INTEGRATING RPAS IN ATM SYSTEMS

TRANSFORMING GLOBAL ATM PERFORMANCE

RPAS/3 Symposium Chengdu 10-12 September 2018
Airspace Integration

**Regulation**
- Set airworthiness standards
- Define training requirements

**Airworthiness**
- Validate design
- Document safety

**Training**
- Qualify manufacturers, pilots, controllers
- Implement and improve safety and regulatory structure
Regulatory Efforts

World Wide
ICAO
  Airworthiness
  Operations – Leading Contingency Ops Framework Development
NIAG
  US Del
CANSO
  Co-Chair Collaborative Airspace Working Group
  Small RPAS Position Statement
  RPAS Training Manual
AU CASA
  UAS Steering Committee
EUROCAE WG-73
  1309, Airworthiness, Flight Crew Licensing
The building blocks of the airworthiness process

Tailored Airworthiness Criteria
- Select MIL-HDBK-516B Criterion
  - “Verify that appropriate factors of safety exist.”
- Specify Requirements
  - “Factor of safety shall be 1.5.”
- Establish Methods of Compliance
  - “Perform static structural proof and ultimate tests.”

Standards
- Define EDRAP DEL Artifacts
  - “Deliver static structural test report.”

Methods of Compliance

Artifacts

Planning Meeting

EDRAP

Data Elements List
General Airworthiness Process Flow

1. Change in Configuration, Usage, or Environment Defined
   - Artifact Submittals
   - Focus Groups (RE, TAE, AW Team, Class Desk)
   - EDRAP Agreement?
     - Yes
     - No

2. Artifacts Approved?
   - Yes
   - No
     - Flight Clearance Granted
     - Request Flight Clearance from AIR-4.0P
       - Risk, Hazard, or Limit Accepted?
         - Yes
         - No
   - Rework or Additional Data?
     - Yes
     - No
       - No

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RPAS Training Requirements

Impact

• Pilot licensing
• Maintenance licensing
• Air Traffic Services

Programs must be developed that

• Leverage existing qualifications and certification criteria
• Utilize existing programs/process to identify unique requirements
• Provide a path to gain RPAS experience and exposure

RPAS training programs provide unique challenges

• Highly automated systems must interact “seamlessly”
• Long duration flights
• Diverse skill sets
• Limited number of systems operating
What will it take?

- Regulatory structure based on proven technology, training and safety strategies
- Sound manufacturing programs and process to maintain and build on existing aviation safety principles
- Documented training practices and the ability to maintain that proficiency
- Timeline that will keep pace with emerging technology and encourage innovation
Thank you for inviting CANSO
Thank you!

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