



*Federale Overheidsdienst  
Mobiliteit en Vervoer  
Luchtvaart*

*Belgian Civil Aviation Authority*

*General Directorate Aviation*

**Belgian approach related to remotely piloted  
aircraft systems (RPAS) and their insertion  
into non-segregated airspace**

**Manoir du Capitaine, Feluy, November 20, 2013**

# Structure of the presentation :

1. Chapter 1 : ICAO & ICAO Convention
2. Chapter 2 : European legal framework
3. Chapter 3 : Civil use of RPAS in Belgium
4. Conclusions



# Chapter 1 : ICAO and ICAO Convention

ICAO = International Civil Aviation Organization

- Specialized agency of United Nations (189 Contracting States)
- Mandate to ensure safe, efficient and orderly evolution of international civil air transport into seamless global Air Traffic Management system
- Means to secure international co-operation with the highest possible degree of uniformity in regulations, standards, procedures and organization regarding civil aviation matters



# Chapter 1 : ICAO and ICAO Convention

In October 1947, ICAO became a specialized agency of the United Nations linked to Economic and Social Council (ECOSOC).

The Convention specifies the duties and the rights of the Contracting States.

States **ratifying** the Convention commit themselves in integrating the rules into their national legal framework and by doing so give legal power to the content of the ICAO Convention and its Annexes.



# Chapter 1 : ICAO and ICAO Convention

The Convention has 19 Annexes :

1. Personnel Licensing
2. Rules of the air
3. Meteorological Service for International Air Navigation
4. Aeronautical charts
5. Units of Measurement to be Used in Air and Ground Operations
6. Operation of Aircraft
7. Aircraft nationality and registration marks
8. Airworthiness of Aircraft
9. Facilitation
10. Aeronautical Telecommunications
11. Air traffic services
12. Search and Rescue



# Chapter 1 : ICAO and ICAO Convention

The Convention has 19 Annexes :

13. Aircraft Accident and Incident Investigation
14. Aerodromes
15. Aeronautical Information System
16. Environmental Protection
17. Security: Safeguarding International Civil Aviation Against Acts of Unlawful Interference
18. The Safe Transport of Dangerous Goods by Air
19. Safety Management System

Challenge : no specific annex or specific requirements in existing annexes related to remotely piloted aircraft systems



# Chapter 1 : ICAO and ICAO Convention

Article 1 is applicable in context of RPAS

## Article 1 : *Sovereignty*

The contracting States recognize that every State has complete and exclusive sovereignty over the airspace above its territory.

## Challenge in Europe

Implementation of Single European Sky and setting up functional airspace blocks combined with sovereignty of the State



# Chapter 1 : ICAO and ICAO Convention

Article 8 is applicable in the context of RPAS

## 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.





# Chapter 1 : ICAO and ICAO Convention

Article 12 is applicable in the context of RPAS

## Article 12 : *Rules of the air*

Each contracting State undertakes to adopt measures to insure that every aircraft flying over or maneuvering within its territory and that every aircraft carrying its nationality mark, wherever such aircraft may be, shall comply with the rules and regulations relating to the flight and maneuver of aircraft there in force. Each contracting State undertakes to keep its own regulations in these respects uniform, to the greatest possible extent, with those established from time to time under this Convention. Over the high seas, the rules in force shall be those established under this Convention. Each contracting State undertakes to insure the prosecution of all persons violating the regulations applicable.



# Chapter 1 : ICAO and ICAO Convention

## Article 12 : *Rules of the air*

### Challenge in Europe :

EASA published transposition of Annex 2 Rules of the air for all 27 Member States of the European Union. So, no longer possible to notify variances, because then, no longer compliant with European legislation. This can delay introduction of RPAS into air transport system.



# Chapter 1 : ICAO and ICAO Convention

Article 31 is applicable in the context of RPAS

## Article 31 : *Certificates 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.

Challenge : what to do with national navigation ?

What to do for certificate of airworthiness ?

No specific certification standards available for civil RPAS



# Chapter 1 : ICAO and ICAO Convention

Article 32 is applicable in the context of RPAS

## Article 32 : *Licenses of personnel*

The pilot of every aircraft and the other members of the operating crew of every aircraft engaged in international navigation shall be provided with certificates of competency and licenses issued or rendered valid by the State in which the aircraft is registered.

Each contracting State reserves the right to refuse to recognize, for the purpose of flight above its own territory, certificates of competency and licenses granted to any of its nationals by another contracting State.



# Chapter 1 : ICAO and ICAO Convention

## Article 32 : *Licenses of personnel*

Challenge : what to do with national navigation ?  
What to do with licensing of the pilot (on ground) ?  
No procedures available to grant license to the pilot in command staying on the ground neither of the other crew members. There are no officially recognized training schools yet because of lack of legal framework and standards missing.



# Chapter 2 : European legal framework

## Case 1 : RPAS > 150 kg

EASA = European Aviation Safety Agency

- Develops a policy for RPAS certification
- RPAS with a maximum take-off mass of 150 kg or more
- Airworthiness (protection of people and property on the ground)
- Environmental protection

## Case 2 : RPAS < 150 kg

- EASA NOT competent for RPAS with a maximum take-off mass below 150 kg
- No legal framework available yet



# Chapter 2 : European legal framework

Today's initiatives for RPAS < 150 kg

- **NATO – FINAS**
- **ICAO – UAS SG**
- **UVS International**
- **EASA RPAS Steering Group**
- **EUROCONTROL RPAS Stakeholders platform**
- **EUROCAE WG 73 & WG 93**

- **EuroUSC**
- **United Kingdom**
- **JARUS**
- **BeUAS**
- **BCAA**



# Chapter 3 : Civil use of RPAS in Belgium

## Model aircraft :

- limited to the segregated airspace (authorized to the club)
- Visual Line Of Sight
- limited in altitude
- limited to daylight operations
- ground not of interest for aircraft operators

## RPAS :

- want to fly everywhere
- want to fly at any altitude
- want to fly at any time

=> other wishes = other approaches  
other tasks = other regulations & methodologies





# Chapter 3 : Civil use of RPAS in Belgium

## **Framework today:**

- test, training, demonstration, research flights only
- flights outside controlled airspace below 120m
- day operations only

## **Framework tomorrow (2014):**

- RPAS approved based on
  - aircraft flight manual
  - safety analysis report
- RPAS registered in aviation register
- remote pilot with remote pilot license & applicable ratings
- RPAS operator with RPAS operator certificate
- RPAS operations in compliance with rules of the air



# Conclusions

- Procedure for application of permit to fly for research flights available at BCAA
- Future framework described in Royal Decree regarding safe integration of remotely piloted aircraft systems in Belgian Airspace => publication 2014
- Flights without permit to fly or RPAS operator certificate are illegal & subject to fines and penalties



Thanks for your attention

Questions & Answers

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