

# PRESAGIS SOFTWARE SOLUTIONS \

# VISUALIZATION

BRING REALISTIC VISUAL EXPERIENCE TO SIMULATION APPLICATIONS

## BENEFITS

### Realism

- Take advantage of hardware shader technology to achieve the best performance and realism in real-time 3D visual applications.
- Use the latest graphics technology without having to develop any specific code.
- Visualization software from Presagis dramatically improves rendering quality.
- Protect the application developer from changes in the underlying graphics hardware.
- Preserve the time and money invested in developing applications, OpenFlight models, and terrain databases.

### Focused Solutions

- “Off-the-shelf” plug-ins from Presagis have been developed in collaboration with partners for immediate solutions to specific needs.
- Lyra and Lyra Sensors are turn-key products based on the Presagis Visualization core framework.
- Immediate Visual and Sensor image generation solutions are ideal for flight training applications.
- Plug-ins and specialized applications offer the best turn-key solutions for any visualization challenge.

## SOFTWARE FOR CONFIGURABLE AND IMMERSIVE VISUALIZATION

COTS software solutions from Presagis address the most rigorous challenges of Modeling and Simulation applications. From producing the high levels of visual realism required for immersive environments to achieving positive training results, deterministic real-time 3D performance, and visual accuracy, Presagis visualization products are the key to creating outstanding 3D scenes for any visualization or training application. Presagis draws on hundreds of man-years of experience to provide visualization solutions that are ideally suited to meet the stringent requirements of military and commercial applications.

Effective visualization requires a high level of visual realism in order to produce immersive environments that achieve positive simulation and training results. Deterministic, real-time 3D performance is also a key consideration. In addition, the development and deployment of successful visual applications must be as cost-effective as possible to achieve the maximum benefit from the time and effort involved in the development of any visual application.

With physics-based sensor displays, correlated content across wavelengths, high dynamic range scenes, an infrastructure that provides users a means to use and manage fragment and vertex shaders without code, and the ability to represent extremely large amounts of content at real-time frame rates, users can achieve the most accurate and relevant visualization for their application. Presagis visualization solutions offer an unmatched level of productivity and feature a wide variety of solutions including flexible and scalable toolkits, COTS IG applications, realistic sensor visuals, and requirement-specific plug-ins and modules.

Capable of adapting to the evolving needs of future applications, with visuals that provide compelling and accurate scenes, as well as displays across multiple machines and in multiple wavelengths, Presagis visualization solutions allow users to achieve the level of realism and performance required for successful projects. These solutions provide game quality visuals at military grade performance, while enabling users to effectively utilize the latest hardware advances with either the latest, or existing content

## VISUALIZATION PRODUCTS

### BENEFITS

#### Flexibility

- Built on an open, modular, and flexible architecture.
- Based on the flexible low-level scene graph API VSG™ (Vega Scene Graph).
- Provides a cross-platform, single source infrastructure designed for the rapid creation, modification, and deployment of real-time 3D applications.
- Based on a flexible, extendable, and proven modular approach.
- Vega Prime offers a broad range of available functionality.
- Ideal for interactive 3D visual applications, regardless of size or scale.

#### Productivity

- The Vega Prime API and C++ STL compliant abstraction layer add productivity and functionality.
- Series of core modules are provided for immediate use in particular applications.
- Offers the ability to create extremely efficient visual applications that initialize only the functionality required for optimal performance.
- Visualization solutions from Presagis increase productivity and realism while reducing the effort and costs required to develop and deploy effective visualization applications.

#### Vega Prime™

Vega Prime provides a cross-platform single source infrastructure designed for the rapid creation, modification, and deployment of real-time 3D applications. The flexible, extendable, and modular approach at the heart of Vega Prime and its range of available functionality make this visualization software an ideal solution for interactive 3D visual applications.

#### Sensor Prime™

Sensor Prime is delivered as a set of optional modules and stand-alone tools for Vega Prime. These modules and tools allow users to add accurate sensor displays to any Vega Prime application.

#### Lyra™

Lyra and Lyra Sensors are ready-to-use stand-alone applications. Both products are CIGI and FlightICD enabled to connect to a host simulation and to run on multiple hardware/operating system platforms. They also come with the Lynx Prime™ Graphical User Interface (GUI) for configuration and fine tuning, sample data for easy installation and performance testing, and utility tools, including a CIGI Logger to play back scenarios.

#### Specific Modules

Numerous optional modules that add application-specific functionality to Vega Prime applications are available for use within the Vega Prime environment. These modules are integrated within the Vega Prime API and include a LynX Prime interface. The following are available Presagis visualization modules: Vega Prime Camera™, Vega Prime Distributed Rendering™, Vega Prime FX™, Vega Prime LADMA™, Vega Prime Light Lobes™, Vega Prime Marine™, Blueberry3d Runtime environment for Vega Prime, Di-guy for Vega Prime, DIS/HLA for Vega Prime, GL studio for Vega Prime, Immersive for Vega Prime, Speedtree for Vega Prime, Vortex for Vega Prime.



Image courtesy of BAE Systems, Warton, UK