Chengdu, China

中国成都

RPAS / 3

10 to 14 September 2018

Denis JAUVIN

ICAO – ANB - RPAS PROGRAM

Licensing Remote pilots for better integration

International Civil Aviation Organization

- Specialized agency of the **United Nations**
- Created 7 December **1944** with signing of the ‘Chicago Convention’
- Addresses all aspects of **civil aviation**
- Agree on principles and arrangements for **international civil aviation to develop in a safe and orderly manner**

Process for international regulation

The **Air Navigation Commission (ANC)** considers and recommends SARPs and Procedures for Air Navigation Services (PANS) for approval by the ICAO Council.

SARPs once adopted by **the ICAO Council** are translated into national regulations by States.

The **Secretary General** is responsible for general direction of the work of the Secretariat.

SARPs ?

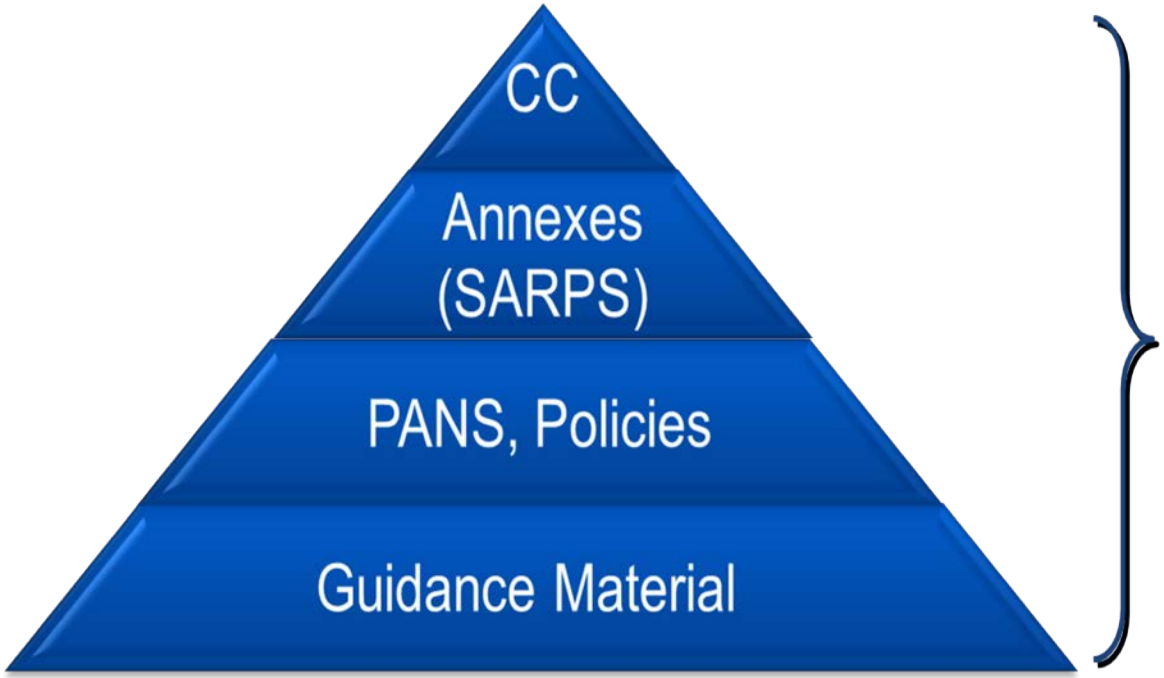
- **Standard**

  *"…specification must be such that its uniform application by all Contracting States **is necessary** in the interest of safety or regularity of international civil aviation."*

- **Recommended Practice**

  *"…application by all Contracting States **is desirable, but not essential** in the interests of safety, regularity or efficiency of international civil aviation."*

ICAO in a nutshell



Regulatory framework of ICAO

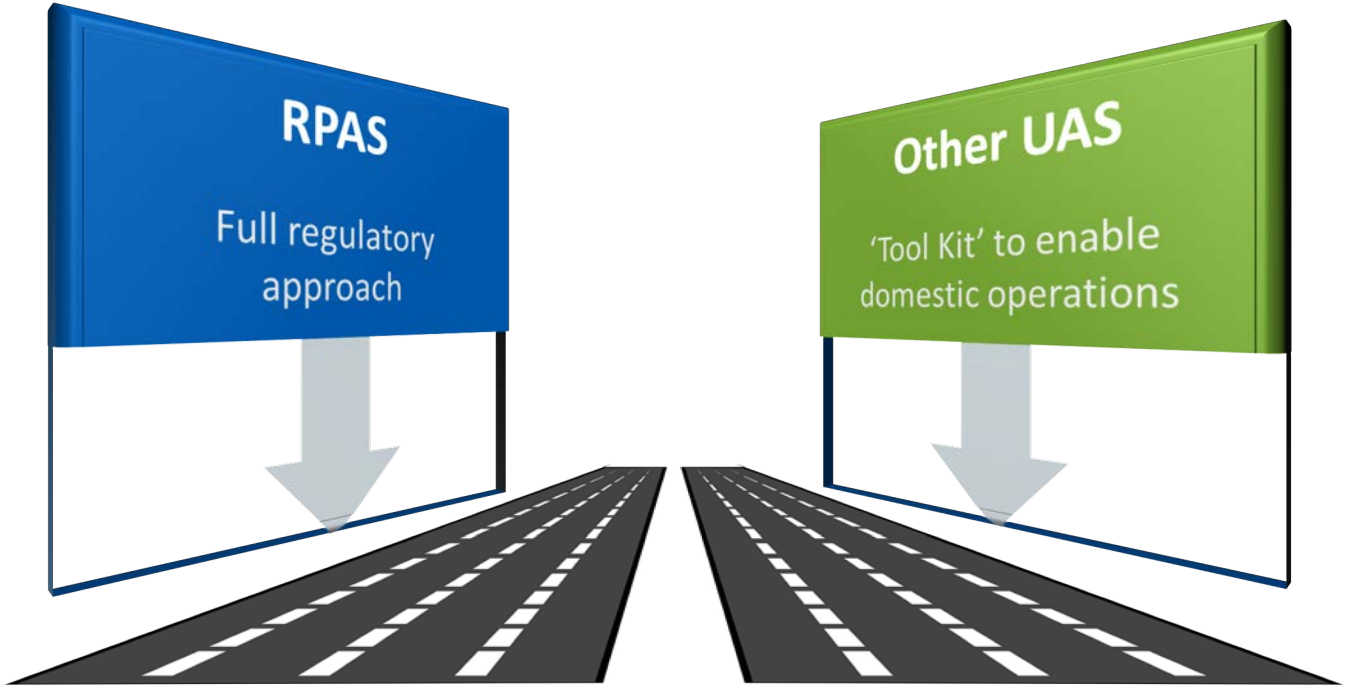
Unmanned aircraft are aircraft

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.*

Unmanned Aircraft are aircraft subject to the dispositions of

Article 8 of Convention

Two Approaches – Two Streams of Work



Two Approaches – Two Streams of Work

Actions on the full regulatory approach

UAS phenomenon touches all of aviation and all the ICAO Annexes

- Annex 1 - Personnel Licensing — Approved
- Annex 2 - Rules of the Air
- Annex 3 - Meteorological Services
- Annex 4 - Aeronautical Charts
- Annex 5 - Units of Measurement
- Annex 6 - Operation of Aircraft
- Annex 7 - Aircraft Nationality and Registration Marks
- Annex 8 - Airworthiness of Aircraft — To be reviewed in 2019
- Annex 9 - Facilitation
- Annex 10 - Aeronautical Telecommunications
- Annex 11 - Air Traffic Services
- Annex 12 - Search and Rescue
- Annex 13 - Aircraft Accident and Incident Investigation
- Annex 14 - Aerodromes
- Annex 15 - Aeronautical Information Services
- Annex 16 - Environmental Protection
- Annex 17 - Security
- Annex 18 - The Safe Transportation of Dangerous Goods by Air
- Annex 19 - Safety management

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

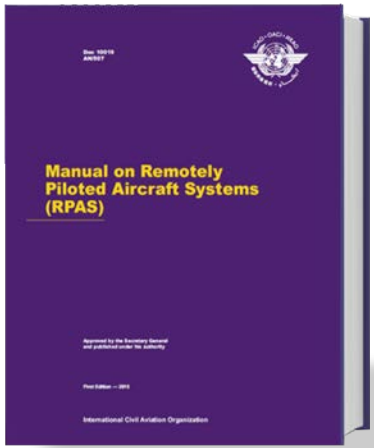
FSMP (Spectrum)	FLTOPSP FLIREC-WG (OPS and Flight Recorders)	AIGP (Accident Investigation)	ATMOPSP (ATM Operations)	AIRP (Airworthiness)	CP (Communications)	SP (Surveillance)	SASP (Separation)	SMP (Safety Management)

RPAS - Full Regulatory Approach

For International IFR operations

Requirements:

- Remote pilot license
- Certificate of Airworthiness
- Certificate of RPAS Operator



RPAS - Full Regulatory Approach

Applicability of New Standards

LICENSING → 2022

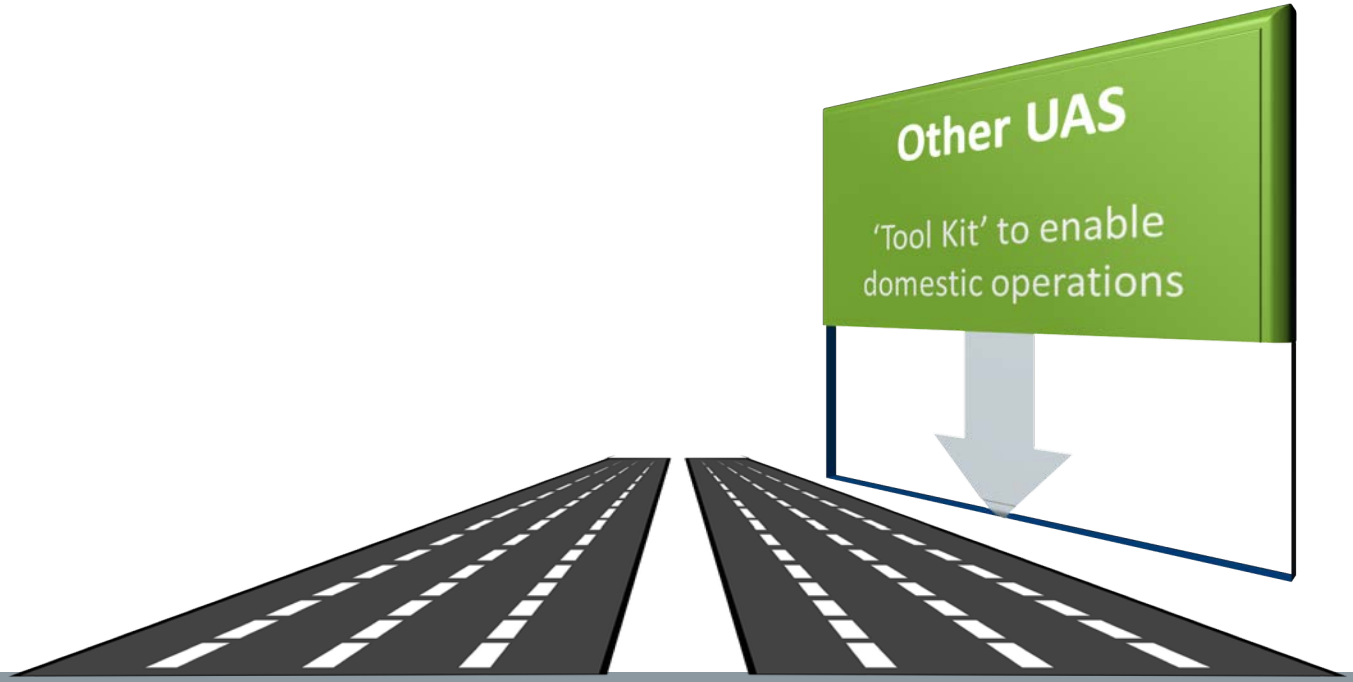
AIRWORTHINESS → 2024

OPERATIONS → 2024

C2, DAA, ATM → 2024

ICAO and UAS

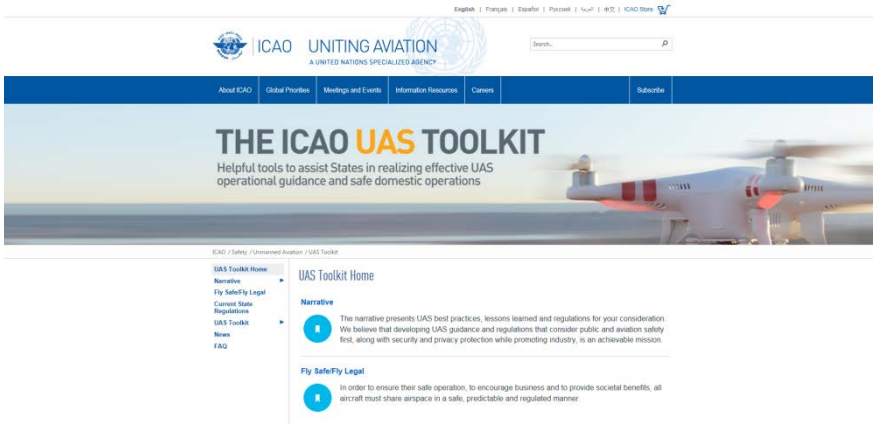
Two Approaches – Two Streams of Work



UAS Online

Toolkit developed by the UAS Advisory Group

- General guidance for national regulations
- Best practices and lessons learned from many States
- Practical examples
- https://www.icao.int/safety/UA/UASToolkit/

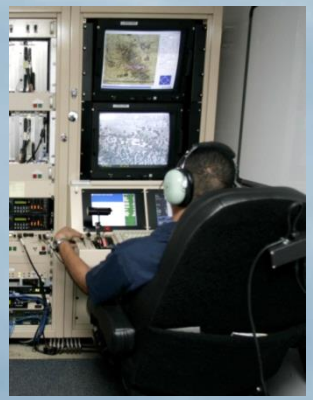


UAS Online

- **Expanding through DRONE ENABLE**
  - Registration, ID, tracking systems
  - Communications systems
  - Geo-fencing like systems
- **UTM and ATM interoperability**

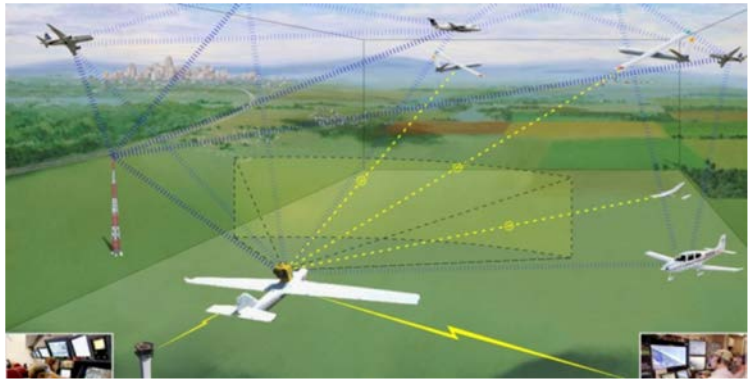
ICAO Licensing

What about personnel licensing?



Annex 1 Licensing for international flights

Our goal is the integration of RPA in global traffic, so ….



RPA has to operate like any other aircraft, but…

Only **ONE licence** with ratings, no distinction between Private and Commercial/Professional

The Remote Pilot License in Annex 1

Basic framework of the
licence is CPL but with **Class 3 Medical**

Competency-Based Training (CBT) applies to RPL

Remote pilots need to demonstrate **competencies** ,
by learning general aviation **knowledge**, **skills and attitudes**

ICAO Competency framework for RPL

Competencies listed below can be used in all trainings

Communication

Application of Procedures

RPA flight path management, automation

Management of non-normal situations

Leadership, teamwork and self management

Coordination and handover

Problem solving and decision making

Situational awareness

Workload management

They are evaluated through observable behaviors

Why a competency-based approach ?

Competency-based approach to licensing is better adapted to the **diversity and rapid evolution of RPAS** operations

RPAS Operators and Approved Training Organizations **determine the performance** they want to see from RPLs, then develop training

Based on the outcome of this training, they continuously **improve the training program**

The way forward

- ICAO licensing will be mandatory for **international flights;** it is the full regulatory approach (applicability **2022)**

- It is a **model / reference** that can **be scaled down and adapted** for national purposes

Our goal is to help worldwide **standardization and harmonization**

The way forward

ICAO is now working on **licensing implementation** by providing guidance

- Adaptation of **RPAS Manuel** (Doc 10019)
- Creation of a **Manual on Competency-Based Training for Remote Pilot Licence**
- **Workshops** in 2019

ICAO

THANK YOU