ICAO SAFETY

2nd RPAS Symposium

Status of the ICAO Regulatory Framework

19 September 2017

Leslie Cary
ICAO RPAS Programme Manager

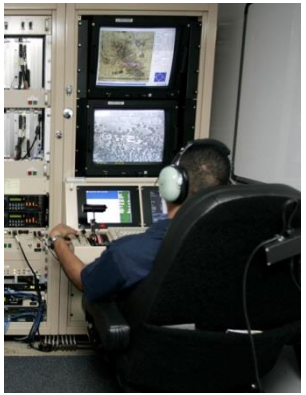
Unmanned aircraft are aircraft

Aircraft. *Any machine that can derive support in the atmosphere from the reactions of the air other than the reactions of the air against the earth's surface.*

The flying machine is an aircraft, not a system.

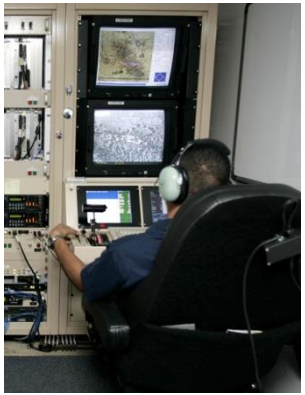
UA versus RPA

- Unmanned aircraft include:
  - Free balloons
  - Model aircraft
  - Remotely piloted aircraft
    - Airspace/aerodrome integration requires control
    - Control, in real time, provided by a licensed remote pilot
  - Drones



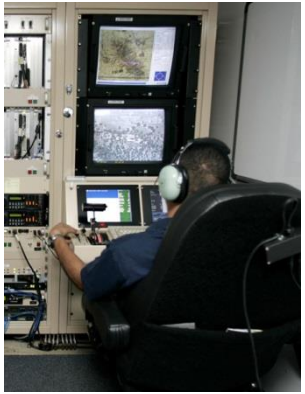
UA versus RPA

- **Unmanned aircraft** include:
  - Free balloons
  - Model aircraft
  - Remotely piloted aircraft
    - Airspace/aerodrome integration requires control
    - Control, in real time, provided by a licensed remote pilot
  - Drones



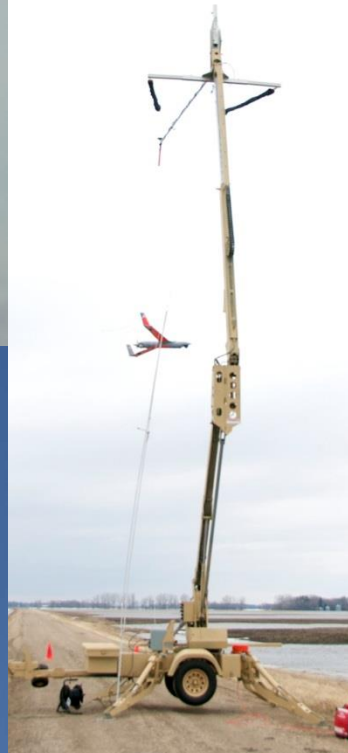
UA versus RPA

- **Unmanned aircraft** include:
  - **Free balloons**
  - **Model aircraft**
  - **Remotely piloted aircraft**
    - Airspace/aerodrome integration requires control
    - Control, in real time, provided by a licensed remote pilot
  - **Drones**



NASA
ERAST
AeroVironment Inc.
HELIOS

aerosonde



BDB

G-EZMB

PACKSTATION
microdrones.com

Two Approaches – Two Streams of Work

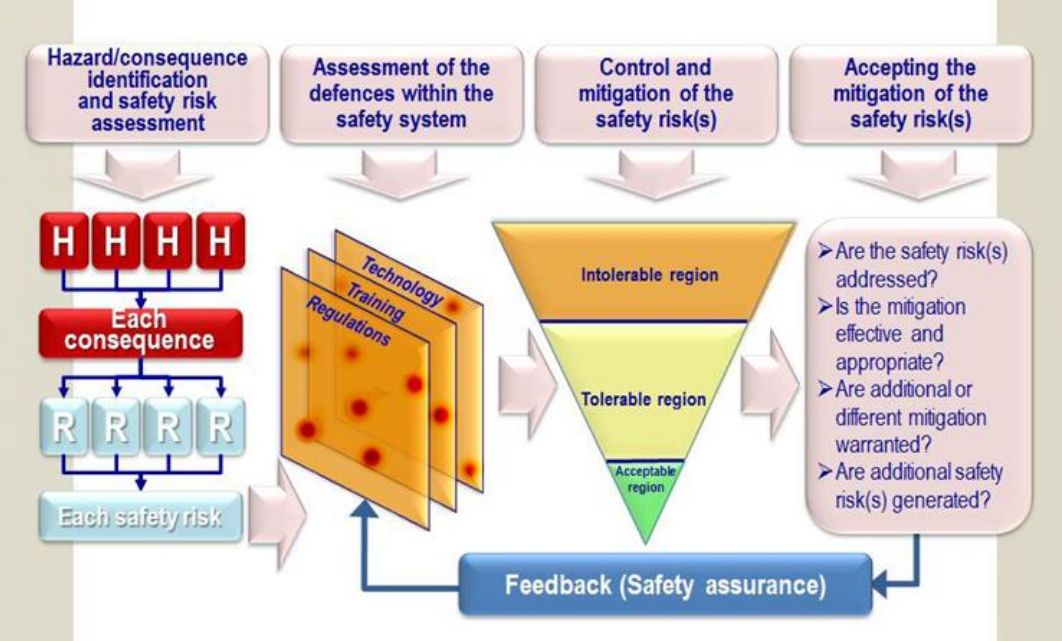
RPAS

Full aviation regulatory approach

Other UAS

- UAS Toolkit
- UTM
- Registration
- Network deliveries

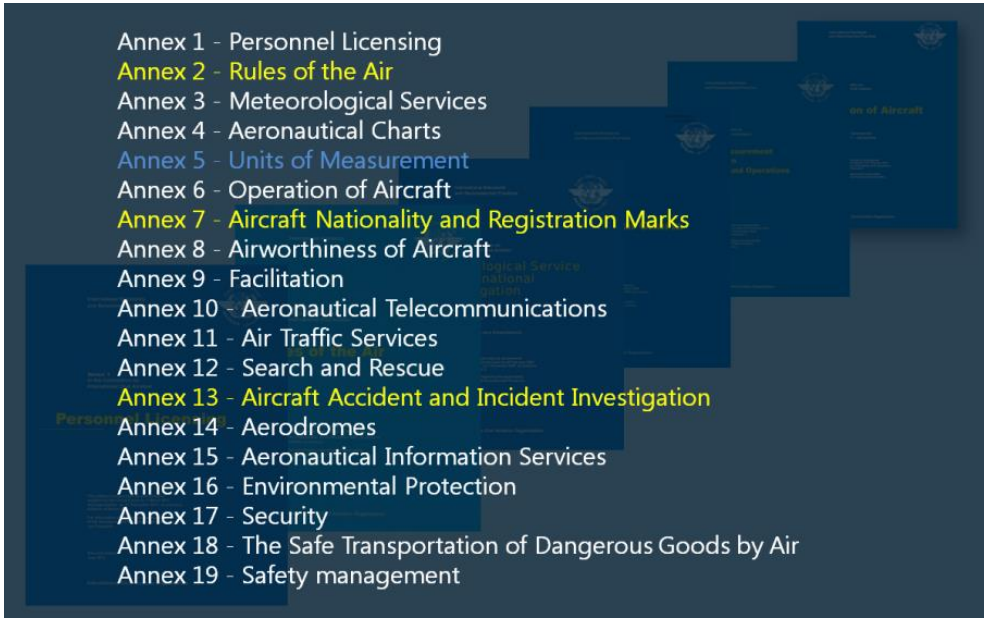
Operation-centric, risk-based approach



RPAS Workstream

Objective:

- RPA operate alongside manned aircraft, as a predictable, cooperative airspace user:
  - 18 of 19 Annexes affected



RPAS Workstream

- **RPAS Panel**
  - Developing the regulatory framework for RPAS to conduct IFR operations in controlled non-segregated airspace/aerodromes

- **Other ANC Panels supporting on technical matters**

FSMP (Spectrum)	**FLTOPSP FLIREC-WG** (OPS and Flight Recorders)	**AIGP** (Accident Investigation)	**ATMOPSP** (ATM Operations)	**AIRP** (Airworthiness)	**CP** (Communications)	**SP** (Surveillance)	**SASP** (Separation)	**SMP** (Safety Management)

RPAS Panel deliverables

- **Licensing and training** – SARPs, PANS and guidance 2018
- **Operations** – SARPs and guidance 2020
- **Airworthiness + C2 Link** – SARPs and guidance 2020
- **ATM** – SARPs and PANS 2020
- **Detect and Avoid** (conflicting traffic, only) – SARPs and guidance 2020

RPAS: Other work within ICAO

- Legal Committee
- Committee on Aviation Environmental Protection (CAEP)
- Aviation Security Panel (AVSECP)
- Air Navigation Services Economics Panel (ANSEP)
- Aerodrome Economics Panel (AEP)

Final thoughts

- Unmanned industry is rapidly evolving
- The complexity of unmanned aviation will challenge the traditional aviation regulatory system
- States are encouraged to establish and adopt performance-based regulations

ICAO

North American Central American and Caribbean (NACC) Office Mexico City
South American (SAM) Office Lima
ICAO Headquarters Montréal
Western and Central African (WACAF) Office Dakar
European and North Atlantic (EUR/NAT) Office Paris
Middle East (MID) Office Cairo
Eastern and Southern African (ESAF) Office Nairobi
Asia and Pacific (APAC) Sub-office Beijing
Asia and Pacific (APAC) Office Bangkok
THANK YOU