



ASSEMBLY — 42ND SESSION

TECHNICAL COMMISSION

Agenda Item 24: Aviation Safety and Air Navigation Priority Initiatives

DEVELOPING GLOBAL FRAMEWORK FOR CROSS-BORDER DRONE OPERATIONS

(Presented by Kazakhstan)

EXECUTIVE SUMMARY

With the rapid advancement of unmanned aircraft systems (UAS) and the increasing complexity of their operations, cross-border drone activities—particularly those involving beyond visual line-of-sight (BVLOS) commercial missions—are becoming an emerging reality. While a harmonized global regulatory framework for international drone operations is yet to be fully established, the growing demand for cross-border UAS activities underscores the opportunity for ICAO to provide leadership and clarity in this evolving domain.

This working paper proposes that ICAO take the lead in initiating the development of a globally harmonized framework for cross-border UAS operations, building upon its existing *Manual on Remotely Piloted Aircraft Systems* (RPAS, Doc 10019) and *Procedures for Air Navigation Services — Air Traffic Management* (PANS-ATM, Doc 4444) guidance. The paper highlights the relevance of issues such as airspace sovereignty, customs clearance, liability, mutual recognition of authorizations, and communication protocols. Member States are encouraged to collaborate under ICAO leadership to ensure the safe, secure, and equitable integration of cross-border drone operations into the global airspace system.

Action: The Assembly is invited to:

- recognize the growing need for a globally harmonized framework to govern cross-border UAS operations;
- encourage ICAO to initiate the development of guidance material or Standards and Recommended Practices (SARPs) on cross-border drone operations;
- support the formation of a multidisciplinary ICAO Study Group or Task Force focused on legal, technical, operational, and institutional aspects of cross-border drone activities; and
- promote regional collaboration and the mutual recognition of UAS operational authorizations among States.

<i>Strategic Goals:</i>	This working paper aligns with ICAO's Strategic Goals <i>Every Flight is Safe and Secure; Aviation Delivers Seamless, Accessible, and Reliable Mobility for All.</i>
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<i>Financial implications:</i>	To be determined.
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<i>References:</i>	Annex 6 — <i>Operation of Aircraft</i> , Part IV — <i>International Operations Remotely Piloted Aircraft Systems</i> Doc 10019, <i>Manual on Remotely Piloted Aircraft Systems (RPAS)</i> Doc 4444, <i>Procedures for Air Navigation Services — Air Traffic Management (PANS-ATM)</i> ICAO Assembly Resolution A40-27: <i>Innovation in Aviation</i>
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1. INTRODUCTION

1.1 The use of unmanned aircraft systems (UAS) for cross-border applications such as cargo delivery, surveillance, humanitarian aid, and infrastructure monitoring is becoming increasingly viable. However, there is no existing ICAO-endorsed mechanism to manage these operations internationally.

1.2 ICAO has made significant progress in developing RPAS standards and guidance, including Annex 6 — *Operation of Aircraft*, Part IV — *International Operations Remotely Piloted Aircraft Systems*, Doc 10019, *Manual on Remotely Piloted Aircraft Systems (RPAS)* and Doc 4444, *Procedures for Air Navigation Services — Air Traffic Management (PANS-ATM)*. Cross-border drone operations introduce new challenges that intersect with national sovereignty, international law, customs and immigration protocols, security controls, and regulatory compatibility.

2. DISCUSSION

2.1 Without global coordination, cross-border drone operations may result in airspace violations, legal disputes, enforcement challenges, and risks to civil aviation safety.

2.2 A globally harmonized framework would address:

- a) legal and jurisdictional clarity for airspace and operational control;
- b) standardized procedures for filing and authorizing cross-border flight plans;
- c) mutual recognition of operator and aircraft authorizations;
- d) cybersecurity and communications integrity;
- e) privacy and data protection considerations; and
- f) customs and border control coordination.

2.3 A proactive and inclusive approach led by ICAO would support global interoperability and mitigate the risks of fragmented national rules, ensuring consistent application of safety and security principles.

3. PROPOSED ICAO ACTIONS

3.1 ICAO may consider establishing a cross-border UAS operations study group with multidisciplinary expertise to explore technical, legal, and institutional issues.

3.2 This group could deliver:

- a) a preliminary concept of operations (ConOps) for cross-border drone activity;
- b) draft provisions for SARPs/guidance material;

- c) recommendations for regional cooperation mechanisms and bilateral/multilateral agreements; and
- d) templates for harmonized approval processes and technical requirements.

3.3 Kazakhstan would be interested to contribute technical expertise, especially on operational aspects to such an initiative.

4. **CONCLUSION**

4.1 The integration of UAS into the global aviation system is inevitable and already underway. Addressing the regulatory void in cross-border drone operations is a logical and necessary next step.

4.2 ICAO is uniquely positioned to provide leadership, promote global harmonization, and foster cooperative solutions in this evolving domain.

4.3 The Assembly is invited to support the proposals outlined in this paper and enable ICAO to take concrete steps toward establishing a global framework for cross-border drone operations.

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