

HELISIM

A POWERFUL AND COST-EFFECTIVE FLIGHT SIMULATION SOLUTION

BENEFITS

- **Flexibility**
Quickly change the flight model or parameters used to describe the performance of a simulated helicopter.
- **Results-oriented UI**
HeliSIM provides significant time savings by offering a development workflow tailored to how users work. Define all the parameters of the flight model, engine model, blade tilt, atmospheric model, and defined flight paths directly through forms without writing a single line of code.
- **Pre-Integration & Interoperability**
Create a complete flight simulation and visualization solution using HeliSIM with other Presagis or 3rd party products. Pre-integrating with Presagis STAGE, VAPS XT, and Lyra helps to speed application development. HeliSIM can also connect to any flight simulation framework out-of-the-box through CIGI, HLA, DIS, local shared memory, or networked shared memory.

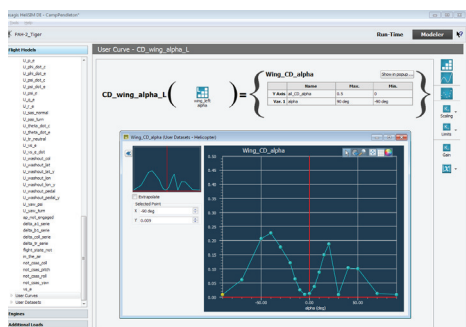


HIGH FIDELITY PHYSICS-BASED ROTARY-WING SIMULATION

HeliSIM is the industry standard solution for creating high-fidelity rotary wing flight dynamics simulation. From building and evaluating existing and future rotary wing platforms, simulators, training equipment, and cockpits to developing flight training devices and part-task trainers, HeliSIM is ideal for safety-critical simulation applications.

Using HeliSIM, you can :

- Define models of various fidelity depending on the quantity and quality of the aerodynamic data entered
- Conceive and deploy a complete aerodynamic model for the realtime simulation of any rotary wing aircraft without writing a single line of code
- Test both aircraft design and aircraft performance under controlled simulated conditions
- Specify the behavior of subsystems, including flight management systems, autopilot, and flight controls
- Easily integrate virtual and/or real hardware devices and user created system and subsystem modules
- Quickly and easily tailor flight simulations by entering aerodynamics and environmental parameters into windows and dialog boxes rather than writing software routines to perform the simulation
- Leverage the build in physics based math models to develop a rotate wing system



HeliSIM simulates the following physics-based models that can be deployed or replaced programmatically to bring realistic helicopter dynamics to your simulation application:

- Blade Element Models
- Electrical System
- Hydraulic System
- Earth System
- Ambient System
- Winds System
- ADC System
- Weight and Balance System
- AP Logic System
- FMS Navigation System
- FMS Guidance System
- AP FCC System
- Engine Panel System
- Engine System - Turboshaft (Basic)
- Engine System - Turboshaft (Advanced)
- Engine System - Performance Engine
- UC Deployment System
- UC Brake System
- UC Forces System – Basic
- UC Forces System - Advanced
- UC Forces System - Skid
- Flight Control System
- Rotor 1 System - Rigid Blade
- Rotor 1 System - Flexible Blade
- Rotor 2 System - Main Rotor
- Rotor 2 System - Tail Rotor
- Aerodynamic System
- Gearbox System
- EoM System
- DME System
- VOR System
- ADF System
- TACAN System
- ILS System
- Marker Beacon System
- Instruments System

FEATURES

Aerodynamics modeling capabilities:

- Define each control surface on the aircraft
- Specify laws converting pilot inputs and/ or autopilot commands to control the pitch angle of the blades of both main and tail rotors
- Define aerodynamic coefficients for as many physical components as required to represent the helicopter
- Specify the installed engine(s)

Simulate a wide variety of helicopters:

- Simulate aircraft with either rigid or flexible blade models and driven by either turboshaft, advanced turboshaft, or by a user customized performance engine:
 - Large transport helicopters
 - Single or dual-rotary
 - Combat or Attack Helicopters
 - Commercial rotor craft
 - Remotely Piloted Vehicle / UAVs

