FlightSafety Simulation

Your Proven Training Systems Solution

FlightSafety international

The World Leader in Training Systems Design, Manufacture and Support

FlightSafety has been a leading supplier of mission-critical training and equipment to commercial, corporate, military and government flight crews the world over since 1951.

FlightSafety Simulation designs and manufactures advanced full flight simulators, training devices and part-task trainers that can replicate the operating characteristics of virtually any aircraft or ship.

The simulators we manufacture are part of an integrated training system, used throughout our network of Learning Centers and by many other leading organizations worldwide. FlightSafety training devices incorporate a full range of features and benefits.

Innovation With One Purpose: Safety

- *Custom-equipped, modular design*

- *Designs based on 50 years of user feedback*

- *ISO 9000-2001 certified quality*

- *Industry-leading fidelity*

- *Reliable operation and exceptional availability*

- *High-resolution visuals library*

- *VITAL systems imaging*

- *MATRIX integrated training*

- *Electric motion and control loading*

- *Training systems delivered on schedule*

- *Worldwide support*

160+ Aircraft models simulated.

Top-of-the-Line Simulation

FlightSafety Simulation offers the optimum solution to your training needs. Our high-quality, reliable training devices have been refined through decades of experience and the production of hundreds of heavily used devices to provide the most efficient and effective training available. Each simulator incorporates technological advances developed to enhance training and safety.

Many of our simulators train pilots and maintenance technicians in our own extensive worldwide network of professional Learning Centers. Another significant number train government and military aviators to carry out their vital missions. Still others serve a variety of clientele worldwide, including airlines, corporate flight departments and flight schools.

FlightSafety Simulation products benefit from 50 years of informed feedback from thousands of aviation professionals. Critiques from our own team of highly experienced instructors as well as top military and private instructors worldwide help us as we continually update and improve the simulation experience.

As a result, each simulator integrates the accumulated refinements of millions of hours of real-world training. FlightSafety simulators are built to meet a 99 percent reliability standard and regularly exceed that standard.

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Whether you're training for a Bombardier Global Express, at left, a Boeing C-17, above, or any other aircraft, your FlightSafety simulator faithfully reproduces the look, feel and performance of your aircraft.

99.6%
Average in-service availability of a FlightSafety simulator.*

*Based on more than 400 simulators in service.

From Classroom to Simulator: The Fully Integrated Training Continuum

FlightSafety Simulation works with you to custom design training systems to fit your specific needs. No single solution works optimally for all training requirements or all aircraft. From the classroom to the simulator cockpit, our training systems are at once seamlessly integrated and endlessly variable.

FlightSafety's industry-leading technologies include the MATRIX integrated training system. MATRIX consists of a Desktop Simulator, Integrated Courseware, Graphical Flight-Deck Simulator and SimVu Debriefing System. FlightSafety simulators and MATRIX both draw from the same single source of software. This ensures that the most accurate and up-to-date information is provided during all aspects of training.

Each component within MATRIX can be customized to meet individual training requirements. Classroom computers and instructor stations can be designed to your specifications. Graphical Flight-Deck Simulators can be configured to provide training that spans the gap between the classroom and a full flight simulator. Additional displays can be added for specific applications or for simulation visuals. Add controls and full visual surround for a training experience that is close to full flight simulation.

60 Aircraft types simulated in the past five years alone.

MATRIX

INTEGRATED TRAINING TECHNOLOGY

Integrated Courseware

Graphical Flight-Deck Simulator

Desktop Simulation

SimVu Debriefing System

MATRIX TRAINING SUITE

FULL MOTION SIMULATOR

Electric Motion and Control Loading

FlightSafety aircraft simulators are equipped with electric motion and control loading systems. We pioneered this technology, which eliminates the need for hydraulic fluid and the associated environmental and safety concerns. It also is much quieter, requires less maintenance and can reduce electricity consumption by 80 percent or more. There's no need to maintain a separate hydraulics room, maintain specialized tools or keep a hydraulics mechanic on staff. FlightSafety simulators are routinely qualified to the highest levels by aviation authorities around the world, including the FAA, CAA, DGAC, LGB and MOT.

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Graphical interfaces provide extremely intuitive control to guide all phases of the training experience and to greatly simplify maintenance, as with this electric motion control maintenance panel.

Precise Control

It's easy to add electric actuators to a simulator. The hard part is controlling them with precision. Our software engineers work to make cockpit controls respond just as they do in an aircraft. Control sensors sample motions 4,000 times a second to provide realistic stick and pedal feel. The tactile quality of the controls and the smooth motion of the base lend fidelity to your training experience.

400 Simulators put into service in the past 20 years.

Custom Modular Design

The simulator is composed of a cockpit that replicates the actual aircraft cockpit, a modularly designed cabin, instructor operator station and visual structure, all of which are integrated with the motion platform. The entire simulator, including the visual bowl, has been designed to break down for crating and shipment in large components sized to fit on a 747 freighter for worldwide transport. The modular design also facilitates rapid reassembly, connection, testing and preparation for qualification.

This modularity extends to but is not limited to intuitive cable paths and easy, clearly marked cable connections. The simulator cab can be broken down and reassembled very quickly. Computer hardware is designed to allow rapid removal, crating and subsequent installation at the destination.

Instructor Operator Stations

Our sophisticated graphical interface uses color-keyed, touch-activated screens to guide your training. Long experience with hundreds of instructors drives workload and ergonomic designs, so instructors stay comfortable and able to focus on the training. The portable control unit allows instructors to operate from the instructor station or from inside the cockpit.

Simulation for All Types of Aircraft

From the Hawker Beechcraft T-6A Texan military trainer to the C-17 Globemaster, we build simulators for all sizes and types of military aircraft. Military personnel train on FlightSafety simulators for the V-22 Osprey VTOL and for BLACK HAWK, Huey and Cobra helicopters.

We also build simulators for all types and sizes of the world's leading business and commercial aircraft. FlightSafety can simulate most any aircraft, including those manufactured by Airbus, Bell, Boeing, Bombardier, Cessna, Dassault, Embraer, Eurocopter, Gulfstream, Hawker Beechcraft, Piaggio Aero and Sikorsky.

We've built simulators for more than 160 aircraft models, including for more than 60 different types of aircraft in the past five years alone.

Concurrent Development

FlightSafety regularly produces simulators concurrently with development of new aircraft. We work closely with the airframe manufacturer to design the simulator to the exact specifications of the new aircraft. Often, the simulator is available for training before the aircraft is ready to fly. For example, pilots were training on FlightSafety simulators for the U.S. military's C-17 Globemaster for six months before the aircraft was available. Recently we built simulators concurrently with development of the new Cessna Citation Mustang.

Type-Specific Flight Data

Our simulator designers use data supplied by the aircraft manufacturers to replicate exact flight responses. In addition, our flight test department at Tulsa International Airport has developed an acquisition system to capture and analyze aircraft flight data to ensure that simulator responses parallel in-flight aircraft responses.

The Differences Are Clear

Dynamic Rotor Wash

Animation /Articulation

Accurate Flight Visibility

Fog In Valleys

3D Sea States

Weapons /Particle Smoke

FlightSafety's VITAL Visual Simulation Systems provide pilots with the out-the-window and sensor information they need to operate the aircraft and fulfill their operational missions.
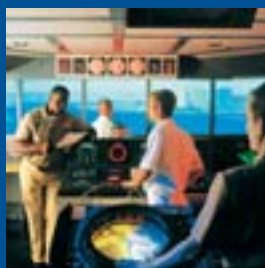
The VITAL X features continuous global high-resolution satellite imagery and environmental conditions experienced during all phases of flight, from taxi and takeoff to landing. Flight operations include visual navigation, instrument flight and landing, and networked tactical engagements.

VITAL X supports FLIR, ColorTV, LLLTV/EO, VTRAT, ALLTV and DVO sensors. Major features include post processing, zoom, target tracking, multiple track modes, symbology and video interfaces. VITAL X is also compatible with NVG, HUD and EVS.

700 **VITAL visual systems designed, built and installed.**

Support for Our Armed Forces

At FlightSafety, we're proud of our 40-plus years training the U.S. Armed Forces and its allies. The FlightSafety Simulation team's goal is to enhance human performance by putting the power of simulation in the hands of the warfighter. Through the use of FlightSafety's realistic, reusable and cost-effective net-centric and on-demand models and simulations, warfighters are readied for the global decision environment.

Our extensive military training experience is evident in our comprehensive system of technologies developed to address specific military training challenges.

- **Scalable** – FlightSafety Simulation technology provides a wide range of products that operate from the same high-fidelity simulation engine. This means that training tools are easily customized for the most effective implementation.

- **Interoperable** – With our proven net-centric solutions, we provide interoperability to allow multiple crews in live, virtual and constructive environments to train in a coordinated mission. In addition, semi-automated forces can be inserted to enhance realism in the environment.

- **Mobile** – The scalability of simulation technology allows training to be taken on location as required. Whether mission rehearsal, debrief or other critical preparation, training can occur in a classroom or in the field.

On land, air or sea, FlightSafety Simulation is a proven training partner. We bring our experience in training needs analysis to the engineering and production of training platforms that exhibit an appropriate blend of technology and to long-term support for our robust training systems. FlightSafety Simulation benefits from FlightSafety's strategic partnerships in industry, rich history of Navy training support with MarineSafety, the industry-leading training and maintenance support of FlightSafety Services Corp. and the heritage and experience of a network of 40 Learning Centers. When you turn to FlightSafety for training systems solutions, you tap into a capable and powerful team.

MarineSafety

MarineSafety, a wholly owned subsidiary of FlightSafety, provides parallel training for ships' officers. MarineSafety delivers its flexible, customized training through the creation of simulated training environments replicating a wide variety of ships, waterways and weather conditions. Authentic shiphandling is made possible through the interoperability of bridge simulators allowing multiple crews to train together in the same scenario.

Heavy Payload Support

FlightSafety designed and produced the first heavy payload Weapons System Trainer equipped with electric motion and control loading, installed on a series of C-17 simulators produced for Boeing and the United States Air Force Air Mobility Command. The heavy payload simulators join a fleet of trainers for C-17s, including weapons systems trainers and a cockpit systems simulator.

Recent Military Programs

HC-130P	AH-1Z
C-17	UH-1Y
JPATS	TH-67
MV-22B	UH-60
CV-22	ARH

125 **Military simulators in service.**

Coordinated Tactical Training

One of the latest advances in the evolution of training devices is the design and development of FlightSafety's Mobile Combat Tactics Trainer (MCTT). The system can be designed and configured to allow multiple trainers to be linked for real-time collective training using a Battle Master Control Station. It has the capacity to train multiple crews simultaneously, under the same conditions and in the same virtual space. Integrated with the most advanced visual system and high-fidelity electric control loading, the MCTT can be built to match virtually any aircraft type and is reconfigurable within type/model series.

One example is a networked BLACK HAWK helicopter/Littoral Combat Ship Tactics Trainer. It includes two BLACK HAWK helicopter simulators, a Littoral Combat Ship bridge simulator and a Battle Master Station networked for collective training.

High-resolution VITAL X visuals surround pilots in each BLACK HAWK simulator with customized geo-specific images. Each simulator is equipped with electric control loading. The Littoral Combat Ship simulator uses a combination of graphical and real world controls and displays and also features the newest PC-based visual technology.

The MCTT system is easily transported and features built-in power conversion capability for installation virtually anywhere in the world.

50 Years designing, manufacturing and supporting simulators

Delivering on Our Promise

Trust Us for On-Time Delivery

FlightSafety has built simulators for more than 160 aircraft models. If that list includes your aircraft type, we can custom build a simulator to your exact specifications in just 10-12 months. Simulator lead time for an aircraft we haven't previously simulated can be less than 16 months.

Shipped Direct to Your Door

We build our simulators to fit into a 747 freighter for efficient shipping. Onsite, we assemble and test the simulator to ensure that it's operational and in conformance with applicable regulations and certification standards.

Full Support – Anywhere

We provide full, prompt service around the globe. Through our extensive network of Learning Centers and parts depots,

we provide AOG spares 24/7/365 to simulators regardless of location. Our Integrated Logistics Support department works to ensure that all FlightSafety simulators meet or exceed our 99 percent availability standard.

Maintained and Upgraded

When advances in aviation or training technology justify a simulator upgrade, FlightSafety assists with everything from avionics add-ons to major operational and cosmetic renovations. Depending on the extent of the required changes, an upgrade can be performed onsite or the simulator can be brought back to our facility. For onsite upgrades, we assign a team to prepare the upgrade in-house, then send that same team to install it and work with the proper agencies to ensure that the simulator remains qualified at the appropriate level.

20 Number of countries to which FlightSafety Simulation provides spares and technical support.

50+ Number of cities worldwide to which FlightSafety Simulation provides spares and technical support.

Think**Safety**®

FlightSafety International is the world's premier aviation training organization. We dedicate ourselves to the safe operation of aircraft through the design, manufacture and support of simulators, our comprehensive training programs and our expansive network of Learning Centers. More than 75,000 aviation professionals, including some 14,000 with government and military agencies around the world, train each year on our fleet of some 300 advanced technology simulators in our network of 40 Learning Centers and at more than 30 military bases.

Each FlightSafety simulator incorporates more than 50 years of simulation expertise and the experience gained training hundreds of thousands of pilots. We have created simulators for more than 60 different aircraft types in the past five years and, with more than 400 training devices in service, we have the systems in place to design, manufacture, install and fully support simulators worldwide.

For more information or to inquire about your next training system, please contact:

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