Evaluation of Communications Strategies in the Context of Unmanned Aircraft Systems Operations

Purpose

- Evaluation of Communications Strategies in the Context of Unmanned Aircraft Systems (UAS) Operations assesses communications architecture alternatives and concepts that support UAS operations in the National Airspace System (NAS). This research will:
  - Identify the most efficient UAS voice communication architecture
  - Identify the impacts to Air Traffic Control (ATC) in UAS contingency operation scenarios

Background

- The FAA's Integration of UAS into the NAS Concept of Operations document describes proposed communications strategies for the integration of UAS, including ground-to-ground communications
- The FAA must have a thorough understanding of associated challenges, risks, and limitations that these communications strategies may impose on UAS operations in order to implement appropriate mitigations to safely meet integration milestones
- In addition to evaluating the proposed communications requirements, it is important to assess UAS in the context of lost communications, explore procedures for UAS lost link in various classes of airspace, and understand the associated impacts to safety and efficiency of the NAS

Projected Benefit of Research

- The study will provide a thorough assessment of the proposed communication requirements in the UAS Concept of Operations document. The findings will be important to expedite the final integration of UAS into the NAS

Research Approach

- Identify potential Pilot in Control-to-ATC Ground-to-Ground Voice Communications technologies/architectures that are commercially available or will be available in the near term comparing performance, implementation, risks and benefits that the technologies/architectures may impose on UAS integration into the NAS

Research Partners

- MIT Lincoln Laboratory

Status

- Literature Review and Communication Architecture Review completed
- Concept of Operations being developed
- Expected to be completed September 2017

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