



**AVID ACS (AirCRAFT Synthesis)** is a widely-used interdisciplinary aircraft synthesis program for application in the early design stages of an aircraft and can be used in conceptual design studies of numerous vehicles. From small UAVs to supersonic STOVL fighters, ACS is an excellent tool for getting the right answer earlier in the design process. ACS' computational speed means feedback for design changes is obtained in a matter of seconds.

ACS executes a geometry module to define the aircraft dimensions and physical shape using traditional aircraft terms. The graphical interface allows you to watch your aircraft take shape as ACS defines it. Trajectory (the mission module) is accessed to create the specified mission (or multiple missions). The Aerodynamics, Propulsion and Weights modules are used to address performance at critical mission parameters.

ACS is tailored towards the conceptual and preliminary stages of aircraft design. Its extensive analysis capabilities allow for a broad range of aircraft to be designed and modeled, including small UAVs, passenger and cargo transport aircraft, fighter jets and general aviation airplanes.

## Better Geometry – Better Models Great Designs

### AVID ACS

#### Features

- Ability to design and model various aircraft types including manned and unmanned aerial vehicles, short takeoff and vertical landing, transports, fighters and cargo aircraft.
- Geometry-based design through an easy to use GUI, as well as in command-line mode for batch operation.
- Supply your own engine data or use one of ACS' propulsion models, including turbofan cycle analysis and turboshaft—or piston engine—propeller combinations.
- Detailed aircraft takeoff and landing analyses including conventional and STOL & VTOL modes. Analyze wings equipped with high lift devices.
- Economics analysis for transport designs.

#### Benefits

- Robust mission performance prediction allowing mission phases such as climb, accelerate, cruise, loiter and combat.
- Load your own aerodynamics data or ACS' aerodynamic analysis capabilities for Mach numbers ranging from low-speed through supersonic flight.
- Different user-controlled options for weight predictions, including a beam based wing weight prediction method.
- Use your own optimization package or ACS' integrated sensitivity and optimization features to identify critical aspects of the design space.

#### System Requirements

Minimum OS requirements:

- Windows 7
- Mac OS X 10.8

Must have a graphics card that supports OpenGL.