



**EASA**  
European Aviation Safety Agency

# Update on Implementing Act/ Delegated Act; U-Space and Urban Air Mobility

DARPAS Conference  
AMSTERDAM Drone Week  
29 November 2018

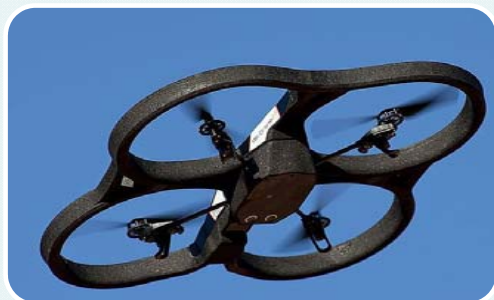
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## Regulation 2018/1139 includes all civil UAS under EU competence entered into force on 11 September



### OPEN

Low risk

**NO-PRE APPROVAL**

**LIMITATIONS** : 25 kg;  
Visual line of sight (VLOS),  
height <120m; system of  
zones

**3 SUB-CATEGORIES**: fly  
over, close, far from people

**CE MARKING** allows for  
design requirements

### SPECIFIC

Increased risk

**Authorisation by NAA**  
based on specific  
operation risk assessment  
(SORA)

**STANDARD SCENARIOS**

**Optional concept of**  
approved operator with  
privilege

### CERTIFIED

Risk as manned aviation

**Certification of UAS and  
operator and licenced pilot**  
(unless autonomous flight)

**EASA accepts application**  
in its present remit

**Some systems (Datalink,  
Detect and Avoid, ...)** may  
receive an independent  
approval



## *Development of an enforceable performance and risk based regulatory framework (I)*

- The Implementing Act and delegated Act covering open, specific and certified category (interim requirements: reference to manned aircraft requirements) are progressing well:
  - the recent meetings with stakeholders and Member States (MS) have been positive.
  - Publication of both acts foreseen for beginning Q2 2019
- The NPA on certified category covering initial and continuing airworthiness, flight crew licences, operations and the first revision of the Standardized European Rules of the Air (SERA) will be issued in June 2019.
  - The corresponding opinion is planned to 2020.
  - Invitations for an EASA expert group have been sent
  - The proposal shall take into account all airspace users needs



## *Development of an enforceable performance and risk based regulatory framework (II)*

- Start developing a regulatory framework for U-Space/ UTM:
  - use the lessons learned from the Network of Demonstrators
  - set-up an informal group to assist in the evaluation of such lessons-learned
- A special Condition for E-VTOL has been published



# *Implementing and Delegated Acts: key discussion points*

- Implementing act:
  - Article 6: certified category
  - Article 9: age of the remote pilot
  - Article 11: risk assessment
  - Article 13: cross border operations
  - Article 14: registration
  - Article 15: zones
  - Article 16: Operation of model aircraft
  - Article 20 to 23: Applicability
- Delegated act:
  - E-identification
  - Noise



## *Further actions (I)*

- Implementation of the **Implementing Act/ Delegated Act**:
  - Prepare support for implementation and monitoring of Member States
  - Develop promotion and communications material for promotion campaigns
  - Finalise development of necessary Acceptable Means of Compliance and Guidance Material
  - Development of the repository
  - Publish opinion on Standard Scenarios
  - Actively support development of standards for CE Marking
- Developing, in close cooperation with Member States and all stakeholders, an institutional framework for a competitive U-space services market and how drones need to be operated in the Single European Sky;
  - Further enhance the Network of Demonstrators



## *Further actions (II)*

- **Urban Air Mobility:**
  - Continue work on Certified category:
    - Rules, AMC and GM
    - Certification Specifications
  - Supporting cities in their efforts to provide a fertile ground for innovative multimodal solutions integrating the 3<sup>rd</sup> dimension into their urban planning processes.
- Continue and further develop necessary **cooperation activities**



# Harmonized Standards

**Delegated Act is a 'Community harmonisation legislation'**

**The use of standards remains voluntary but only 'Harmonized standards' published to the Official Journal of the European Union provide presumption of conformity (unless other standards are explicitly referred to in the regulation)**

**Harmonized standards are issued by ESOs (CEN/CENELEC/ETSI) on the basis of a mandate adopted by the Commission**

**ASD-STAN is CEN's Associate Body working on aviation standards**

**ASD-STAN can adopt prENs before CEN is mandated to issue an HS, and has started to work on the analysis of the DA with EASA**







# Specific DA items to be standardised

## Identification

*Local broadcast, not the same as networked/U-Space identification!*

## Geo-awareness

## Noise (technical note)

## Lights (tbc)

## Airworthiness: e.g. related to the CE marking

...



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## Formal ESO mandate - Next Steps

**DG GROW intends to present a draft mandate in spring next year**

**The adoption of the mandate depends on the adoption of the DA that must take place before.**

**DG GROW aims at an adoption of the mandate before summer**

**First hENs (based on existing prENs) could be adopted in 2020**

**EASA is very much involved in Standardisation activities:**

**EUSCG (European Unmanned Aircraft Standardisation Coordination Group): Rolling Development Plan**

**EUROCAE WG 105**

**ASD-STAN**

**All standards will not be under ESO**



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# The Certified Category

Current Activity Plan  
for NPAs and Opinions  
on the UAS Certified  
Category

**Note: EASA can  
already certify drones  
above 150 Kg of  
MTOM by means of  
Policy EY013-01**

Subject	Proposal	Possible Inputs	NPA publication planned for	Opinion/ Decision publication planned for
Part-ROC 'Remote operator certificate' Part-CAT Part-ARO Part-ORO	New or amend	JARUS-WG2+WG7	2019/Q2	2020/Q2
Part-RPL 'Remote pilot licence' Part-ARA Part-ORA Part-MED	New or amend	JARUS-FCL ICAO RPASP	2018/Q2	2019/Q2
Part-21 Part-M Part-66 Part-145	New or amend	JARUS WG3 ICAO RPASP	2019/Q2	2020/Q2
SERA	Amend	ICAO RPASP	1 <sup>st</sup> phase 2019/Q2 2 <sup>nd</sup> phase 2022/Q1	1 <sup>st</sup> phase 2020/Q2 2 <sup>nd</sup> phase 2023/Q1
ATCO Licensing ATM/ANS oversight	Amend		2022/Q1	2023/Q1
Rules for UA low-level traffic management	Amend	U-space	tbd	tbd
Part-ACAS	Amend	ICAO/JARUS WG4	2022/Q1	2023/Q1
CS-ACNS	Amend		2022/Q1	2023/Q1
CS-UAS	New	JARUS WG3 (CS-LURS, CS LUAS, CS-UAS, AMC 1309)	-	2019/Q2
CS-ETSO	Amend	Industry MOPS	2019/Q3	2020/Q2
CS-36	Amend		2019/Q3	2020/Q1
Aerodromes	Amend		2022/Q1	2023/Q2



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**Questions and comments welcome**

**EASA documents on UAS  
available at**

**<http://www.easa.europa.eu/easa-and-you/civil-drones-rpas>**

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# *Drones/ U-space/ Urban Air Mobility: Challenges but also opportunities!*

- **Drones** development represents challenges and opportunities
  - Challenges: on privacy, environmental protection, security and safety risk mitigation (air risk to other airspace users and ground risk to third parties), coping with fast growing industry → need actions from regulators and in some cases from local police;
  - Opportunities: drones can carry out operations that are in some cases more risky for manned aviation e.g. difficult Infrastructure inspections, survey and search and rescue in hostile environment. Provide new set of services, growth and create jobs
- **Urban Air Mobility** is today only for helicopters special operations → there is a wish to include the 3<sup>rd</sup> dimension in the expansion of cities to create additional mobility possibilities for citizens:
  - Challenges: as for the drones but in addition the need to ensure that landing ports and infrastructure are made available. Need to coordinate with local authorities and with civil land infrastructure development at cities (e.g. city planners). 57 projects in Europe.
- **U-space services** are needed to ensure safe operations of drones (and other airspace users) operated in a large number (e.g. BVLOS operations and operations in the urban area):
  - Challenges: definition of clear roles and responsibilities, create the performance based environment to allow fast but socially acceptable development;
  - Already 17 EU MS working actively in establishing different U-space services and will be further developed within U-space Network of Demonstrators .



## *Need for cooperation to exchange information and create synergies*

- In addition to the general cooperation with EC, Member States and Stakeholders, the Agency is cooperating with :
  - ICAO and JARUS (Joint Authorities for the rulemaking of Unmanned Systems)
  - EDA (European Defence Agency), EMSA (European Maritime Safety Agency), FRONTEX (European Borders and Coast Guard Agency) and SJU (SESAR Joint Undertaking)
  - EUROCONTROL
  - Several European military airworthiness authorities
  - Several other countries including the bilateral partners (FAA, Transport Canada, Brazil)