

## Detect and Avoid Unmanned Aircraft Systems Operational Assessment: Visual Compliance

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### Purpose

- The research associated with Detect and Avoid (DAA) Unmanned Aircraft Systems (UAS) Operational Assessment Visual Compliance will:
  - Identify how a UAS will meet the need to visually comply with regulations and Air Traffic Control (ATC) clearances

### Background

- It is difficult for DAA systems to obtain operational and airworthiness approval because these systems are new and their intended function needs to be defined in the context of the DAA system and associated UAS
- UAS will need to visually comply with ATC clearances and regulations, and the impact of such operations

### Projected Benefit of Research

- Determine certification obstacles for systems and equipment replacing pilot's DAA functions that comply with the Code of Federal Regulations (CFR) that apply to general operating and flight rules, 14 CFR 91
- Provide recommendations for future studies that will help develop standards and procedures for how UAS will operate when visual compliance is required

### Research Approach

- Conduct Human-in-the-loop (HITL) simulation to identify NAS interoperability requirements that mandate compliance with ATC clearances, ATC instructions, and Federal Aviation Regulations (FAR) for Visual Flight Rules (VFR) and Instrument Flight Rules (IFR) by visual means
- Identify impacts to the NAS due to UAS inability to comply with DAA requirements

### Research Partners

- FAA William J. Hughes Technical Center

### Status

- Final report completed September 2015