

A formation of five fighter jets flying over a mountain range at sunset. The jets are silhouetted against a bright, hazy sky. The mountains below are bathed in the warm light of the setting sun.

SIMULATION

FlightSIM

CREATE. SET. SOAR.

FlightSIM is the industry-leading high-end COTS for creating high-fidelity, high-quality flight dynamics simulations.

PRESAGIS
MAKE IT REAL

FlightSIM is the industry-leading high-end COTS for creating high-fidelity, high-quality flight dynamics simulations and systems for virtually any fixed-wing aircraft in the world – military, commercial, or unmanned.

BENEFITS



WIDE CHOICES OF ENGINES IN SINGLE APPLICATION

Choose from turbojet, turbofan, turboprop, turboshaft, piston, electrical, or other user-defined performance engines. FlightSIM support up to 8 engines.



INCLUDES SSYSTEMS AND SUB-SYSTEMS

Aerodynamics, Weight and Balance, Undercarriage, Hydraulic and Electrical systems, Navigation Systems, Flight Controls, Weather and more.



QUICK AIRCRAFT CUSTOMIZATION

Lets you easily change flight models or parameters or swap out aircraft.



RAPID INTEGRATION

Can connect to any flight simulation framework out-of-the-box through CIGI, HLA, DIS, local shared memory, or networked shared memory.



FLEXIBLE

Create models of virtually any aircraft including UAVs with high-fidelity.attack helicopters.

HOW FLIGHTSIM HELPS

From building and evaluating simulators, training equipment, and cockpits to developing part-task trainers, FlightSIM offers developers fast development times, quick customization, and rapid integration into a given simulation framework. This is achieved through an expanded set of tools that help you build fidelity-critical simulation applications.

An easy-to-use interface lets you easily tailor flight simulation and systems by entering aerodynamics, weights and balance, ground interactions, and environmental parameters into windows and dialog boxes rather than writing software routines. FlightSIM lets you specify subsystems behavior, including flight management systems, autopilot, and flight controls.

Maximize FlightSIM by easily integrating virtual and/or real hardware devices and user-development simulation models and allow unparalleled interoperability and integration.





FLIGHTSIM FEATURES

- \ Create models of numerous types of aircrafts, including UAVs and depending on the quality of data entered, achieve desired fidelity.
- \ Conceive and deploy a complete aerodynamic model for the real-time simulation of any fixed wing aircraft with or without OEM data and without writing a single line of code, based on user preferences.
- \ Test both aircraft design and aircraft performance under controlled simulated conditions.
- \ Specify the behavior of systems and sub-systems.
 - \ Automatic Flight Control Systems including Flight Management Systems, Auto Throttle System, Flight Control Computer, etc.
- \ Easily integrate virtual and/or real hardware devices and user-development simulation modules. Effortlessly enhance, modify or substitute for user defined parameters. For example, a developer can add proprietary landing gear.
- \ Quickly and easily tailor flight simulations by entering aerodynamics data in its native format via environmental parameters in windows and dialog boxes without having to write software conversion routines.

AERODYNAMICS MODELING CAPABILITIES

- \ Define each control surface on the aircraft through the graphical interface by defining as many points for which there is data available
- \ Specify each control law that converts pilot inputs into control surface deflections
- \ Define the impact of the surface deflection on the aerodynamic coefficients
- \ Specify the installed engine(s)
- \ Specify external fuel load, landing gear, AFCS and electrical and hydraulic buses
- \ Simulate a wide variety of aircraft
- \ Simulate aircraft driven by turbojet, turbofan, turboprop, turboshaft, piston engines or by a user customized performance engine:
 - \ Large transport
 - \ High speed fighter and surveillance jets
 - \ Small private jets
 - \ Commercial airliners
 - \ Remotely Piloted Vehicle / UA Vs

Visual Studio 2015 (VC 14) Support

API developers can use a more recent version of Microsoft Visual Studio tools.

ADDITIONAL FLIGHTSIM COMPONENTS

- \\ Tool to build nav aids database according to the ARINC424 standard.
- \\ Use of multiple receivers (DME, VOR, ADF, TACAN and ILS) to interact with nav aids stations specified with a database following the ARINC424 standard.
- \\ Linearization tool to uncover the aircraft's natural oscillation frequencies to assist in designing its control system (state matrices A and B).
- \\ Access to engine performance curves
- \\ Access to each Control Law
- \\ Monitoring mechanism to validate the evolution in time of specific parameters.
- \\ Testing instrument to support the AFCS tuning and to force specific conditions to validate the aircraft's flight model.
- \\ Malfunction scenarios accessible out-of-the-box. In addition to a user's ability to create their own malfunctions, there are more than 100 situations already available, including engine-out, engine flameout and hydraulic failures.
- \\ Operator can begin simulation in different conditions.
- \\ Record and playback all pilot interactions during a flight. Snapshot and restore the aircraft to its exact state from any prior sequence in time.
- \\ Multiple methods of pilot input ranging from mouse and keyboard to USB ports to a VAPS XT application. Moreover, an API is provided to build new sources and thereby allowing integration with high-end control loaders.

FLIGHTSIM DETAILS

WEIGHT & BALANCE SYSTEM

Considering factors such as impact of landing gear positions, fuel consumption and additional loads (cargo, missiles, pilots, passengers, etc.). Furthermore, fuel tanks of different sizes can be defined and installed on the aircraft, and additional loads can be modified at runtime.

ENVIRONMENTAL CONDITIONS

Considering factors such as impact of landing gear positions, fuel consumption, and additional loads (cargo, missiles, pilots, passengers, etc.). Furthermore, fuel tanks of different sizes can be defined and installed on the aircraft, and as additional loads can be modified at runtime.

GROUND INTERACTION

Ability to taxi, including landing and takeoff, on uneven terrain and moving platforms.



Akatec Ingenieros SL

Tel/Phone: +34 918 287 247

email: comercial@akatec.es

www.akatec.es

UK + 44 (0) 1793 441447

CANADA +1 514 341 3874

FRANCE +33 1 30 70 50 00

ITALY +39 02 46712 231

USA - Orlando +1 407 380 7229

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