

Microsoft® ESP™

A New Era in Visual Simulation

Microsoft® ESP™ is a visual simulation platform that brings immersive games-based technology to training and learning, decision support, and research and development modeling for government and commercial organizations.

Microsoft ESP is a developer-ready platform that enables the creation of powerful, affordable solutions to augment real-world training, support decision-making, and enable economical R&D modeling. The ESP platform—engine, tools, and content—are already used today in Microsoft Flight Simulator X, a popular entertainment platform for immersive simulation and visualization.

Rich Simulation Platform

Microsoft ESP delivers a full, all-in-one platform—a powerful simulation engine, software tools, and realistic world content—to enable developers to affordably and often rapidly create compelling simulation solutions for their customers.

ESP runs on Microsoft Windows®-based PCs and supports rapid simulation development, rich extensibility, and built-in integration with industry-standard hardware devices, including joysticks, game controllers, and more.

ESP models the entire world, while also allowing developers to easily add their own content, objects, scenery, simulation functionality, and scenarios to create custom training solutions.

Dynamic, Immersive Environments

Solutions built on Microsoft ESP can engage users in immersive experiences with very realistic land, sea, and air environments—making them ideal tools for training, evaluating, and preparing personnel for optimal performance in the real world.

The platform offers highly accurate 3-D geography, a modifiable weather system, continuous time of day, five seasons, a dynamic living world, detailed cities, realistic scenery objects, wildlife, and support for 5.1 surround sound. Multiplayer interactivity is enabled via built-in Voice-over-IP and chat capabilities. Thus organizations can achieve team-based training and rehearsal no matter where the members sit around the globe.

Improved Training ROI and Outcomes

Business today is all about outcomes, and the best of outcomes are often delivered by a well-trained workforce. Unfortunately, however, much of today's training fails to deliver the improved performance that enables organizations to create and maintain a competitive advantage.

One reason is that the training tools and processes often used today have not changed substantially in decades. Few organizations have exploited the significant advances in immersive, games-based technologies and computer portability for their training. Yet such technologies can deeply immerse students in their learning, appreciably enhance their retention, promote ongoing training and rehearsal, and improve overall outcomes.

Successfully preparing today's multitasking workforce to respond well in real-world situations requires more than just books and lectures. With quality immersive training experiences, learners can engage their minds, emotions, and senses so that training outcomes support and advance your organization's mission.



Key Microsoft ESP Features

Microsoft ESP brings immersive games-based technology to training and learning, decision support, and research and development modeling for government and commercial organizations.

A Complete Platform. Take advantage of a proven client simulation engine, development tools, and ready-to-use baseline dataset/content.

Powerful Tools. Control object placement and activation, scenery and terrain, AI movement, special effects, and environmental attributes.

Rich World-Wide Content. ESP ships with several gigabytes of scenery data, vector data, buildings, landmarks, navigational aids, and over 24,000 civil and military airports.

Extensibility And Integration. Design ESP simulations that can integrate with external solutions. Enhance realism using DEM, satellite imagery, vector data, and 3-D objects.

Economical Windows-Based Platform. Achieve exceptional results in shorter time by putting your Windows development skills to use on commercial off-the-shelf (COTS) systems.



High-Fidelity Simulation. A full 6DoF extensible physics model allows for robust, real-time modeling of air, sea and land-based vehicles.

Extensible Synthetic Cockpit Simulation. Exhaustive library of instruments and gauges plus robust toolset allowing for detailed customization of cockpit functionality and appearance.

Comprehensive Simulation System. Macro-simulation of planetary model includes magnetic variation, weather and atmospheric effects on vehicle sub-system simulation.

Dynamic Living World. Experience a landscape teeming with moving vehicles, birds, animals, weather, and continuous time of day.

Dynamic 3-D Immersion. Experience “you are there” realism with the latest in PC graphics technology, including dynamic lighting, volumetric shadows, and native support for DirectX 10 technology.

Configurable, User-Adjustable Weather System. Use ESP’s near-real-time weather, select your own weather pattern, or import weather data from your preferred source.

Automatic scenery fill-in capability. Microsoft’s patented AutoGen technology provides geotypical object and texture coverage over the whole surface of the Earth.

Create Custom Missions. Build realistic, repeatable training scenarios on land, air, or sea using powerful toolsets native to ESP.

After-Action Review (AAR). Record every action during a simulation experience for effective post-simulation review, evaluation, and measurement of user performance. Analyze data, capture video or digital images, and replay simulations.



Flexible Input/Output Hardware Integration. Incorporate third-party hardware devices that support immersive experiences, including head- and eye-movement tracking devices, yokes, joysticks, pedals, and more.

Established Partner Ecosystem. ESP supports thousands of add-ons already developed for Microsoft Flight Simulator X.

Licensing Information

As a client-only platform, users must acquire one Microsoft ESP client license per ESP-enabled desktop. A separately licensed SDK provides the tools to begin creating your world.

System Requirements

Minimum requirements are Windows XP SP2 or later, a 2.0GHz or higher CPU—single core, 1GB RAM, 20GB or more of free hard drive space, 32X DVD drive, DirectX9- or higher-compliant video card with 128MB or higher video RAM, DirectX9 or higher hardware compatibility, sound card with speakers or headphones, and a mouse or other hardware device.

For more information on Microsoft ESP go to: <http://www.microsoft.com/esp>