

ICAO UAS RELATED ACTIVITIES

A hand holding a drone with digital overlays. The background is a blue-toned image of a person's face, overlaid with various digital graphics including charts, graphs, and data points. The drone is a quadcopter with a camera mounted on the front. The overall theme is technology and aviation.

AW Drones Webinar

7 December 2021



- ICAO UTM Framework Update
- ICAO U-AID (Humanitarian) Guidance Material
- ICAO UAS Model Regulations



ICAO's Mandate

- ICAO's UAS mandate:
 - Harmonization of regulations
 - Safe and coordinated integration of UAS activities
 - Assistance to ICAO Member States



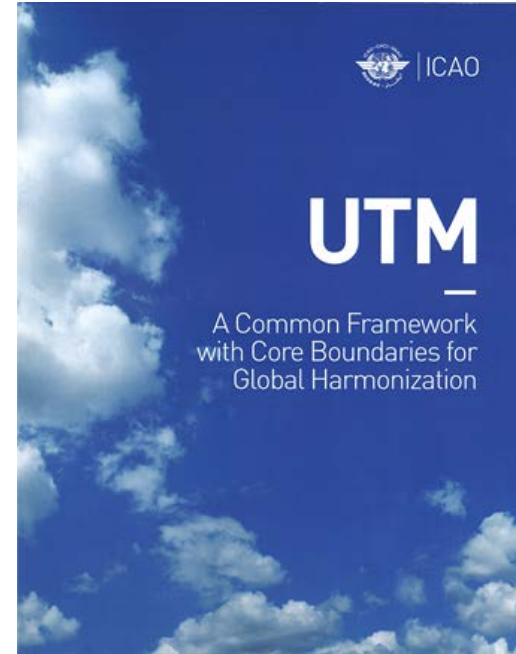


ICAO

SAFETY

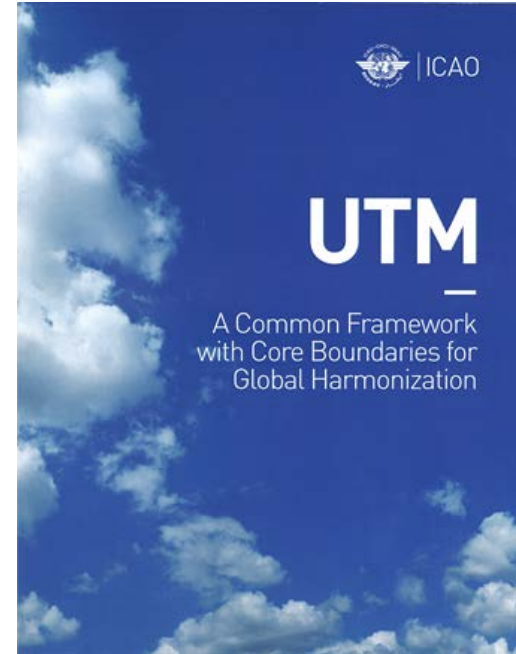
UTM Framework – Overview

- A framework and core capabilities of a “typical” UTM system
- Not a technical solutions document
- Developed in collaboration with industry/academia





- Provides high level UTM requirements/considerations
 - Not a technical solutions document
 - Safety-focused
- Maintain safety and facilitate integration with existing aviation system
- Support technological developments while enabling stakeholders to grow safely and efficiently





UTM Framework

EDITION 1 (RELEASED)

- Registration, identification and tracking
- Communications systems
- Geofencing-like systems
- Potential architectures

EDITION 2 (RELEASED)

- UTM-ATM boundaries and transitions
- Information exchange between ATM and UTM

EDITION 3 (RELEASED)

- UTM risk assessment/contingency procedures
- UTM service providers structure
- Separation and deconfliction in UTM

EDITION 4 (DRAFTING)

- UA performance requirements in a UTM environment
- UTM system certification requirements
- UTM in aerodrome environments/activities



- Guidance for humanitarian operations conducted by UAS (on-going and emergency response)
- Emphasizes safety risk assessment
- Facilitates rapid approvals
- Provides considerations for carriage of dangerous goods
- Addresses societal concerns
- Includes sample forms for the applicant and the local CAA for expedited approval
- Supports counterparts in the UN System and NGOs

UAS – ICAO Model UAS Regulations





ICAO UAS Model Regulations

➤ Development and background



Sept. 2016

Oct. 2018

Sept. 2019

39th Session of ICAO Assembly

- Leadership role to develop guidance for harmonized UAS regulations;
- Receive industry studies on cyber-resiliency;
- Develop UAS awareness and educational campaigns for users.

13th Air Navigation Conference

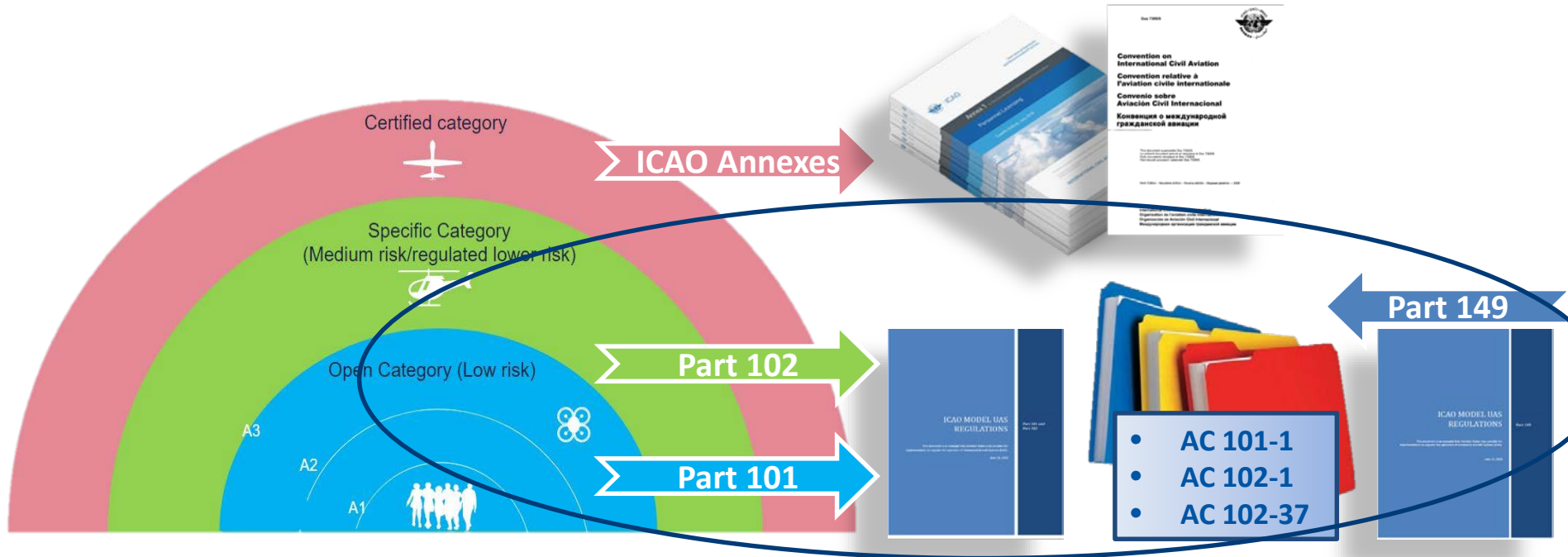
- Formulate & implement technical and regulatory solutions for UAS;
- Insure UTM systems interoperable with ATM systems;
- Enable authorization of non-certificated UAS in high-seas airspace.

40th Session of ICAO Assembly

- Accelerate full regulatory framework for UAS and UTM;
- Develop provisions and guidance material for safety risks of unauthorized presence of UA near aerodromes.

ICAO UAS Model Regulations

- Establish scope of unmanned aviation

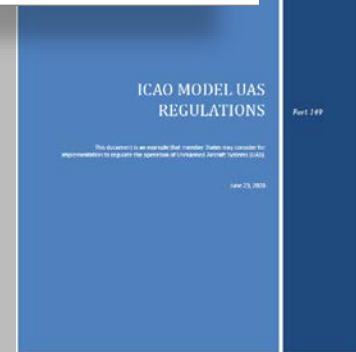




ICAO UAS Model Regulations

Establish scope of unmanned aviation

- Categorization:
 - Open category: **Part 101**
 - Specific category: **Part 102**
 - Certified category: **ICAO Annexes**
- Approved Aviation Organizations (AAO): **Part 149**
- Advisory Circulars (acceptable means of compliance):
 - **AC 101-1**
 - **AC 102-1**
 - **AC 102-37: Dangerous Goods**
- Guidance Materials:
 - **U-AID**
 - **UTM**





- A compilation of existing UAS regulations
 - Vanuatu, New Zealand, Australia, Canada and the U.S.
- Model Regulations articulate:
 - remote pilot licensing, standard operating conditions, SMS requirements, operational risk assessments
- Guidance material providing best practices
- Prescriptive and performance-based regulations
- Operation-centric, risk-based approach
- Living document evolving with UAS technologies



ICAO UAS Model Regulations

Elements NOT addressed in the UAS Model Regulations

- States will need to address the following to insure alignment with existing national policy/law:
 - Privacy, insurance, economic authority;
 - Environmental requirements (noise and emissions);
 - Law Enforcement requirements and/or guidance;
 - Cyber Security Issues.



Model UAS Regulations

Humanitarian Aid & Emergency Response Guidance

UTM Guidance Edition 3

UAS Toolkit

ICAO / Safety / Unmanned Aviation

ICAO Model UAS Regulations

U-AID or UAS for Humanitarian Aid and Emergency Response Guidance

Additional Guidance ▾

ICAO U-AID Guidance
UTM Guidance, Edition 3

UAS Toolkit

ICAO RPAS CONOPS

Expert Groups ▶

Unmanned Aviation Bulletin

Unmanned Aviation Training ▶

Symposia and Webinar Links - RPAS and UAS

ICAO's upcoming Meetings and Events page

How ICAO Develops Standards

Publications

Unmanned Aviation

This website has been designed to showcase ICAO's ongoing developments related to the full breadth unmanned aviation.

This site also facilitates the exchange of unmanned aviation related information, meetings and resource

For further information please contact RPASEvents@icao.int.

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Questions/Discussion

