

Conformal Lightweight Antenna Systems for Aeronautical Communication Technology (CLAS-ACT)



- **Idea/Concept:** Develop a conformal microwave antenna based on an ultralight aerogel substrate that can conform to an aircraft's contours reducing drag, fuel burn and emissions. The antenna will also provide interference mitigation with electronic control of the radiation pattern.
- **Transition opportunities/status:**
 - Small IRAD project using 3D printing to fabricate aerogels
 - Discussions with AFRL and ARL on structural antennas
 - ADaPT (Antenna Deployment and oPtimization Technologies) proposed to TACP
- **Current status:**
 - Design and fabrication of Ku-band phased array antenna complete
 - Demonstration of interference mitigation in laboratory complete
 - Design and deployment of Portable Laser Guided Robotic Metrology system complete
 - Flight Testing of antenna on T34C aircraft complete
 - Step 1 Feasibility Assessment complete
 - SME panel report was positive and concurred that technology is feasibility

