



Transatlantic ICT Forum

Capabilities Update

Dallas Brooks
Director

June 18th, 2018



MISSISSIPPI STATE
UNIVERSITY™

Raspert Flight Research Laboratory

Dallas Brooks

RFRL Director

13 Years in UAS Policy, Regulation & Research

Current:

- Director, MSU Raspert Flight Research Lab
- Chairman of the Board, AUVSI
- Associate Director, FAA UAS Center of Excellence
- Co-Chair, FAA/NASA/DoD/DHS/DOI/DOJ/DOC/DOE National UAS Science and Research Panel



Former:

- UAS Integration Chair, Office of the Secretary of Defense
- Military Director, DoD Policy Board on Federal Aviation
- HQ US Air Force Chief of UAS Integration
- DoD Liaison to FAA Headquarters for UAS



MISSISSIPPI STATE
UNIVERSITY™

Raspert Flight Research Laboratory

Raspet Focus Areas



Unmanned Aircraft
Systems



Advanced Composites



MISSISSIPPI STATE
UNIVERSITY™

Raspet Flight Research Laboratory

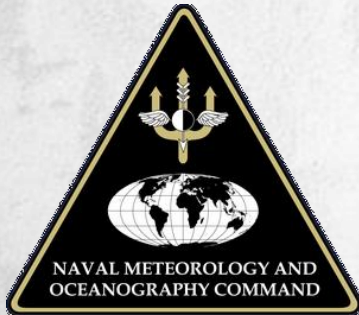
Unmanned Aircraft Systems



MISSISSIPPI STATE
UNIVERSITY™

Raspert Flight Research Laboratory

Federal UAS Research



MISSISSIPPI STATE
UNIVERSITY™

Raspert Flight Research Laboratory

DHS Common UAS Demonstration/Range Facility

The research in this presentation was conducted under contract with the U.S Department of Homeland Security (DHS) Science and Technology Directorate (S&T), contract #HSHQPM-15-X-00202. The opinions contained herein are those of the contractors and do not necessarily reflect those of DHS S&T.



MISSISSIPPI STATE
UNIVERSITY™

Raspet Flight Research Laboratory

Background

DHS Multi-Purpose Flight + Exercise Facility

- Coast Guard
- Customs & Border Protection
- First Responder's Group
- Secret Service
- Science & Technology (S&T)



DHS UAS Demonstration Range

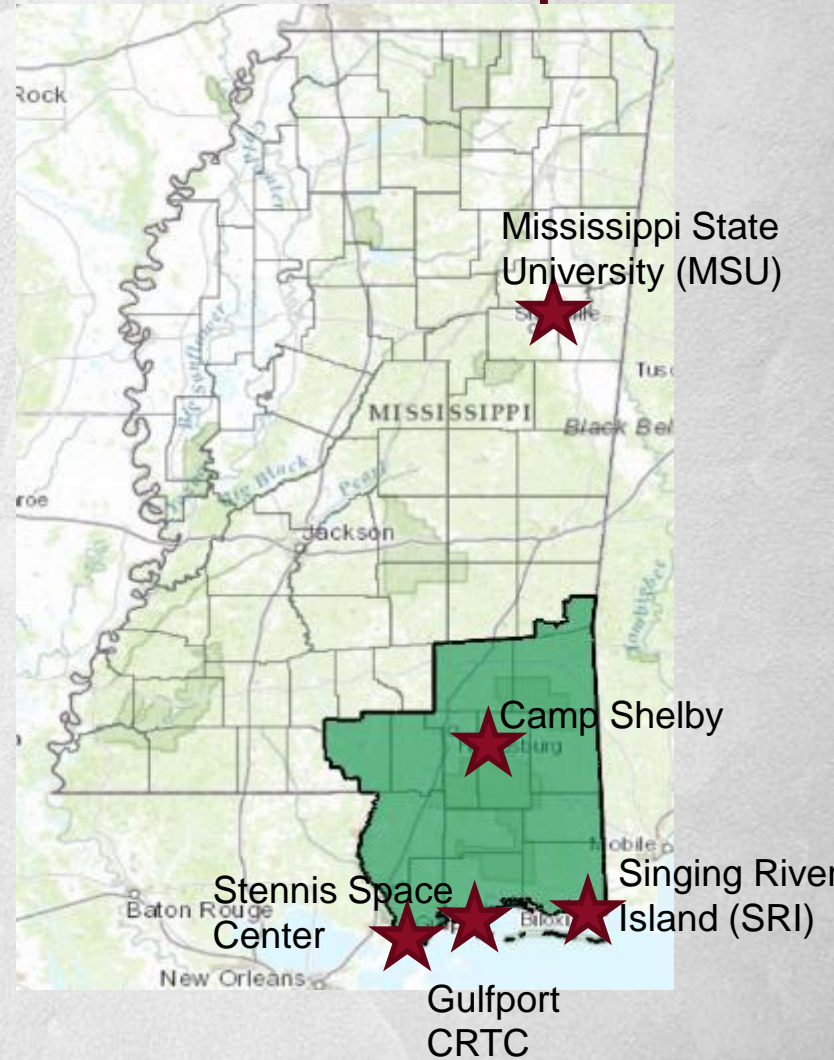
Mission Sets

DHS Multi-spectrum Requirements

- UAS Test & Eval (land & maritime environments)
- Full-Scale Exercise
 - Border Protection
 - Presidential Protection
 - High-Angle Shooter
 - SAR
 - Highway
 - Rail
 - Chemical
 - Fire
 - Flood



Mississippi UAS Partnership



MISSISSIPPI STATE
UNIVERSITY™

Raspert Flight Research Laboratory

Griffon Aerospace Outlaw G2F

- 150 lb. GTOW
- 25 lb. payload
- 14-ft wingspan
- 6 hour endurance
- 50+ NM range
- Day/night Operation



MISSISSIPPI STATE
UNIVERSITY™

Raspel Flight Research Laboratory

28-Foot Mobile UAS Ground Control Station



MISSISSIPPI STATE
UNIVERSITY™

Raspet Flight Research Laboratory

CNMOC Maritime UAS Operational Demonstration



MISSISSIPPI STATE
UNIVERSITY™

Raspert Flight Research Laboratory

FAA UAS Center of Excellence



MISSISSIPPI STATE
UNIVERSITY™

Raspert Flight Research Laboratory

FAA UAS Center of Excellence

The FAA's Center of Excellence for UAS Research



Alliance for System Safety of UAS through Research Excellence



CORE TEAM

- Alabama: UNIVERSITY of ALABAMA in HUNTSVILLE
- Alaska: UNIVERSITY of ALASKA in FAIRBANKS
- Arizona: EMBRY AERONAUTICAL UNIVERSITY-PRESCOTT
- California: UNIVERSITY of CALIFORNIA DAVIS
- Florida: EMBRY RIDDLE AERONAUTICAL UNIVERSITY
- Kansas: KANSAS STATE UNIVERSITY, UNIVERSITY of KANSAS, WICHITA STATE UNIVERSITY
- Montana: MONTANA STATE UNIVERSITY
- New Mexico: NEW MEXICO STATE UNIVERSITY
- North Carolina: NORTH CAROLINA STATE UNIVERSITY
- North Dakota: UNIVERSITY of NORTH DAKOTA
- Oregon: OREGON STATE UNIVERSITY
- Ohio: THE OHIO STATE UNIVERSITY
- Pennsylvania: DREXEL UNIVERSITY

AFFILIATE TEAM

- Alabama: AUBURN UNIVERSITY, TUSKEGEE UNIVERSITY
- Indiana: INDIANA STATE UNIVERSITY
- Israel: TECHNION - ISRAEL INSTITUTE OF TECHNOLOGY
- Louisiana: LA TECH UNIVERSITY
- Ohio: SINCLAIR COMMUNITY COLLEGE
- Canada: CONCORDIA UNIVERSITY
- United Kingdom: UNIVERSITY of SOUTHAMPTON

MISSISSIPPI STATE UNIVERSITY LEAD UNIVERSITY



MISSISSIPPI STATE
UNIVERSITY™

Raspert Flight Research Laboratory

MSU ASSURE Leadership

Raspet has leading or teamed on key research for 10 FAA UAS Center of Excellence tasks:

- eCommerce Networks
- Safety Data Reporting
- Flight Test Data Collection
- UAS Detection at Airports
- BVLOS Collision Avoidance
- Ground Collision Severity
- Airborne Collision Severity
- Surveillance Criticality
- Human Factors
- Noise Measurement



MISSISSIPPI STATE
UNIVERSITY™

Raspet Flight Research Laboratory

FAA UAS Test Site

MSU has joined Pan-Pacific UAS Test Range Complex

- PPURTC is an FAA-designated UAS Test Site
 - Led by University of Alaska at Fairbanks
 - Other team members: Oregon, Hawaii, Kansas
- Full partnership supports FAA-approved T&E flights in non-segregated airspace



K-STATE
SALINA



MISSISSIPPI STATE
UNIVERSITY™

Raspert Flight Research Laboratory

Questions?



UAV
First attempts



MISSISSIPPI STATE
UNIVERSITY™

Raspert Flight Research Laboratory

Backup



MISSISSIPPI STATE
UNIVERSITY™

Raspert Flight Research Laboratory