



INTERNATIONAL CIVIL AVIATION ORGANIZATION

A United Nations Specialized Agency

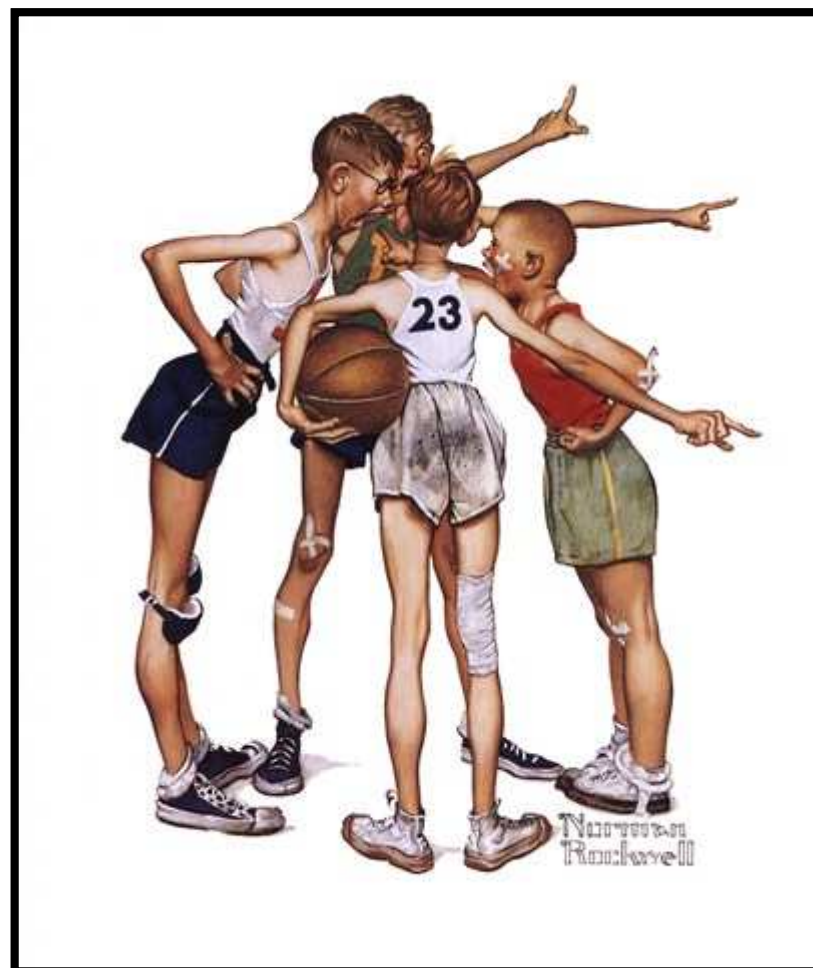
The Legal Framework for RPAS/UAS

**Suitability of the Chicago Convention
and its Annexes**

Non-Lawyers



Lawyers



Is the Chicago Convention Suitable?



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Yes

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Overview



- Concept of “Pilotless Aircraft”
- Application of Chicago – Major Challenges
- Work of ICAO
- Timeline for SARPs and PANS

Chicago Convention – Article 8



Pilotless Aircraft

No aircraft capable of being flown without a pilot shall be flown without a pilot over the territory of a contracting State without special authorization by that State and in accordance with the terms of such authorization. Each contracting State undertakes to insure that the flight of such aircraft without a pilot in regions open to civil aircraft shall be so controlled as to obviate danger to civil aircraft.

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“Without a pilot”

- No Article 32 “pilot” on-board
 - Radio-controlled pilotless aircraft before 1944
 - Eleventh ICAO Air Navigation Conference (2003):
“[P]ilotless... in the sense of Article 8... [means] without a pilot-in-command on board”

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“Special authorization”

- Compare to Article 3(c) re “state aircraft”

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“Obviate danger to civil aircraft”

- Compare to Article 3(d) re “state aircraft”
- “Due regard” obligation

Chicago Convention – Article 8



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Major Challenges



- ***Article 8 – Special Authorization***
 - Annex 2, Appendix 5 (previously Appendix 4), paragraph 2.2: No prior authorization for light balloons “used exclusively for meteorological purposes”

Major Challenges



- ***Article 29 – On-board documents***

Every aircraft of a contracting State, engaged in international navigation, shall carry the following documents in conformity with the conditions prescribed in this Convention:

- a. Its certificate of registration;
- b. Its certificate of airworthiness;
- c. The appropriate licenses for each member of the crew;
- d. Its journey log book;
- e. The aircraft radio station license (if any);
- f. For passengers: names, places of embarkation, and destinations;
- g. For cargo: a manifest and detailed declarations.

Major Challenges



- ***Article 31 – Certificate of Airworthiness***

Every **aircraft** engaged in international navigation shall be provided with a certificate of airworthiness issued or rendered valid by the State in which it is registered.

Major Challenges



- ***Article 33 – Recognition of Certificates and Licenses***

Certificates of airworthiness and certificates of competency and licenses issued or rendered valid by the contracting State in which the aircraft is registered in accordance with SARPs, shall be recognized as valid by the other contracting States.

- ***Assembly Resolution A37-15, Appendix G***

Pending the coming into force of international Standards respecting particular categories, classes or types of aircraft or classes of airmen, certificates and licenses issued or rendered valid, under national regulations, by the Contracting State in which the aircraft is registered shall be recognized by other Contracting States for the purpose of flight over their territories, including landings and take-offs.

Major Challenges – Article 33



- ***Annex 2, Appendix 4***
 - ***Section 2, Certificates and licensing (Note 2):***

Pending issuance of certification and licensing Standards, certification and licensing need not be deemed to comply with SARPs of the related Annexes, including Annex 1, 6, and 8.
 - ***Section 3, Requests for authorization:***

Unless otherwise specified, requests for authorization require submission of the same level of documentation required for issuance of a Certificate of Airworthiness.

Work of ICAO



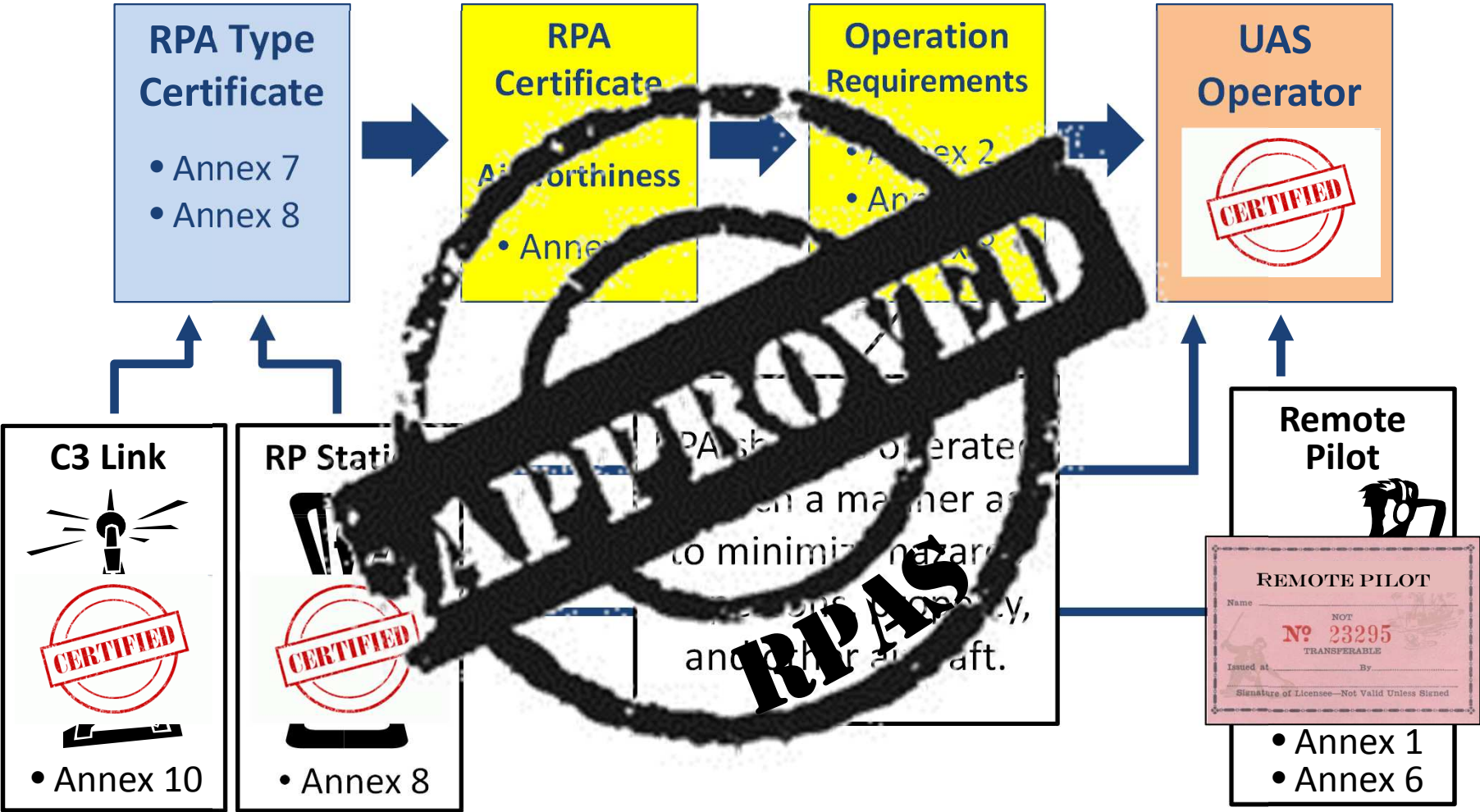
- ***Unmanned Aircraft System Study Group (UASSG)***
 - Created in 2007 to assist Secretariat in developing proposals for the safe and efficient integration of unmanned aviation into existing system
- ***Amendment 13 to Annex 13 (Aircraft Accident and Incident Investigation)***
 - Published in 2010 - Mandate investigations following accidents involving unmanned aircraft systems

Work of ICAO



- ***ICAO Circular 328 published in 2011***
 - Unmanned aircraft (UA) are aircraft; RPA a subset of UA
 - All aircraft flown without pilot on-board subject to Article 8
 - Remote pilot a new category of aircraft personnel; licensed remote pilot required for integration
 - Safety and security of data links essential
 - Fundamental safety requirements are the same, manned or unmanned
- ***Standards on Remotely Piloted Aircraft System (RPAS)***
 - Amendment 43 to Annex 2 and amendment 7 to Annex 7 adopted by ICAO Council in 2012 (applicable 15 Nov 2012)

ICAO RPAS Standards





- ***ICAO RPAS Manual***

- Will expand on current Standards:
 - RPAS approval / certification
 - Air worthiness and operator certifications
 - Lines of distinction between airworthiness, maintenance, and operations
 - Performance-based technical requirements
 - For command and control (C2) plus ATC communications (C3)
 - For detect and avoid systems
 - Competency-based licensing requirements and medical provisions for remote pilots
 - Initial ATM provisions
- Publication in early 2014

ICAO Timeline



- ***Standards and Recommended Practices (SARPs) & Procedures for Air Navigation Services (PANS):***
 - **2016-2018:** Airworthiness, operations, licensing, detect and avoid, C2/C3 and basic ATM provisions
 - **2020-2023:** Refined SARPs/PANS with aerodrome and ATM operational requirements added
 - **By ~2028:** All provisions need to support transparent operation of RPA at aerodromes and in all classes of airspace



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