



## EUROCAE WG73 SG4 on Light UAS

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### Operations of UAS under Visual Line of Sight

EUROCONTROL and the Joint Aviation Authorities (JAA) foresaw the need for future development of UAS Technical Standards and recommended a harmonized approach between Member States. Consequently, they proposed that EUROCAE become a focal point for this harmonized development. EUROCAE accepted this proposal and established WG-73 on Unmanned Aircraft Systems. The WG-73 leadership recognized that the initial market demand would predominately be for light UAS, and that for the foreseeable future it seemed unlikely that such aircraft will be capable of carrying separation management/collision avoidance systems that will provide compliance with the Rules of the Air. So for safe operation these small aircraft would have to be limited to segregated airspace, or be flown close enough to the control station, that the UAS pilot can visually monitor the flight path and the airspace, so as to maintain separation from other aircraft, and persons and property on the surface. Therefore, it was identified that there was a need for the subgroup to look specifically at aircraft that are flown under Visual Line Of Sight constraints, and Subgroup 4 was formed for this purpose.

Initially, it was considered that the scope of SG4 should be UAS where the UAV is under 150kg; this being the regulatory responsibility boundary between EASA and National Aviation Authorities. However, it was later realised that heavier slow moving vehicles, such as rotorcraft and airships might be able to fly within the visual range limits, and that lighter aircraft may be able to go beyond visual monitoring in segregated airspace. So the 150kg is not a «hard» limitation for the regulatory concept.

It is important to understand that SG4 will not create and impose the regulations for UAS operated under visual monitoring. The application and enforcement of regulations is the responsibility of the regulatory bodies - in Europe EASA and the National Aviation Authorities. The deliverables from SG4 will be proposals for regulations and guidance material that the regulatory bodies may choose to adopt and/or adapt to their use in formal rulemaking.

### Proposal for Regulation for Light UAS

The purpose of the SG4 activity is to define the regulatory concept for aircraft that are to be flown with visual management of separation/avoidance of collision. Since the CAA UK had already developed guidance for light UAS operation (within CAP 722), it was decided to take this guidance as a starting point and adapt it to provide generic guidelines for light UAS operation.

The philosophy of the CAA UK document is to follow the best practice of model aircraft operations, which for many years have been widespread and acceptably safe. The CAA UK position is that, on the basis of a limited engineering assessment and flight test programme, it will normally allow aircraft up to 150kg to fly within 500m radius of the UAS pilot, but not over or within 150m of any person, vehicle or building without further debate of operating constraints. The CAA UK

has advised that it will consider allowing operations at greater distances from the UAS pilot, or closer to people, vehicles or buildings, if the UAS pilot/organisation can provide substantiation of adequate safety. For example, if the air vehicle is large it may be justifiable that its flight path can be monitored visually at a greater distance than 500m.

SG4 is developing its own proposals. One feature of these is to define categories of operation depending upon whether the aircraft is to be flown close to or over persons or property, and whether the airspace is segregated/controlled or not.

(Note that, although the concept of the close range operations is based upon model aircraft experience, there is no intention to recommend any changes to the regulation of model aircraft).

Another subject that has been included in the SG4 is to try to make a distinction between model aircraft and UAS. It is not the intention of SG 4 to work on proposals for model aircraft, but only for those pertaining to UAS. Therefore, SG4 has proposed «model aircraft (recreational use)» and «UAS (professional use)» as one possible means to do this.

### Next Steps

In accordance with EUROCAE procedures, the draft guidance document will go through an internal EUROCAE WG-73 consultation in the fall of 2009, after which it will be presented to the EUROCAE Council for adoption and release following a consultation round external to WG-73.

Note: the guidance document that is being developed is a proposal from EUROCAE only. It is up to national aviation authorities to decide whether to adopt the proposal and include it in their national regulation.

