

since decades. So, it is necessary to consider which technical possibilities and changes on the products are at the origin of new risks.

FAI specifies that an RC model aircraft must be flown within visual line of sight (VLOS) for the entire flight. VLOS conditions are considered to be satisfied when a direct unaided visual contact for the control of the model aircraft is assumed.

On a conventional RC model aircraft, the model flyer directly controls with his radio-control system the control surfaces of the model aircraft. So, the model flyer is obliged to be always in direct visual contact with his model to control the flight. The VLOS mode of operation plus the fact that model aircraft flying activity is happening outside urban areas in places known as "model fields" explains the very low occurrences of problems and this is why model flying activity has been safe for so long time. There is no reason and no facts to suddenly consider this recreational activity, as causing problems and potentially unsafe.

Problems come from the possibility to technically operate an unmanned aircraft beyond VLOS and so without the necessity of a pilot having direct view on the aircraft to control it. That is possible only if the unmanned aircraft is equipped with a flight stabilisation or an automatic flight control system combined with on-board sensors and electronic devices (video camera, GPS, ...),

On this basis, it is then possible to differentiate a 'drone' from a conventional RC model aircraft.

A 'drone' may be considered as any unmanned aircraft for which controlled flight beyond VLOS is technically possible (e.g. using an on-board camera, an autopilot, a ground station cockpit, ...), which of course is outside FAI members point of interest regarding model aircraft activities.

- Annex 2 -

FAI definitions and specifications for model aircraft and aeromodelling

Unmanned aircraft FAI classes

Aircraft FAI definition: vehicle that can be sustained in the atmosphere by forces exerted on it by the air. An aircraft may be of two types:

- Aerodyne defined by FAI as an heavier-than-air aircraft which derives its lift in flight mainly from aerodynamic forces.
- Aerostat defined by FAI as an aircraft lighter than air.

Two FAI classes are directly concerned by the 'Prototype' Commission Regulation on UA Operations:

- a) **Class F - Model Aircraft** defined as an aircraft of limited dimensions, with or without a propulsion device, not able to carry a human being and to be used for competition, sport or recreational purposes.
- b) **Class U - Unmanned Aerial Vehicle (UAV)** defined as an aerodyne with means of propulsion that does not carry a human, and which is designed for scientific research, commercial, governmental or military purposes.

Those two classes are mainly differentiated by the use which is done of the unmanned aircraft.

Aeromodelling disciplines

Aeromodelling is organised in three main disciplines:

a) Radio Control (RC)

The model aircraft is manoeuvred by control surface(s) in attitude, direction and altitude by the flier on the ground using radio control.

For the whole flight, a RC model aircraft must be within visual line of sight (VLOS) of the person who directly assumes its control or who is in a situation to take the direct control at any moment, including if the model is being flown automatically to a selected location.

b) Free Flight (FF)

A FF model aircraft is hand launched with then no physical connection during the flight between the model aircraft and the flyer (or his helper).

Note: A FF model aircraft must not be equipped with any device that allows them to be flown automatically to a selected location or controlled remotely during the flight other than to stop the motor and/or to terminate the flight. Closed loop control systems with active sensors and operating aerodynamic flight controls or moving mass are not allowed.

c) Control Line (CL)

The flight control of the model is accomplished via a physical connection to the pilot through one or more inextensible wires or cables directly connected to the model aircraft.

The control wires or cables must be attached to a hand held device (control handle) with a safety strap connecting the competitor's wrist to the control handle used during the flight.

The pilot physically holds the control line handle and controls directly the model aircraft.

Note: the model aircraft is at a very limited distance from the model flyer which is the length of the control wires or cables (from about 15 to 25 meters depending of the size of the model aircraft).

FAI model aircraft technical specifications

A maximum flying mass of 25 kg is defined for FAI model aircraft activities.

Model aircraft shall also meet the following FAI general specifications (unless specified otherwise for records or in some particular class):

Maximum surface area	500 dm ²
Maximum loading	250 g/dm ²
Maximum swept volume of piston motor(s)	250 cm ³
Electric Motors power source max. no load voltage	72 volts

Maximum total thrust of turbines..... 25 kg (250 Newton)

Drone versus model aircraft FAI consideration

Until now, EASA has been reluctant to differentiate a model aircraft from a drone used for leisure and operating under the existing in many EU countries regulations for model aircraft. This leads EASA to regulate model aircraft flying without necessity. Model flying have an excellent safety record in millions of flights worldwide

Annex 1 -
Article 15 - Provisions for model aircraft operations

The recreational operations, such as leisure flights, air displays, sports and/or competition activities, conducted with model aircraft with a flying mass below 25 kg and operated during all flight within visual line of sight are proved to achieve a high level of safety record. They will be exclusively regulated by national authorities and the following provisions shall apply:

1. By *[2 years after entry into force of this Regulation - estimate 2020]*, each national authority shall issue regulation covering the above described operations of model aircraft. Till national regulation is going to be issued, the above described operations of model aircraft will be exercised with no restrictions in the concerned country.
2. A national regulation issued under this article can be issued without the need to conduct the operational risk assessment referred to in UAS.SPEC.60.

main concerns for EASA and also to reconsider if necessary the model flying recreational activities which might need to be treated at EASA level instead of national level.

Note: Most of the countries have regulated differently flight of model aircraft above 25 kg (20 kg in some countries). Those model aircraft are mainly used for air show in presence of public which justify a specific regulation. Operation of a model aircraft of a flying mass over 25 kg may be covered in the Specific category. On the basis of the different practises in the concerned countries, it could be defined a specific EASA regulation for model aircraft of a flying mass over 25 kg (and under 150 kg) with a safety assessment process including, on behalf the national CAA, a check of the model aircraft design (with eventually a structural test) and the delivery of a specific flight authorisation for the tandem aircraft and model flyer.

'Prototype' Commission Regulation on Unmanned Aircraft Operations

FAI proposal for model flying activities

Annexes:

- 1- Article 15 - Provisions for model aircraft operations
- 2- FAI definitions and specifications for model aircraft and aeromodelling.

The internal consultation performed recently between European FAI members has clearly shown that the provisions for model flying activities on the EASA 'Prototype' Commission Regulation on Unmanned Aircraft (UA) Operations still remain a main concern for many European FAI members which consider that the actual proposed rules – even with the amended Article 15 - do not meet their needs and could result in demanding extraordinary requirements being imposed. At the same time, the FAI Members are working extensively to include recreational and sport drone flying activity, which is overlapping with the drone activities that EASA wants to regulate.

The 'Prototype' Regulation is prepared to provide a regulatory framework for the rapidly developing area of drone operation. Unfortunately, drones and model aircraft share the same legal definition as 'unmanned aircraft' (UA) which means that the 'Prototype' Regulation also capture aeromodelling.

EASA recognizes that experience shows that model aircraft activity has a very good safety record. The same opinion was also expressed by European Parliament (EP) with the following statement *“Model aircraft in particular those operated within an association or a club have enjoyed a good level of safety since decades. These associations and clubs are well structured and have put in place a very good safety culture. Whilst it is recognised that model aircraft are unmanned aircraft used primarily for leisure which fall under this Basic Regulation, provisions must be included in the implementing rules or delegated acts so that model aircraft should continue to operate as they do today where under the various national systems. The implementing or delegated acts adopted under this Regulation should allow for a seamless transition from the different national systems, and should take into account existing best practices in the Member States.”*

Many European FAI members still continue to emphasize that model aircraft up to a mass of 25 kg, as per FAI definition included on the Annex 2, being flown within visual line of sight and operated the same way as for many decades, must be considered differently from the rest of unmanned aircraft. FAI is not against regulations for model aircraft. Actually, in many European countries such regulations exist but are simple and easily understandable by any model flyer.

This is not the case with the actual EASA 'Prototype' Regulation even with the amended Article 15. Building and flying model aircraft as exercised for such a long period need to be somehow differentiated from EASA regulation on UA operations.

As a matter of fact, the most effective way of ensuring that model aircraft flying is not globally caught up within disproportionate regulations intended by 'drone model aircraft' is to continue to treat on a national level model aircraft up to a mass of 25 kg for activities which are proved to be achieved with a high level of safety.

The FAI internal consultation has shown that the amended wording of the article 15 is strongly criticized by different countries considering it will lead to national interpretation/implementation difficulties and so to cause problems in the application. It does not give a sufficient reassurance that the aeromodelling activities will continue to be exercised the same way as of today in the future. As an example, article 15 intends to cover the model flying activities done under the umbrella of National Organization(s). But, it is also necessary to consider the situation of the model flyers when they practice outside a national organization or a dedicated model flying field if this practice is done with the appropriate level of safety and in agreement with the airspace regulation.

Considering that EASA with Article 15 is looking to provide some grandfather's rights to the existing recreational activities as currently exercised, considering that EP statement is also expressing the same and finally considering that EASA is looking to regulate this new booming activity which unfortunately capture model aircraft flying activity, we propose in Annex 1 a new wording for Article 15 to be considered by EASA for the recreational operations conducted with model aircraft with a flying mass under 25 kg which are proved to achieve a high level of safety record.

Our proposal does not deviate from the EASA's goal and timeframe and gives the opportunity to EASA to review the situation 2 years after entry into force of the EASA Regulation (estimate 2020). This transitional period will permit a better evaluation of the new EASA Regulation on UA Operations to the areas that are the