

European Aviation Safety Agency (EASA) Drone Regulation

Bruno DELOR

(FAI representative in EASA Experts Group)



FAI

European regulatory framework structure

- **Level 1:** Basic EU aviation safety rules
 - Revision of Basic Regulation N° 216/2008 introducing a new scope for UA (removal of the 150 kg threshold)
 - To be adopted by **Council** and **Parliament**
- **Level 2:** Detailed technical rules
 - Prepared by EASA
 - To be adopted by the **Commission**
- **Level 3:** Industry standards
 - Define methods to meet requirements
 - Prepared by industry

EASA work on detailed rules

- **March 2015:** Document 'Concept of Operations for Drones'
- **31 July 2015:** Advance Notice of Proposed Amendment (A-NPA) 2015-10 'Introduction of a regulatory framework for the operation of drones'
- **18 December 2015:** Technical Opinion 'Introduction of a regulatory framework for the operation of unmanned aircraft'
- **22 August 2016:** 'Prototype' Commission Regulation on Unmanned Aircraft Operations
- **21 November 2016 to 3 March 2017:** EASA experts Group for rule making task RMT.0230 (5 meetings)
- **Beginning May 2017:** Publication of the Notice of Proposed Amendment (NPA) for a 3 months period consultation – A workshop will be organised by EASA during this period (probably 5 July)
- ↳ **End 2017 (or beginning 2018):** Commission approval of the Regulation on UA operations for application by 2020

3 categories for UAS operations

- **Open category with different sub-categories - *Low risk***
 - Does not require a prior authorisation by the competent authority or a declaration the operator before the operation takes place
 - Flight limitations (VLOS, maximum height, safe distance from people) - Technical requirements (maximum mass up to 25 kg, registration, E-Identification, ...) - Pilot competence (minimum age, e-learning, ...)
 - **Specific category - *Increased risk***
 - Requires an authorisation by the competent authority before the operation takes place
 - Approval based on Specific Operation Risk Assessment (SORA) with possibility of standard scenarios
 - **Certified category - *High risk***
 - Regulatory regime similar to manned aviation (certification of the UAS and of the operator, flight crew licensing)
- ↪ ***The NPA will cover Open and Specific categories***

General principles

- **The regulation will lay down rules for regulating an operation-centric and risk based concept for the operation of unmanned aircraft systems (UAS) and more specifically in the open and specific categories**
- **The regulation is relative to UA / UAS ... and not to 'Drone'**
- **Unmanned Aircraft** defined as *'any aircraft operated or designed to be operated without a pilot on board'*
'Drone' will be used for communication addressing the general public
- **No EASA acceptance to distinguish commercial and non-commercial operations** considering that the approach is focused on the risk of the operation, and not on the purpose of it
... but specific provisions accepted for model flying

Other definitions useful for model flying

- **Competent authorities:** authorities responsible for the certification, authorisation and oversight of UAS air operations in the Member State where the UAS operator has its principal place of business or place of residence
- **Model aircraft club or association:** organisation legally established in a Member State with the purpose of conducting leisure flights, air displays, sport or competition activities with UAS
- **Remote pilot:** natural person who manipulates the flight controls of a UA, as appropriate, during a flight and is responsible for safely conducting the flight
- **Visual line of sight (VLOS):** type of operation in which the remote pilot maintains continuous unobstructed and unaided visual contact with the UA, allowing the remote pilot to monitor the flight path of the UA in relation to other aircraft, persons, and obstacles, for the purpose of maintaining separation from them and avoiding collisions
- **First-person-view mode:** mode of operation of a UAS where the remote pilot navigates the UA through a camera installed on the UA

Model flying activities (1/2)

- **Recital (9):** *‘Taking into account the good safety record achieved, dedicated provisions for recreational flight activities conducted in the framework of model clubs and associations should be also provided, in order to ensure a level playing field for all UAS operators*
- **Not subject to EASA regulation:**
 - Indoor operations
 - Control Line model aircraft up to 25 kg (tethered aircraft considered as an exception in Basic Regulation Annex 1)
- ↳ ***Radio Control and Free Flight activities are concerned by the EASA regulation***

Model flying activities (2/2)

- **3 possible options**

- **Article 16** : flight as members of a model club or association that has received, from the competent authority, an operational authorisation - compliance with the procedures created by the model club or association in accordance to the operational authorisation which will define deviations to the regulation allowed to the members (including need of the UAS registration)
- **Article 14**: Member State could define zones where UAS are exempted by some requirements and/or the operational limitations are extended (including height limitation)
- **Open Category - Subcategory A3**: homebuilt aircraft up to 25 kg can be conducted in this subcategory - Model flyers must then comply with requirements defined for his subcategory (UAS.OPEN.60)

Article 16 option

- Relative to the Specific category
- Covers UAS operations conducted in the framework of model clubs and associations

‘For UAS operations conducted under the auspices of model clubs or associations the following provisions apply:

- *the competent authority may issue operational authorisations without further demonstration of compliance, on the basis of established procedures, organisation and management system of the model clubs and associations;*
- *operational authorisations granted under this Article shall define the conditions, limitations and deviations from the requirements of Annex I and Annex II to this Regulation’*

↪ *Model flying in model clubs and associations may be done as now in each Member State*

Article 14 option

- **Covers airspace areas or special zones for UAS operations**

‘Where operational risk requires mitigation measures, the Member State shall define airspace areas or special zones:

...

d) where UAS operations are exempt from one or more requirements defined for open category, and they are not required to hold an authorisation or submit a declaration.

- **Tool for Member States to allow them flexibility** to define zones over their territory where model flying can be conducted with extended altitude – The Member State should make sure consistency with the aeronautical information provided through the AIS

Subcategory A 3 option

Case of the homebuilt aircraft

- **Maximum take-off mass:** 25 kg
- **Flight conditions**
 - VLOS or within a range such that the remote pilot (or a UA observer who is situated within the VLOS of the remote pilot) maintains VLOS
 - In area where pilot reasonably expects that no uninvolved person will be in the visual range where the UA is intended to be flown
 - Height limited to 120 m above ground level
- **Pilot competence:** Online training (with an online test) with delivery of a certificate of competence
- **Age:** at least 16 years old (or supervised by a person holding of a certificate of competence)
- **Registration:** operator and UA
- **E-Identification and/or geofencing:** when required for the concerned zone of operation

Registration (1/2)

- **Requirements defined in:**
 - UAS.OPEN.20 for Open Category
 - UAS.SPEC.20 for Specific Category
 - **UAS operators shall:**
 - register themselves and their UA's in a manner and format established by the Agency;
 - update the registration every time a data is changed;
 - display the registration information on the UA and insert this information in the e-identification system when required;
 - **Registration valid for 3 years and renewable**
- ↪ *For model aircraft, model clubs and associations may fulfil the registration requirement on behalf of their members and provide the data to the entity designated for that purpose by the Member State*

Registration (2/2)

- **Registration should be completed on line**
- **Registration form contains at least the following:**
 - Name of the UAS operator, postal address, and mailing address
 - If it is an organisation, it needs to state the following: *“All personnel directly involved in the operations are competent to perform their tasks and the UAS will be operated only by remote pilots with appropriate level of competency”*
- **For registration of an homebuilt UAS:**
 - Aircraft mass (MTOM)
 - Main dimensions
 - Frequency bandwidth and emitting power of the Data link system
 - Type of propulsion
 - Type and capacity of the battery or type and maximum quantity of fuel
 - Type of guidance-navigation-control system and main functions (manual, semi-automatic, automatic)
 - Other dangerous material on board]

Thank you for your attention

