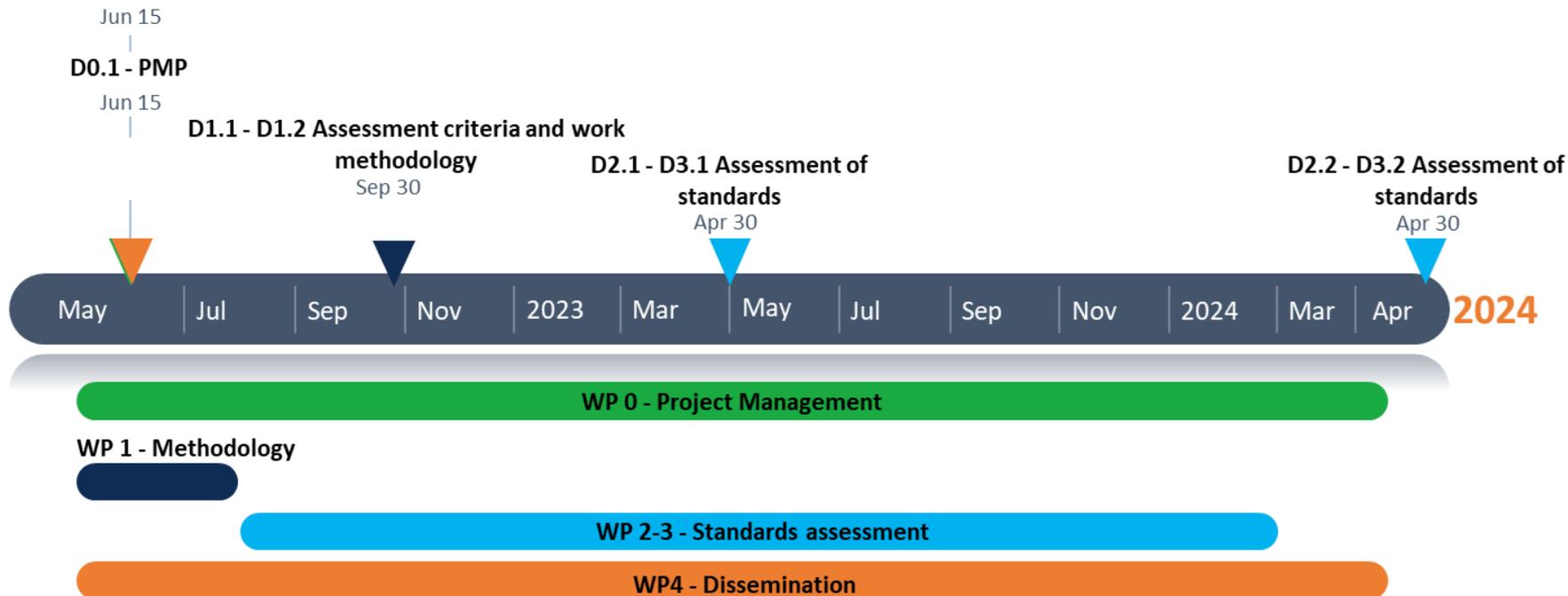
WP 4 – Communication, dissemination, knowledge-sharing, stakeholder management



WPO – Project management

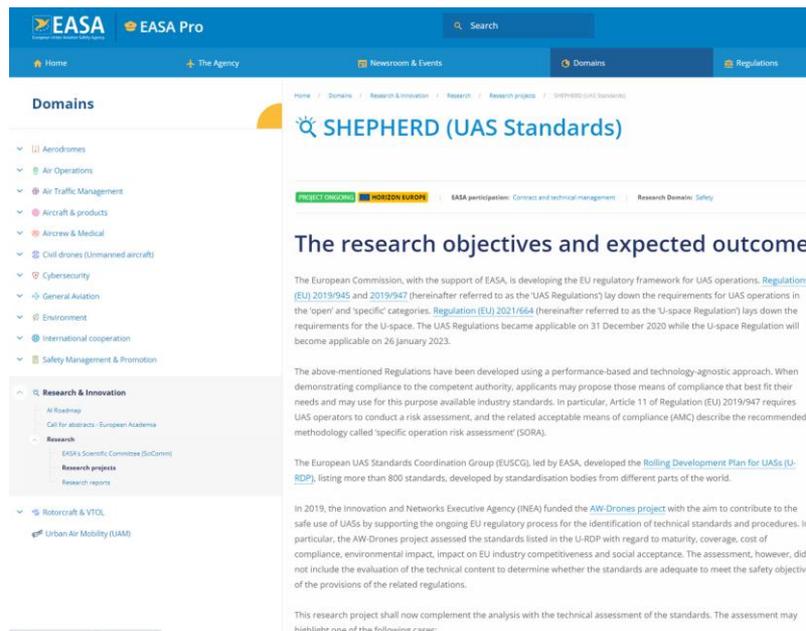
SHEPHERD Timeline

D4.1 - D4.2 Communication plans



Where to find SHEPHERD deliverables

→ EASA's dedicated webpage
<https://www.easa.europa.eu/en/research-projects/shepherd-uas-standards>



The screenshot displays the EASA Pro website interface. The top navigation bar includes the EASA logo, 'EASA Pro', a search bar, and links for Home, The Agency, Newsroom & Events, Domains, and Regulations. The main content area is titled 'Domains' and features a sidebar with a tree view of categories: Aerodromes, Air Operations, Air Traffic Management, Aircraft & products, Aircrew & Medical, Civil drones (Unmanned aircraft), Cybersecurity, General Aviation, Environment, International cooperation, and Safety Management & Promotion. The 'Research & Innovation' section is expanded, showing sub-items like 'All Roadmap', 'Call for abstracts - European Academia', and 'Research'. Under 'Research', the 'SHEPHERD (UAS Standards)' project is highlighted, with sub-items for 'Research projects' and 'Research reports'. The main article content includes the title 'SHEPHERD (UAS Standards)', a breadcrumb trail, and a sub-header 'The research objectives and expected outcome'. The text describes the European Commission's support for EASA in developing the EU regulatory framework for UAS operations, mentioning Regulations (EU) 2019/945 and 2019/947, and Regulation (EU) 2021/664. It details the development of UAS Standards Coordination Group (EUSCG) standards, the AW-Drones project, and the Rolling Development Plan for UASs (U-RDP).

SHEPHERD Methodology: 4 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; and
- **Step #4** – Summarise the assessment.

Step #1 – Definition of SHEPHERD scope

→ Requirements (+550 in total)

- SORA: Operational Safety Objectives (OSOs); Ground risk mitigations; Tactical mitigations performance requirements (TMPRs); and Containment requirements;
- EASA Special Condition (SC-) Light UAS for Medium (M) and High (H) risk: SAIL III to VI;
- U-Space services regulatory requirements and associated AMC & GM.

→ Standards (47 in total)

- All standards identified by 'AW-Drones' project as adequate.
- Any additional standards part of EUROCAE WG-105, ASTM F38 and RTCA SC-228/SC-147 roadmaps and deemed to be published in the timeline of the SHEPHERD's project.

Step#2 – Categorisation of requirements

The requirements identified in **Step#1** are categorised as either:

- **A.1: Technical objective-based:** performance-oriented requirements targeting a specific technical consideration or design but leaving flexibility on the implementation up to the UAS manufacturer.
- **A.2: Operational / organisational objective-based:** performance-oriented requirements leaving flexibility on the implementation at operational (e.g., with respect to training / manual and procedures) or organisational levels up to the UAS operator.
- **B: Technology-dependent:** performance requirements whose implementation strongly dependent on the technology chosen by the applicant.

Step#3 – Assessment

Criteria	Standard assessment result
C1 – Level of confidence that the standard meets the requirement	
C1.1 – Completeness / coverage	<ul style="list-style-type: none"> ● C: Completely addresses the requirement assessed ● Pa: partially addresses the requirement assessed ● N/A: does not address the requirement assessed
C1.2 – Correctness	<ul style="list-style-type: none"> ● A: Applicable as it is ● I: Intent of the requirement can be applied, provided some specific (slight) adaptations are made ● T: to be Tailored
C1.3 – Proportionality	<ul style="list-style-type: none"> ● Pr: the standard is proportionate to the associated SAIL(s) ● No Pr: the standard is not proportionate to the associated SAIL(s).
C1.4 – Interoperability	<ul style="list-style-type: none"> ● Interoperable ● Not interoperable ● N/A
C2 – Easiness of implementation of the standard	
C2.1 – Proven implementability / maturity	<ul style="list-style-type: none"> ● Proven to be implementable / mature ● Not proven to be implementable / mature
C2.2 – Implementation agnostic	<ul style="list-style-type: none"> ● Implementation agnostic ● Not implementation agnostic

Step #4 – Summary of the assessment

View per standard

- One excel file per standard with detailed technical assessment
- One word file per standard summarising the assessment

View per requirement

- One excel file listing, for all requirements, the recommended standards or section / subsection / paragraph(s) thereof

SHEPHERD Results: view per standard (1)



Standard	Retained requirement	All levels?
Std XXXX-20YY	Light-UAS.23xxx	SAIL III to VI
	Light-UAS.24yy	SAIL III to VI
	Light-UAS.25zz	SAIL III to VI
	OSO#XX	Integrity; SAIL I to VI
	OSO#YY, Criterion #z	SAIL II to VI

Sections of the standard	Detailed assessment scope	Rationale for exclusion from detailed assessment
Introduction	N/A	General introduction to the standard
1. Scope	N/A	High-level
2. References	N/A	Reference to other relevant standards
3. Terms and definitions	N/A	List of terms and abbreviations used throughout the standard
4. Procedures for the safe [...]	OSO#YY, Criterion #z (Integrity)	<p><u>Light-UAS.23xx</u>: design and construction not addressed</p> <p><u>Light-UAS.24yyy</u>: lift / thrust / power system installation not addressed</p> <p><u>Light-UAS.25zz</u>: systems and equipment not addressed</p> <p><u>OSO#XX (Integrity)</u>: remote crew training / qualification not addressed</p> <p><u>OSO#YY, Criterion #z (Assurance)</u>: audits or verifications not addressed</p>
4.1 Normal procedures		
4.2 Off-nominal procedures		
5. Design and configuration of [...] functionality	Light-UAS.23xx	<p><u>Light-UAS.24yyy</u>: lift / thrust / power system installation not addressed</p> <p><u>Light-UAS.25zz</u>: systems and equipment not addressed</p> <p><u>OSO#XX (Integrity)</u>: remote crew training / qualification not addressed</p> <p><u>OSO#YY, Criterion #z</u>: procedures for the safe [...] not addressed</p>

SHEPHERD Results: view per standard (2)



Standard	Section	Requirement OSO	Integrity / Assurance	Criterion	Level of robustness	Associated SAIL	Requirement type	Detailed standard assessment			Overall rating
								Criteria	Technical assessment result	Comments / rationale	
Std XXXX-20YY	4.1	#YY	Integrity	#z	Low (L)	I & II	A.2. operational / organisational	C1.1 completeness / coverage	Partially addresses the requirement	...	Recommended
								C1.2 correctness	Intent ca	...	
								C1.3 proportionality	Proportionate to the SAIL	...	
								C1.4 interoperability	N/A	...	
								C2.1 implementability / maturity	Proven to be implementable	...	
					C2.2 implementation agnostic	Yes		...			
					C1.1	...		...	Recommended	
					C1.2						
					C1.3						
					C1.4						
C2.1											
C2.2											
...	...	...	Not recommended							

SHEPHERD Results: view per standard (3)



Standard XXXX-20YY			
Requirement	SAIL Integrity / Assurance	Recommended section(s)	Additional relevant information
OSO#XX	Integrity SAIL III	Sections a.bc & d.e	Partial coverage
OSO#XX	Integrity SAIL IV	...	...
OSO#XX	Integrity SAIL V & VI	Sections f.gh, i.jk & l.m	Full coverage
Light-UAS.23xxx	SAIL III & IV	...	...
Light-UAS.23xxx	SAIL V & VI	...	...

Standard XXXX-20YY			
Section	Title / Subject	Requirement	Required tailoring / complementing
Section n.op	Power system performance	Light-UAS.24yy Medium (M) & High (H)	No criteria, limitations, or instructions are provided
Section q.r	Equipment installation	Light-UAS.25zz Medium (M)	The proposed criteria is deemed excessive for Medium (M)



SHEPHERD
EASA.2022.C05

D2.1-D3.1

Identification of satisfactory industry standards and justification for not acceptable industry standards



SHEPHERD Results: view per standard – example

Reference	Retained requirement	All levels?
ASTM F3298 – 19 Standard Specification for Design, Construction, and Verification of Lightweight Unmanned Aircraft Systems (UAS)	SC Light-UAS.2100	SAIL III to VI
	SC Light-UAS.2102	SAIL III to VI
	SC Light-UAS.2105	SAIL III to VI
	SC Light-UAS.2135	SAIL III to VI
	SC Light-UAS.2160	SAIL III to VI
	SC Light-UAS.2235	SAIL III to VI
	SC Light-UAS.2240	SAIL III to VI
	SC Light-UAS.2250	SAIL III to VI
	SC Light-UAS.2260	SAIL III to VI
	SC Light-UAS.2300	SAIL III to VI
	SC Light-UAS.2305	SAIL III to VI
	SC Light-UAS.2325	SAIL III to VI
	SC Light-UAS.2340	SAIL III to VI
	SC Light-UAS.2370	SAIL III to VI
	SC Light-UAS.2375(a)	SAIL III to VI
	SC Light-UAS.2375(b)	SAIL III to VI
	SC Light-UAS.2380(a)	SAIL III to VI
	SC Light-UAS.2380(b)	SAIL III to VI
SC Light-UAS.2380(c)	SAIL III to VI	

Reference	Retained requirement	All levels?
ASTM F3298 – 19 Standard Specification for Design, Construction, and Verification of Lightweight Unmanned Aircraft Systems (UAS)	SC Light-UAS.2400	SAIL III to VI
	SC Light-UAS.2405	SAIL III to VI
	SC Light-UAS.2410	SAIL III to VI
	SC Light-UAS.2415	SAIL III to VI
	SC Light-UAS.2430	SAIL III to VI
	SC Light-UAS.2510	SAIL III to VI
	SC Light-UAS.2529	SAIL III to VI
	SC Light-UAS.2530	SAIL III to VI
	SC Light-UAS.2605	SAIL III to VI
	SC Light-UAS.2610	SAIL III to VI
	SC Light-UAS.2615	SAIL III to VI
	OSO#02 (Integrity)	SAIL III to VI
	OSO#05	SAIL III to VI
	OSO#06	SAIL II to VI
	OSO#13	SAIL I to VI
OSO#20	SAIL II to VI	



SHEPHERD Results: view per standard – example



Sections of the standard	Detailed assessment scope	Rationale for excluding some requirements from the assessment of specific paragraphs
1. Scope	N/A	This section provides the scope of the document. Units of measure are expressed in imperial units and this may be an issue for implementation in the EU.
2. Referenced Documents	N/A	Title only
2.1 ASTM Standards	N/A	Only reference documents listed
2.2 ANSI Standard	N/A	Only reference documents listed
2.3 FAA Standard	N/A	Only reference documents listed
2.4 Federal Standard	N/A	Only reference documents listed
2.5 Joint Authorities for Rulemaking of Unmanned Systems	N/A	Only reference documents listed
2.6 Unmanned Systems Canada Best Practices	N/A	Only reference documents listed
3. Terminology	N/A	Title only
3.1 Definitions of Terms Specific to This Standard	N/A	Definition of terms specific to the standard
3.2 Abbreviations	N/A	List of abbreviations
4. Significance and Use / Applicability	N/A	Intent of the Specification / Standard
5. Flight	N/A	Title only

5.1 Proof of Compliance	Light-UAS.2102 Light-UAS.2105(a)&(c)	<p>Generic proof of compliance requirements.</p> <p>FLIGHT</p> <p>Light-UAS.2100: No details are provided as regards the method or conditions to determine the limits of the centre of gravity.</p> <p>Light-UAS.2105(b)(d)(e): Data to be included in the flight manual is only addressed at high level (2105(b)), there is no explicit reference or evidence that the procedures used for determining performance are executable consistently in atmospheric conditions expected to be encountered in operation and by a remote crew of average skill (2105(d)). Losses due to atmospheric conditions etc. are not considered in the definition of the performance.</p> <p>Light-UAS.2135: Controllability, manoeuvrability, and stability are not addressed.</p> <p>Light-UAS.2160: Vibration and buffeting are not addressed.</p> <p>STRUCTURES</p> <p>Light-UAS.2235: Structural strength and deformation are not addressed.</p> <p>Light-UAS.2240: Structural durability is not addressed.</p> <p>Light-UAS.2250: Design and construction principles are not addressed.</p> <p>Light-UAS.2260: Materials and manufacturing processes are not addressed.</p> <p>DESIGN AND CONSTRUCTION</p> <p>Light-UAS.2300: UA flight control systems are not addressed.</p> <p>Light-UAS.2305: Landing gear systems are not addressed.</p> <p>Light-UAS.2325: Fire protection is not addressed.</p> <p>Light-UAS.2340: Design and construction information is not addressed.</p> <p>Light-UAS.2370: Transportation, assembly, reconfiguration, and storage are not addressed.</p> <p>Light-UAS.2375(a): Payload installation / accommodation is not addressed.</p> <p>Light-UAS.2375(b): Payload operational limitations, procedures, and instructions are not addressed.</p> <p>Light-UAS.2380(a): Ancillary equipment performance and design are not addressed.</p> <p>Light-UAS.2380(b): Ancillary equipment instructions, information, and limitations as regards the interface with the UA are not addressed.</p> <p>Light-UAS.2380(c): UA design to operate safely using the ancillary equipment is not addressed.</p> <p>LIFT/THRUST/POWER SYSTEM INSTALLATION</p> <p>Light-UAS.2400: Lift/Thrust/Power systems installation is not addressed.</p> <p>Light-UAS.2405: Lift/Thrust/Power system integrity is not addressed.</p> <p>Light-UAS.2410: Lift/Thrust/Power endurance and durability are not addressed.</p> <p>Light-UAS.2415: Lift/Thrust/Power calibration, ratings, and operational limitations are not addressed.</p> <p>Light-UAS.2430: Energy storage and distribution systems are not addressed.</p> <p>SYSTEMS AND EQUIPMENT</p> <p>Light-UAS.2529: UAS navigation function is not addressed.</p> <p>Light-UAS.2530: UA external lights are not addressed.</p> <p>REMOTE CREW INTERFACE AND OTHER INFORMATION</p> <p>Light-UAS.2605: Command unit installation and operation information are not addressed.</p> <p>Light-UAS.2610: Instrument markings, control markings, and placards are not addressed.</p> <p>Light-UAS.2615: Flight, navigation, and thrust/lift/power system instruments are not addressed.</p> <p>OPERATIONAL SAFETY OBJECTIVES (OSOs)</p> <p>OSO#02: UAS manufacturing is not addressed.</p> <p>OSO#05: UAS design considering system safety and reliability is not addressed.</p> <p>OSO#06: C3 link performance is not addressed.</p> <p>OSO#13: External services supporting UAS operations are not addressed.</p> <p>OSO#20: Human machine interface (HMI) evaluation is not addressed.</p>
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SHEPHERD Results: view per standard – example



Standard	Section	Light-UAS	Level of robustness	SAIL	Requirement type (A.1 or A.2)	Detailed assessment			Rating	Additional information	
						Criteria	Technical assessment	Comments / rationale			
ASTM F3298-19	5.1	Light-UAS. 2105(a)&(c)	Medium (M)	III & IV	A.2. Operational / organisational	C1.1 - Coverage	Pa: partially addresses the requirement	This section defines the speed range that shall be considered when testing the configuration and determining the performance limits. This does not fully define the flight envelope limitation defined by the requirement.	Recommended	Recommended in combination with sections 6.1 - 6.5 or 6.6.2 - 6.6.6 depending on UAS configuration	
						C1.2 - Correctness	I: Intent of the requirement can be applied w/ specific (minor) adaptations	It needs to be amended to mention the need to demonstrate the performance in still air and standard atmospheric conditions at sea level			
						C1.3 - Proportionality	Pr: proportionate to the targeted SAIL(s)	The speed limits are expressed as a function of the demonstrated flight diving speed so the guidance is assessed as proportionate.			
						C1.4 - Interoperability	N/A				
						C2.1 - Proven implementability	Proven to be implementable	Considered as well-known and used standards and procedures.			
						C2.2 - Implementation agnostic	Yes	It is not restricting concerning the way the limits are implemented			
	High (H)	V & VI					C1.1	Same as Medium (M)		Recommended	Recommended in combination with sections 6.1 - 6.5 or 6.6.2 - 6.6.6 depending on UAS configuration
							C1.2	Same as Medium (M)			
							C1.3	Same as Medium (M)			
							C1.4	N/A			
						C2.1	Not proven to be implementable / mature	There is no evidence that this standard has been used for UAS operated at SAIL V and VI			
						C2.2	Same as Medium (M)				

SHEPHERD Results: view per standard – example

3. Recommended sections

This section provides the list of recommended sections, subsections, paragraphs, or combination thereof of ASTM F3298-19 that may be used as a basis for a MoC for the requirements or a part thereof as identified in the detailed technical assessment, which can be accessed [here](#).

ASTM F3298-19			
Requirement	Related SAIL Integrity / assurance	Recommended section(s), subsection(s), paragraph(s), or combination thereof	Additional relevant information
Light-UAS.2105(a)&(c)	SAIL III to VI	5.1 5.4 5.6.1 6.1 – 6.5 6.6.2 – 6.6.6	<p>The recommended sections only partially address Light-UAS.2105(a)&(c) since they only cover specific configurations and not all elements to demonstrate safe operations within the operational envelope.</p> <p>The following minor adaptations are proposed:</p> <ul style="list-style-type: none"> – the standard should also include the rate of descent, max hover altitude, approach speed, and external load performances as required by Light-UAS.2105; – Sections 5.1, 6.1 - 6.5, and 6.6.2 - 6.6.6 should indicate the need to demonstrate the performance in still air and standard atmospheric conditions at sea level; – Sections 6.6.2 - 6.6.6 should include guidance on how to define performance in hovering flight conditions.



4. Non-recommended sections

This section provides the list of elements of ASTM F3298-19 that need to be tailored and/or complemented before being proposed as a MoC for the requirements or a part thereof as identified in the detailed technical assessment, which can be accessed [here](#).

ASTM F3298-19			
Section, subsection, or paragraph to be tailored / complemented	Title / subject	Requirement and SAIL	Required tailoring / complementing
5.1	Proof of compliance	Light-UAS.2102 SAIL III – Medium (M)	Although Section 5.1 provides additional details on the definition of the upper flight speeds that create the upper boundary of the flight envelope, the requirements proposed are excessive for UAS intended to be used in a SAIL III operation.

SHEPHERD Results: view per requirement (1)

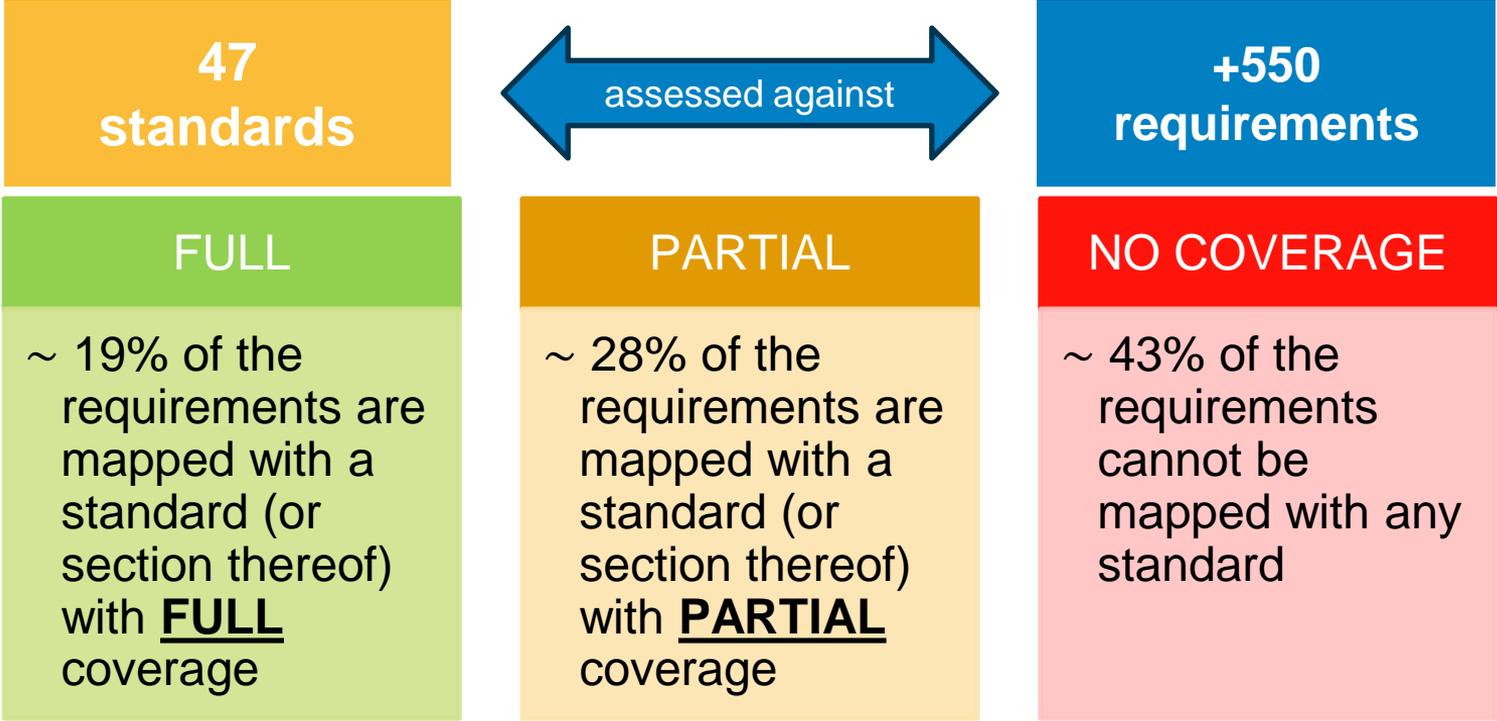


SORA reference SC Light-UAS Subpart U-space service	Integrity / Assurance Light-UAS.2xxx U-space article	Level of robustness Associated AMC & GM	Criterion #	Recommended section(s)	Coverage	Overall coverage	
OSO#XX	Integrity	Low (L)	N/A	<u>Std XXXX-20YY</u> : Sections a.aa & b.b	Partial	Full	
				<u>Std ZZZZ-20yy</u> : Section c	Partial		
	Assurance	Low (L)	N/A	Criterion #1	...	...	...
				Criterion #2	...	...	...
	Integrity	Medium (M)	N/A	Criterion #1	...	...	...
				Criterion #2	...	...	...
	Assurance	High (H)	N/A	Criterion #1	...	...	...
				Criterion #2	...	...	...
	Integrity	High (H)	N/A	Criterion #1	...	...	...
				Criterion #2	...	...	...

SHEPHERD Results: view per requirement - example

SORA reference	Integrity / Assurance	Level of robustness	Criterion #	Requirement full reference	Recommended section(s)	Coverage	Overall coverage	Comments
SC-Light-UAS Subpart	Light-UAS .2xxx	Associated AMC & GM						
U-Space service	U-Space article							
SORA OSOs								
OSO#05	Integrity	Low (L)	N/A	OSO#05 | Integrity | Low (L)	ED-279	Partial	Full	The overall coverage is considered 'Full', as ED-280 provides a generic methodology to perform safety assessment suitable for OSO#5 Low Integrity. For their part, ED-279 and the recommended sections of F3298-19 complement ED-280. Specifically, ED-279 provides a methodology to perform an FHA as a starting point, whilst F3298-19 indicates a way to handle specific failure cases.
					ED-280	Full		
					F3298-19: Sections 5.6.2, 7.9.2.7, 7.10.1.2(5), 16.3 & A2.3	Partial		
OSO#05	Assurance	Low (L)	N/A	OSO#05 | Assurance | Low (L)	ED-279	Partial	Full	Recommended sections of F3309 complete ED-280 by providing criteria for design and installation appraisal. ED-279 provides a methodology to perform an FHA as a starting point.
					ED-280	Partial		
					F3309/F3309-21: Sections 4.4.1, 4.4.2 & 4.6	Partial		

Summary and Conclusions



for 10% no standard is required

Benefits from the project, planned follow-up activities

Assessment of standards in support of SORA

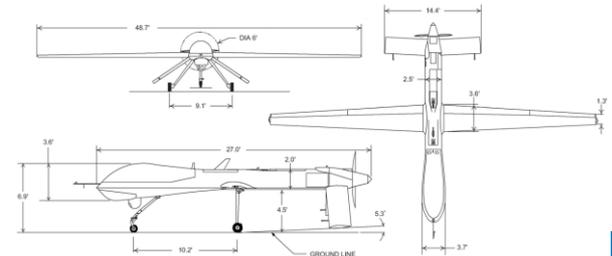
- Develop NPA related to RMT 0730 (regular update of AMC and GM to Regulations (EU) 2019/945 and 2019/947)
 - Planned for Q1 2025
- Publish Decision amending AMC and GM to Regulation (EU) 2019/947
 - Planned for Q1 2026



Assessment of standards in support of SC light UAS

→ Develop Means of Compliance (MOC)

- MoC Light-UAS.2405 – Lift/Thrust/Power system integrity published in Q3/23
- MoC Light-UAS.2410 – Lift/Thrust/Power system endurance and durability published in Q3/23
- MoC 2575(a) command, control and communication contingency, publication planned for Q2/24



Assessment of standards in support of U-space

- Develop NPA related to RMT 0748 (regular update of AMC and GM to Regulations (EU) 2021/664, 665, 666)
 - Phased and iterative approach
 - Publication planned in 2025
- Publish Decision amending AMC and GM to Regulation (EU) 2021/664
 - To follow

Certain AMC/GM are planned to be updated which may induce local need of reassessment





Update of Rollout development plan

For those standards not recommended, propose to standardisation bodies to amend standards to become fully compliant

Coordinate the activities of standardisation bodies to fill the gaps

Questions and answers



Question and Answers

→ For sending questions and input, please use the slido app, which is also accessible through WebEx:

- www.slido.com
- event code: 1560086



Concluding Remarks





Recent and upcoming EASA research & innovation events

March
12th

Integrity improvement of rotorcraft main gear boxes (**MGB**)
Final dissemination event ([webinar](#))

March
13th

Assessment of environmental impacts – rotorcraft (**NOISE**)
Final dissemination event ([webinar](#), training for users)

March
19th

Market-based Measures – AERO-MS (**MbM**)
Final dissemination event ([webinar](#)); Training event on 20 March

April
23rd

New standards for drones and U-Space (**SHEPHERD**)
Final dissemination event ([webinar](#))

April
23-24

Mental Health of Pilots and ATCOs (**MESAFE**)
Final dissemination event during [EASA Mental Health Conference](#)

April
25th

Helicopter underwater escape #2 (**HUE2**)
Final dissemination event ([webinar](#))



Aviation Authorities Research Agenda – topics



Environment

- New SAF production pathways



Artificial intelligence

- Human factors



Security impacting safety

- AI aspects, conflict zones



Health / medical

- Obstructive sleep apnea, high air space operations



Automation

- Impact on responsibilities of flight crews and air traffic controllers



Air operations

- Flight time limitations for EMCO



ATM / ANS

- Performance of ground equipment, airspace classifications



Drones

- BVLOS operations



Data for Safety

- Research on future uses cases



PNT



Icing

Thank you for joining this webinar!

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An Agency of the European Union 