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FAA Center of Excellence (COE) for Unmanned Aircraft Systems (UAS) Program Overview

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FAA COE UAS Overview

- FAA Center Of Excellence (COE) for Unmanned Aircraft Systems (UAS) was established to focus on research, education and training in areas critical to the safe and successful integration of UAS into the National Airspace System (NAS)
- With the creation of the FAA COE UAS, the FAA committed to send all UAS-related academic research to the COE
- The A11L annual appropriation has included language every year since FY2016 specifically providing federal funds to support the expanded role of the UAS COE in areas of UAS research, including, but not limited to:
 - Cybersecurity
 - Beyond Visual Line of Sight operations
 - STEM program
 - Transportation Disaster Preparedness and Response
- Two vehicles are in place to fund the COE UAS for UAS research:
 - Cooperative Agreements
 - IDIQ Companion Contract



FAA COE UAS Cooperative Agreement Overview

- Congressionally mandated under the Consolidated Appropriations Act of 2014
- August 2014, FAA issued a Final Competitive Solicitation for the FAA COE UAS
- May 2015, DOT/FAA selected the Alliance for System Safety of UAS through Research Excellence (ASSURE), led by Mississippi State University (MSU), as the FAA's first COE for UAS
- Cooperative Agreement established between the FAA and each core ASSURE University
 - Specifies terms and conditions in accordance with the Final Solicitation
- All grants awarded by the FAA to the COE members are subject to legislatively mandated matching requirements of 1:1, as stated in Public Law 101-508 for Air Transportation Centers of Excellence, Section 9209 (49 USC 44513)
 - 1:1 Cost Share was waived in FY21 in accordance to guidance provided by AOA due to COVID
- Phase I and Phase II
 - Phase I – May 2015 through September 2022
 - Phase I - Cooperative Agreements have been given two one-year extensions. Current end date October 2022
 - Phase II – September 2022 through September 2027
 - Currently working towards awarding Phase II with anticipated duration of five years



FAA COE UAS IDIQ Contract Overview

- August/September 2018, the FAA awarded an Indefinite Delivery/Indefinite Quantity (IDIQ) Contract to each ASSURE University to fund UAS research
- This authority gives the COE the latitude to take basic research and continue to develop multiple forms of analyses, applications, and prototyping activities, and thereby require deliverables and provide products for the benefit of the agency as needed.
- Period of performance is limited to a total of seven years: Two-year base period and five-year option period
- An umbrella contract under which Task Orders (TO) can be added as requirements are developed
 - Minimum obligation (met by Kickoff TO)
 - Maximum ceiling
- Allows for the development of specific deliverables critical to government policy, guidance and regulation
- Allows for various TO types
 - Firm Fixed Price (FFP)
 - Cost Reimbursement
 - Cost Sharing



What is ASSURE

- The Alliance for System Safety of UAS through Research Excellence (ASSURE) is comprised of twenty-five of the world's leading research institutions and over a hundred leading industry, government partners having expertise across a broad spectrum of research areas including:
 - ✦ Air Traffic Control Interoperability
 - ✦ UAS Airport Ground Operations
 - ✦ Control and Communications
 - ✦ Detect and Avoid (DAA)
 - ✦ Human Factors
 - ✦ UAS Noise Reduction
 - ✦ UAS Wake Signatures
 - ✦ Unmanned Aircraft Pilot Training and Certification
 - ✦ Low Altitude Operations Safety
 - ✦ Spectrum Management
 - ✦ UAS Traffic Management (UTM)



ASSURE Organization

ASSURE COE Lead University: Mississippi State University

Core Universities (17):

- Mississippi State University
- Drexel University
- Embry-Riddle Aeronautical University
- Kansas State University
- Montana State University
- New Mexico State University
- North Carolina State University
- Oregon State University
- The Ohio State University
- University of Alabama- Huntsville
- University of Alaska- Fairbanks
- University of Kansas
- University of North Dakota
- University of California- Davis
- Wichita State University
- ** University of Vermont
- ** Sinclair Community College

Affiliate Universities (8):

- Auburn University
- Louisiana Tech University
- Tuskegee University
- Indiana State University
- * Technion Israel Institute of Technology
- * Concordia University - Canada
- * University of Southampton - UK
- * Nanyang Technological University - Singapore

* International Affiliates

** Added as Core Members in FY21



ASSURE University Team



Current Status – Phase I vs. Phase II

- Phase I – Scheduled for completion on September 30, 2022
- Phase II – Pending successful Phase I completion, a 5-year renewal is anticipated on a non-competitive basis, per solicitation and cooperative agreements
- IMPACT: If Phase II is not renewed with the ASSURE universities, critical research that enables informed policies, procedures, regulations, and operations to support the safe and secure integration of UAS and AAM into the NAS will be delayed.



Impacts of COE Phase II Delay

- Results of ongoing and planned research will be delayed and/or unattainable
- Expertise and synergy of current COE teams will be lost
- Length of time to solicit, award, and establish a new COE is estimated at 12-18 months
- Affects multiple COEs



Questions ?

