

Unmanned Aircraft Systems Counter UAS/Airport Detection

Purpose

- This research assesses the feasibility of integrating proven UAS detection technology with airport operations. The technology should be able to detect, identify and track both the unmanned air vehicle and ground controller to explicitly identify the UAS without interference to existing airport operations

Background

- FY16 Appropriations Act-Public Law 114-113 enacted December 2015, directed the FAA to assess the feasibility of integrating proven UAS mitigation technology at airports
- Omnibus Bill Explanatory Statement (p. H10441) enacted December 2015, supports the FAA's Pathfinder Program and encourages the FAA to expand the program to include a commercial airport in conjunction with UAS Center of Excellence as evaluator
- FY16 Reauthorization – Public Law 114-190, Section 2206 enacted July 15, 2016 directed the FAA to establish a pilot program for airspace hazard mitigation at airports and other critical infrastructure using unmanned aircraft detection systems, work with federal partners to mitigate threats posed by UAS while ensuring that the mitigations did not disrupt normal airport operations and to submit a report on the pilot program 18 months after the start of the program

Projected Benefit of Research

- Airport deployment results will be used to development of UAS detection system standards.
- Review UAS detection systems' evaluations conducted by partner agencies for commercial airport applicability and NAS compatibility
- Develop processes and procedures for the deployment of UAS detection systems

Research Approach

- Complete research and analysis of manufacturer detection systems with inter-agency partners to determine the effectiveness and interoperability of the detection technology
- Conduct research and analysis to produce interim findings with the UAS COE on current FAA, DoD and DHS assessments of UAS detection technologies and systems
- Support interagency deployment activities and conduct evaluations of detection systems at additional airports with inter-agency partners

Research Partners

- The FAA's Center of Excellence for UAS Research, Alliance for System Safety of UAS through Research Excellence (ASSURE)
- Memorandum of Understanding (MOU) to further UAS integration, between DHS and FAA Dec 2015
- The FAA and DHS Co-Lead the Inter-agency UAS Airport Detection Strategy Working Group which includes the following inter-agency partners: Department of Transportation, Department of Defense, Department of Energy, U.S. Department of Interior, Department of Justice, Federal Bureau of Investigation, Federal Communications Commission, NASA, U.S. Secret Service, U.S. Capital Police and the Federal Bureau of Prisons

Status

- Research began Fall 2015
- ACY evaluations of CACI's Radio Frequency (RF) detection system completed Feb 2016
- DHS/MITRE Challenge at Quantico conducted Aug 2016
- DoD's Black Dart Radar evaluations at Eglin Air Force Base completed Sep 2016
- DEN evaluations of CACI (RF), LITEYE (Radar) and SENSO FUSION (RF) detection systems completed Nov 2016
- Army S&T Systems Adaptive Red Team UAS Field Experiment, New Orleans LA completed Apr 2017
- DFW evaluations of Gryphon Sensors (Radar, RF and Optical) detection systems completed Apr 2017

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