



ICAO

International Civil Aviation Organization Unmanned Aircraft System Traffic Management (UTM)

Request for Information

Introduction:

ICAO recognizes that the challenge to integrating unmanned aircraft (UA) into national airspace will be facilitated by agreeing upon a globally harmonized, common framework. To ensure sound technical approaches are used for constructing such a framework, the broader industry, academic and science community research and development initiatives are being solicited as well as any national implementations from which lessons can be learned. The global aviation community will benefit from these contributions of potential solutions. ICAO will serve as the global facilitator as States, industry, academia and other interested stakeholders collaborate on conceptualizing a common regulatory framework to support integration of unmanned aircraft into national airspace. This activity is separate from ICAO's on-going work to build a full regulatory framework for the integration of remotely piloted aircraft systems (RPAS) in accordance with instrument flight rules. Although not traditional work for ICAO, Member States have requested that ICAO serve as the global civil aviation facilitator to assist with the challenge of unmanned aircraft systems (UAS).

Problem statement:

Multiple States and regions have expressed interest in developing UTM to provide services for UAS operations, particularly in urban environments. A common agreement on the framework and core boundaries of UTM will facilitate harmonization between UTM systems globally and enable industry, including manufacturers, service providers and end users to grow safely and efficiently without disrupting the existing manned aviation system.

To that end, ICAO is soliciting information from States, industry, academia or individuals that will assist in **defining a framework (to include effectiveness, safety, and efficiency) and core boundaries of UTM**. This will serve to initiate global discussion toward a common agreement on a path forward.

Any framework for UTM will include many components, three of which are fundamental and will therefore be addressed as a matter of priority:

- a) **registration system** from which data is accessible in real time to allow **remote identification and tracking** of each UA, its operator/owner and location of the remote pilot/control station. To accommodate UA that are increasingly transported from one State to another for either recreational or professional use, this database should allow global access;

- b) **communications systems** for control of the UA and for tracking all UA within the UTM area. The communications system used for tracking UA must be able to identify when a manned aircraft is entering UTM airspace and provide an acceptable level of protection between it and UA operating in the airspace. Furthermore, it must facilitate detection of potential collisions with other UA and with obstacles such that appropriate avoidance action can be taken; and
- c) **geofencing-like systems** that will support automatic updates by national authorities on the 28 day aeronautical information regulation and control (AIRAC) cycle to prevent UA operation in sensitive security areas and restricted or danger areas such as near aerodromes.

Submissions:

Submissions may address part or all of the above problem statement. Additional topics will not be considered at this time.

Submissions must:

- describe at a high level a solution that can be implemented by all States;
- allow for flexible implementation (e.g. dimensions of airspace) on a national basis while adhering to a common framework;
- define infrastructure requirements and provide a recommendation on how these can be achieved;
- take into consideration the cyber security environment within which the proposed solution would operate;
- not exceed 2000 words;
- be written in English;
- be provided as a readable/writable MS-Word document; and
- be received by ICAO at UAS@icao.int not later than 15 July 2017.

All submissions will be reviewed. Submitters of those proposals that are considered to best address the problem statement will be offered an opportunity to present their information at **DRONE ENABLE, ICAO's UAS Industry Symposium** to be held on 22 and 23 September 2017 in Montréal, Canada. Costs associated with travel to and stay in Canada will be borne by the presenter. Extensive discussion of all presentations should be anticipated with the possibility that some aspects of several submissions could be supported by the Symposium audience and considered for incorporation into ICAO UAS guidance material.

DRONE ENABLE, ICAO's Unmanned Aircraft Systems (UAS) Industry Symposium

ICAO Headquarters, Montréal, Canada, 22 – 23 September 2017

<http://www.icao.int/meetings/UAS2017>

The UAS Industry Symposium will immediately follow **ICAO's Second Global RPAS Symposium**, which will be held from 19 to 21 September.

Information on the RPAS symposium is available at

<http://www.icao.int/RPAS-Symposium>



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SAFETY