About CANSO

Vision: to be the recognized leader in transforming global air traffic management (ATM) performance

Mission: as the global voice of ATM, represents the views of ANSPs and creates value for its Members and stakeholders

Delivers policy and standards of best practice through committees work programmes: Safety, Operations, and Policy

CANSO Members support over 85% of world air traffic - 88 Full Members; 80 Associate Members
Remotely Piloted Aircraft Systems (RPAS) are an important element in the transition to the aviation system of the future.

Phases have been described as: Accommodation, Integration, and Evolution.

We are still in Accommodation…..we need to be about Integration.

But what does Integration mean for Air Traffic Management (ATM)?
More Background….

We still don’t know many things:

- Can/should ANSPs apply the same separation standards as we do for manned aircraft?
- Can/should ANSPs apply the same wake vortex criteria?
- How will RPAS taxi on the surface of an aerodrome?
- What will the impact of RPAS operations be?

Relationships with SESAR JU, FAA NEXTGEN, and ICAO ASBU all have some level of attention to RPAS, but the primary need is research....
Actions - What is CANSO doing?

- Created a UAS Task Force
- Successfully published “ANSP Considerations for RPAS Operations” document in February 2014
- Participated in ICAO UASSG and now the RPAS Panel
- Driving the discussion about the importance of a mature, integrative activity while protecting the safety record and progress of the aviation system
What is the Scope of the Publication?

- Introduction and Objectives
- Conducting Routine RPAS Operations:
  - Unique Characteristics
  - Aerodrome and Terminal RPAS Operations
  - General RPAS Requirements
  - Special handling / In-Flight characteristics
  - Impact on FDP Systems
- Contingency and Emergency Operation Procedures:
  - Comm Loss / Lost Link
  - Emergency landing / Flight Termination
- Examples of Best Practice: US and Switzerland
- Conclusions
**Guideline Objectives**

- Raise awareness of RPAS operations to ANSPs
- Inform ANSPs how RPAS have been accommodated safely into ATM
- Identify issues to be addressed to achieve RPAS integration
- Suggested audience: policy-makers, management and those responsible for procedures
- Focus: Medium/High Altitude Long Endurance (MALE/HALE) RPA operating in Controlled Airspace
RPAS Components and Unique Characteristics
Impact of Routine RPAS Operations

- Ground movement / taxiing can be challenging
- In-Flight: IFR-only, slow, spiral climb, flights from A-to-A, high altitude, non-standard GPS-based avionics
- Beyond Visual Line of Sight (BVLOS) operations normally only in segregated airspace, but employing SMS principles. Some exceptions: Swiss, USA and Arctic
- C2 datalink via satellite – potential for ‘latency’
- RPAS-specific phraseology not yet developed
- Impact on FDP Systems: multiple waypoints, long endurance, non-standard flight plan data
Contingency and Emergency Procedures

- **Radio Failure** ↔ Manned Aircraft

- **Lost Link**: “The loss of C2 link with the RPA such that the remote pilot can no longer manage the aircraft’s flight”. RPA follows pre-programmed maneuver – requires detailed pre-flight ANSP-RPAS collaboration

- **Diversion**: Should be ↔ Manned Aircraft, but ANSP-RPAS pre-planning required

- **Flight Termination System (FTS)**: last resort CFIT

- **Note**: All aspects of RPAS operations should have ANSP input
What does 2015 look like?

- Develop ANSP generic training material for RPAS that serves as an introduction to many in the work force that have yet to actually talk to or work an RPAS.

- Continued changes to the “Considerations” document by adding an artifacts list of known changes to existing automation and/or policies needed to be considered by ANSPs for ATM inclusion at some point in the future.

- Propose or publish a statement on the ANSP concerns relative to the proliferation of small RPAS operating at VLL, especially those operating too close to the aerodrome environment.
What about Very Low level RPAS?

- ANSP’s don’t need more clutter on displays
- Typically deal with transponder equipped, flight plan-filed aircraft
- Not accustomed to things flying below 400 ft. AGL, at speeds below ~80kts., changing directions or hovering.
- By the way......

Uncontrolled ≠ Unregulated
Airspace
Airspace
Conclusions

- CANSO is engaged in RPAS Integration
- Look for position documents in the near future
- Safety, Safety, Safety…..