AW DRONES

AW-Drones
Data Collection and Mapping

Sebastian Cain DLR





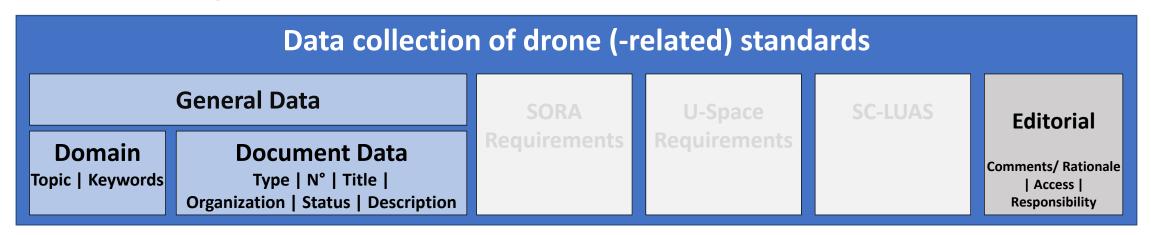
Structure of Approach

Categorized standards Regulatory Yes requirements Standard is proposed as Adequate Standards? (e.g. SORA Safety acceptable mean to comply with Objectives) a given requirement No Identification of: Gaps/Bottlenecks Standards presenting low level of maturity or poor effectiveness



Data Collection

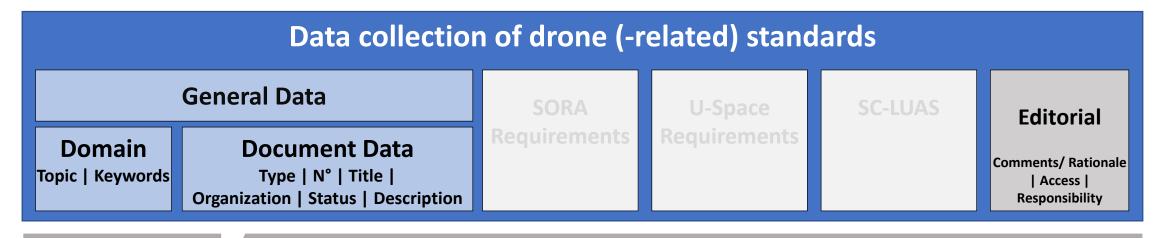
1st step: setting up a database







1st step: Setting up a database



Standards Data EUSCG Rolling development plan

ANSI Standardization Roadmap for Unmanned Aircraft Systems

ASTM UAS Roadmap

Collection of other applicable standards (ASTM, ISO, DIN, RTCA, SAE, ...)



Data collection and analysis – 1st year

Iteration 1

Focus on SORA Requirements

JARUS guidelines on Specific Operations Risk Assessment (SORA)

Data collection of drone (-related) standards **General Data SORA Requirements Domain Document Data SORA Affected OSOs Affected GRM Affected ARM** Type | N° | Title | **Topic | Subtopic** #01 ... #24 M1 [1...2] | M2 | ERP **STEP #9** Strat | Tact **Organization | Status | Description**

Standards Data



Data collection and analysis – 2nd year

Iteration 2

Focus on U-Space Requirements



European Union Aviation Safety Agency
Opinion No 01/2020

High-level regulatory framework for the U-space

Data collection of drone (-related) standards REQ **General Data U-Space Requirements** SORA **Services** HLR **Domain Document Data Network identification service | Geo-awareness Contingency | Occurrence** Type | N° | Title | **Topic | Subtopic Organization | Status | Description** service | Flight authorization service | ... Reporting | ...

Standards Data





Data collection and analysis – 3rd year

Iteration 3

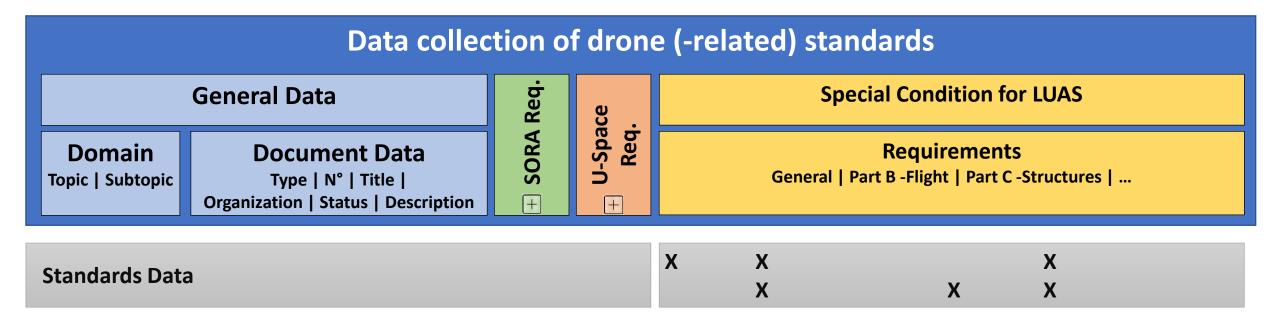
Focus on SC-LUAS Requirements

SC Requirements	OSO	SAIL III Robustness	SAIL IV Robustness	Recommended MoC for SAIL III based on available standards (*)	Gap of recommended MoC for SAIL III (once filled, the MoC would be considered by AW Drone as adequate to achieve the objective)	Final formulation of recommended MoC with gap filled	Recommended MoC to based on available st
Light-UAS 2005 Definition of the operational scenario	N/A	N/A	N/A				
B - FLIGHT							
Light-UAS.2100 Mass and centre of gravity	4	L	L				
Light-UAS.2102 Approved Flight envelope and environmental	4	L	L				
Light-UAS.2105 Performance data	4; 24						
Light-UAS.2135 Controllability, manoeuvrability and	4	Ĺ	Ĺ				

Data collection of drone (-related) standards General Data Domain Topic | Subtopic Type | N° | Title | Organization | Status | Description Data collection of drone (-related) standards Special Condition for LUAS Requirements General | Part B - Flight | Part C - Structures | ...

Standards Data





Mapping

Draw connection between standards and requirements Input for a more detailed view during the **assessment**



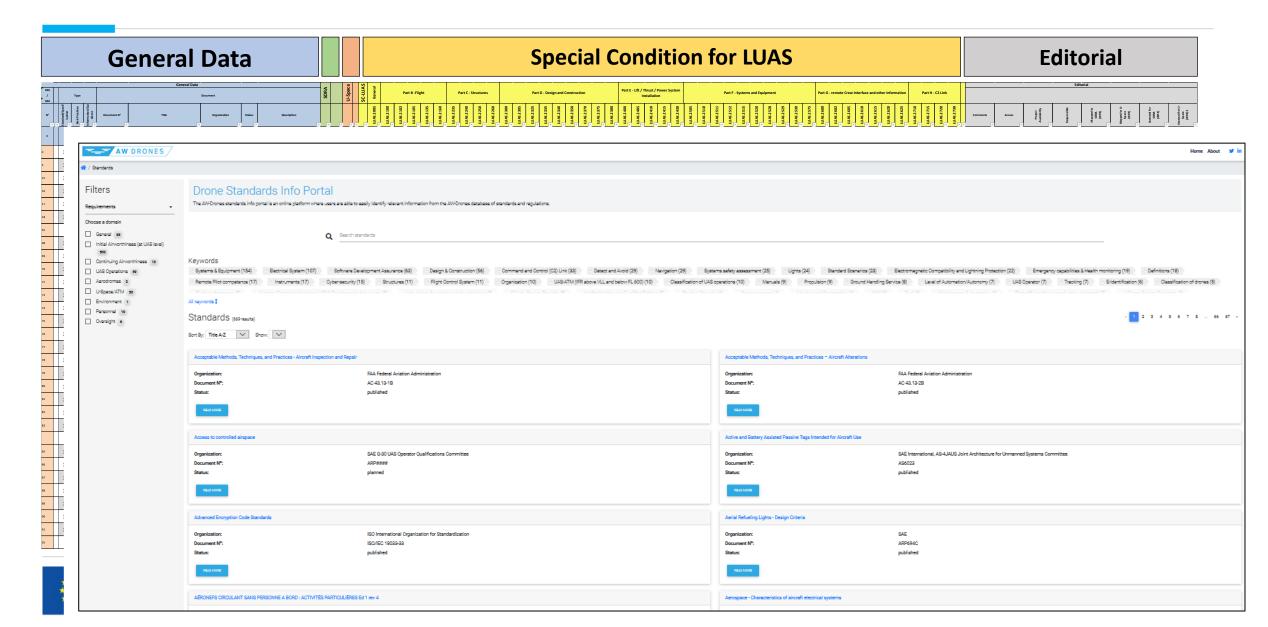
Data Collection Document

General Data	Special Condition for LUAS	Editorial	
General Data		Laitoriai	
General Data	Part 8-Flight Part C-Structures Part D-Design and Construction Part F-Systems and Equipment Part F-Systems and Equipment Part G-remote Crew Interface and other Information Part H-C2 Link	Editorial	
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Data Collection Document





Thank you!



Standards Categorization

Domains General Initial Airworthiness (at UAS level) **Continuing Airworthiness** Environment **UAS Operations** Personnel (involved in UAS airworthiness and operations) Aerodromes U-Space/ATM Oversight

Keywords