Capability Statement

Adaptive Aerospace Group, Inc. (AAG) is a small business with over 20 years of extensive experience and expertise in spacecraft and aircraft simulation and modeling, flight controls, and simulation experiments.

Our Mission

To enhance the safety, utility, and efficiency of a wide range of vehicles and their operations through leading-edge research and development.

Differentiators

AAG's strong and diverse expertise comes through working with the NASA Langley Research Center (LaRC), the NASA Engineering and Safety Center (NESC), the Federal Aviation Administration (FAA), and industry contracts. Our dedicated team of experts are poised to solve your technical needs and support your team.

Why Choose Us

Aircraft & Spacecraft Simulation and Modeling

- Angle-Of-Attack Sensing, Estimation & Usability
- Biodynamic Coupling
- Certification Methods For Novel Fly-By-Wire Direct Flight Path Control Systems
- Design Of Experiments
- Design & Testing Of Fly-By-Wire Direct Flight Path Control Systems, Including Unconventional Pilot Interface Mapping
- Electric Vertical Take-Off & Landing (eVTOL) Simulation Development & Evaluation In Turbulent Urban Environments
- Flight Dynamics
- Flight Testing Novel Sensors & Avionics For Certification Credit
- Guidance, Navigation, & Control
- Handling Qualities
- Human Factors
- Low-Boom Flight Demonstrator
- Monte Carlo Analysis
- Nonlinear Simulation Models & Validation Data Sets
- Simulation Of Crewed Vehicle Descent & Landing On The Lunar Surface
- Spacecraft & Hypersonic Vehicle Control Design & Analysis
- Verification And Validation Of Commercial Re-Entry Capsules
- Wind-Tunnel Testing & Developing Aerodynamic Models, Including Steady & Unsteady Aerodynamics
- Weather In The Cockpit

Uncrewed Aircraft Systems (UAS)

- Assured Autonomy
- ATC Procedures For UAS Integration
- Detect And Avoid
- Logic Based Visual Traffic Pattern Integration
- Separation Assurance Standards Development
- Small UAS Design, Systems Integration, Flight Testing, & Flight Operations
- RTCA SC-228 Sub-Team Leadership
- UAS Integration In The NAS

Air Traffic Management

- ADS-B Transceiver For General Aviation
- Airborne Precision Spacing
- Closely Spaced Parallel Runways
- Human Factors
- Trajectory-Based Operations

Past Performance

National Aeronautics and Space Administration (NASA)

- NASA Langley - Research, Science, and Engineering Services (RSES) subcontractor [Prime Contract: 80LARC23DA003]
- NASA Ames - Aerospace Research Technology and Simulation (ARTS) subcontractor [Prime Contract: 80ARC018D0008]
- NASA SBIR for safe autonomous operations of UAS and to extend work on a derived AOA algorithm for prevention of loss-of-control.

Federal Aviation Administration (FAA)

- Advanced Aerial Mobility (AAM) eVTOL vehicles including flight test methods for certification, vehicle modeling, flight control design & flying qualities studies. (BAA)
- Angle of attack systems evaluation and development of a derived angle-of-attack system. (BAA)

Industry

- eVTOL simulation, vehicle control law testing and evaluation, avionics flight test for certification
- Hypersonic vehicle GNC, simulation and modeling, monte carlo analysis

Contact Us

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Pertinent Codes

- CAGE Code: 55U85
- NAICS: 541715