



Why use EON ICUBE™?

The EON ICUBE™ is a new revolutionary **PC based multi-sided immersive environment** in which participants are completely **surrounded by virtual imagery and 3D sound**. Objects float in 3D space, can be touched and manipulated by users, and can be changed in real-time. The EON ICUBE™ represents a **significant innovative milestone in high-end visualization systems development**. Typically, high-end immersive systems have until today been complex, difficult to use and expensive to maintain. Unlike the older generation UNIX based systems the EON ICUBE is **easy to use even for non programmers**, provides an unsurpassed speed of immersive content creation and deployment, utilizes a new light enhancing rigid wall material, and has built-in collaborative capabilities.



"This technology has allowed us to visualize new designs and new solutions that would have otherwise taken significant resources. The ICUBE turnkey visualization system has revolutionized not only how we design our products but also how we market them."

Dr. Emad Tanbour
Senior Project Manager at HON Industries

Key Benefits

- Flawless **image continuity** in the **corners**.
- **Reliable and easy** to set up and maintain.
- Special **soft material screen** 1.5 gain, for 3D visualization, allows for **high brightness**.
- Heightened sense of **realism and immersion**.
- Multiple people can **share the stereo experience** and collaborate.



- **Superior image quality** with 1280x1024 resolution and **3,500-5,200 ANSI** Lumens brightness.
- **View full scale of models** such as cars, buildings, machinery etc.
- **Sensory interaction** standard through the use of 3D motion tracking.
- **Perspective viewing** through stereoscopic viewing technology.
- **EON ICUBE Software** for **perspective calculations and easy set-up** of new models including all **features and functions** of EON Immersive VR authoring environment.
- Modular **aluminum structure**.
- **Four channel 400W sound system**.
- **Interaction programming** using dataglove or wireless wand.

Easy, Fast, Reliable and Intuitive Real-Time Interaction

What is EON ICUBE™ ?

The EON ICUBE is a complete turnkey visualization and virtual reality system offered in standard configuration with **3 or 4 walls** for full immersion. It provides a high quality of graphics system, built on **PC technology**, providing unsurpassed immersion, especially when used with motion tracking and VR interactive devices. The EON ICUBE offers the **user-friendliest interface** for developing VR applications fully integrated with the EON software technology.

Features

- **Alignment of viewing frustum** between view-ports for perpendicular screens depending on tracked viewing position.
- Easy **to use User Interface** to input screen dimensions, tracking system position and stereo-parameters for real-time viewport calculations as well as open up any existing EON application using templates showing a full Icube application within minutes.



- **Compatibility** with a wide range of Virtual Reality peripherals such as datagloves, Head Mounted Displays (HMD), motion tracking systems, joysticks etc.
- **Expands the scope and functionality** of a desktop or web based EON 3D application through true application scalability.
- **Cost effective** single or multi channel application via the use of EON ICUBE Software, a proprietary EON technology that enables multi-channel/cube displays systems using ordinary PC's.
- **Extensive demo library** with over 50 ready to use EON ICUBE applications from over ten major categories such as A/E/C, Design, Industrial, Medical etc.

Application Areas

- **Architecture and Construction**
- **Product Development and Design**
- **Human Factors Studies**
- **Manufacturing and Plant layout**
- **Scientific Visualization**
- **Museum and Historical**



How it Works

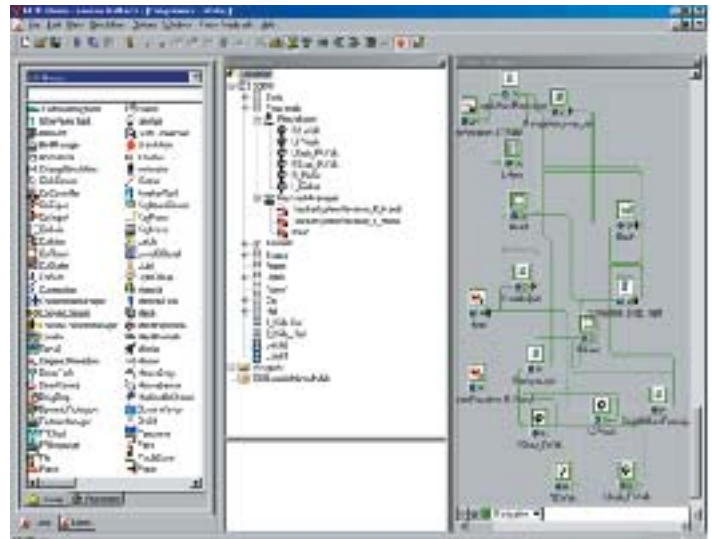
EON ICUBE™ System Overview

Using EON ICUBE™ software, non-depolarizing screens and, high-end projectors, with stereoscopic passive lightweight circular polarized glasses and position trackers, the result is **complete immersion of the user in a virtual world** where objects float in space with high quality graphics challenging the best UNIX platforms. Motion trackers are implemented to monitor the user's position and orientation and are used to calculate a stereoscopic perspective view while allowing the user to freely move into and around the **objects floating in space**. The stereoscopic visualization is supported by an integrated audio surround system. Peripheral devices such as wands and gesture gloves are integrated into the system. EON ICUBE has the ability to rapidly deploy 3D interactive virtual simulations using a series of built-in classes of objects, drivers and a large library of 3D models, textures, and easy to use built-in functionalities.



EON ICUBE Software

- **Easy to use** graphical authoring tool allowing non-programmers to add complex interactive effects.
- **Easy import** of most generic CAD and 3D formats, allowing easy use and manipulation of objects and textures from a wide range of 3D modeling tools.
- **Pre-programmed interactive node functionality** that minimizes development time for new applications.
- **Graphical User Interface based web publisher** that makes it easier to embed EON applications with rich communication to web pages.
- **High rendering quality** - EON offers a superb visual quality incl. support for lightmaps and anti-aliasing.
- **Easily integrated** with other standard software.
- **Multi user environment** - several people can share the experience and collaborate.
- **Sensory interaction** through the use of data gloves, motion tracking and force feedback devices.
- **Perspective viewing** control through stereoscopic software settings.
- **Supports high quality quadbuffer stereo.**

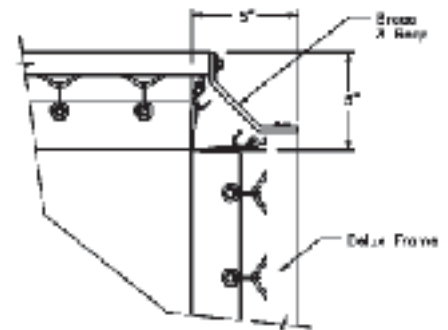
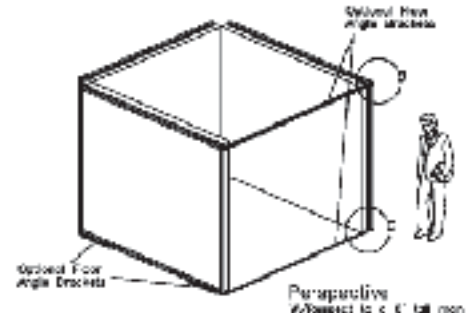


EON ICUBE is offered in the following standard configurations:

- 3-Wall 10'x8' (feet)
- 4-Wall 10'x10' (feet)

Customized screen sizes and configurations with 5 or more screens are also available. Minimum ceiling height requirement is 12' for a 3 or 4-Wall system. The 6-Wall EON ICUBE consists of 6 Virtual Walls and provides the highest level of immersion possible. It is **used for high-end scientific visualization, driving, flying, and naval simulation**, as well as for studies involving rear views and for collaborative environments where objects that float in space must be turned around and manipulated.

Additional considerations are needed to deal with the structural issues, as only rear projection can be applied. Typically, the 6-Wall Display system is raised at least 10 ft above ground, and a high quality aquarium glass material is used for allowing visualization on the ground screen. The minimum ceiling height required is 30 feet. The EON ICUBE 6-Wall requires a relatively high ceiling as well. Wireless Intersense ultrasound trackers are also used in the 6-Wall EON ICUBE.



Integrated System Customers:

- Bechtel
- Boeing
- Cornell University
- HON/Allsteel
- Involve Studios
- Maytag
- Norfolk State University
- Purdue University
- Suzuki
- UCI
- UCLA
- University of Montreal
- University of Pennsylvania