

FOREWORD

EUROCONTROL

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EUROCONTROL is a civil/military inter-governmental organisation comprising 38 Member States with a mission to harmonise and integrate air navigation services in Europe. Its focus is therefore on the evolution of a safe and efficient pan-European Air Traffic Management (ATM) network to facilitate the sustainable growth of aviation in Europe. Unmanned Aircraft Systems (UAS) feature in this network as an increasingly important and legitimate type of airspace user.

EUROCONTROL is leading work on the ATM aspects of UAS flight in European airspace. In response to a military requirement, it has already published a set of specifications for military UAS flying as Operational Air Traffic (OAT) outside segregated airspace. The specifications follow three basic principles. Firstly, UAS operations should not increase the risk to other airspace users; secondly, ATM procedures should mirror those applicable to manned aircraft; and, thirdly, the provision of air traffic services to UAS should be transparent to air traffic controllers. These are principles that appear to be gaining universal acceptance as the basis for all UAS operations in non-segregated airspace.

To address flights by civil UAS and UAS as general air traffic (GAT), EUROCONTROL's UAS ATM Integration Activity has begun to develop UAS ATM requirements into a comprehensive set of globally interoperable certification and operational approval criteria. The starting point is that these will require UAS to fit in with the existing ATM system, rather than the system's being required to be adapted to accommodate UAS.

Looking further ahead, it is equally important to ensure that UAS are fully integrated into the ATM regulatory, operational and technical environment of the SESAR (Single European Sky ATM Research) ATM Target Concept. Indeed, the unique capabilities of UAS may be particularly well suited to some aspects of SESAR, such as 4-D trajectory management.

Notwithstanding the imperatives of SESAR, recent civil UAS market surveys indicate a pressing near-term need for small, low-altitude vehicles. These are required to fly in support of emergency services such as police, fire and coastguard, and for activities such as pipeline and power-line inspection. However, they also have the potential to combine flight outside controlled airspace and over populated areas with an absence of close air traffic control, and so represent a particularly complex ATM challenge.

Conversely, the more distant prospect of commercial cargo flights - possibly employing current airframes minus flight crew - may prove somewhat more straightforward from an ATM perspective, since such flights will utilise the civil route structure and be subject to air traffic control from take-off through to landing.

Regardless of the nature of the challenge, however, the safety of all airspace users will always remain paramount.

This being so, UAS operations need to be carried out with the same level of safety that applies to manned aircraft. Nothing less would be acceptable.

As is the case with practically all its other activities, EUROCONTROL does not work in isolation on UAS. Indeed, progress would stall very quickly without effective coordination and cooperation between the various national and international bodies concerned with UAS integration. Accordingly, EUROCONTROL provides the chair for a EUROCAE (European Organisation for Civil Aviation Equipment) Working Group (WG-73), dedicated to establishing technical standards for civil UAS. It is also to the fore in participating in an ICAO (International Civil Aviation Organisation) UAS Study Group, established recently to support the safe, secure and efficient integration of UAS into non-segregated airspace.

The need to ensure that rules and regulations for UAS in Europe and the USA develop along similar lines is self-evident. EUROCONTROL meets regularly with the Federal Aviation Administration (FAA) to progress a mutual action plan in accordance with the Memorandum of Cooperation between the two agencies.

In addition, given the present preponderance of military UAS procurement, EUROCONTROL liaises closely with the NATO FINAS (Flight in Non-Segregated Airspace) Working Group, which has been tasked with recommending NATO-wide guidelines to allow the cross-border operation of military UAS in non-segregated airspace.

The European Aviation Safety Agency (EASA) and the European Defence Agency (EDA) are other key players in the integration of UAS into European airspace, and EUROCONTROL works with both on a one-to-one basis and within various European fora.

Finally, EUROCONTROL recognises the important coordinating role of UVS International and appreciates the organisation's support for its UAS ATM related-activities.

