Unmanned Aircraft Systems

Integration into the National Airspace System (NAS)

Presented to: Access5
By: John Timmerman
Date: July 12, 2005
What is UAS?

- Unmanned Aircraft Systems (UAS) historically called by various terms:
  - Drone/ROA/RPV/UAV/Model/R-C
- Includes:
  - Unmanned Aircraft (UA)
  - Aircraft Control Station
  - Command & Control Link/s
- Operated or flown by a “pilot”
Current UAS Operations in the NAS

- Within “segregated” airspace
  - Includes Special Use Airspace (SUA) & Air Traffic Control Assigned Airspace (ATCAA)
  - Primarily by DOD

- In non-segregated airspace
  - “Public” UAS – through Certificate of Authorization (COA) process
    • Includes initial “trials” in support of DHS
  - “Civil” UAS – using experimental / type certification process
  - “Model” aircraft – with guidance from AC 91-57, dated June 1981
  - Variety of other operations believed to be occurring by both the public and private sector
    • Some based on interpretations of “model” aircraft guidance
    • Others with a lack of knowledge of aviation environment requirements

- While ensuring “no harm” to other NAS customers and public
Expected Changes - Next 5-10 years

- Many UAS’s transitioning from R&D to operational status
  - Routine UAS flight - both VFR and IFR and in all airspace classes

- Wider scale development and uses for UAS
  - R&D activities in public and civil sectors continue to grow
  - New uses and applications – innovative customers and providers

- Increased demands on the NAS
  - Greater numbers and diversity of requests to operate in the NAS
  - UAS operations “mushrooming” in an increasingly busy NAS
  - Additional airspace and access requested for UAS flight
    - Including security and surveillance
    - Border and harbor patrol
    - Broad spectrum of law enforcement activities
  - Pressure for quicker access - “file and fly”
  - Conflicting interests among aviation stakeholders

- International efforts to “harmonize out of the box”
2015 and Beyond

- UAS operations dominate some aviation sectors
  - Particularly those “dirty, dull or dangerous”

- Commercial UAS applications steadily grow
  - Driven by “business cases” for reduced costs

- Consumers becoming increasingly receptive to reduced human presence in aircraft cockpits
  - Passenger flights with a single “supervisory” pilot
  - Cargo operations without an on-board pilot

- Increased “cooperation” needed between aviation segments to efficiently manage finite airspace resources

- Increased expectations for higher levels of safety
GOAL

&

RESPONSIBILITY!
A Safe NAS for All

Unmanned Aircraft in the NAS
July 2005