

## LinceoVR - Technical Features

### ❖ **3D Data Import**

LinceoVR can directly import standard 3D data. Supported formats are 3DM, IGES, STEP, STL, DXF, OBJ, 3DS, WRLM.

### ❖ **Animation**

LinceoVR allows to add animation like spins and translations to each single element of the model, in order to get the scene more realistic.

### ❖ **HDRI and OpenEXR illumination**

The visualization of 3D data inside 360iÆ degrees photographic environments offers the possibility to evaluate the virtual model in a real contexts with the added value of a more realistic simulation. Thanks to HDRI and OpenEXR illumination, the virtual environment can be used as a source of global illumination for the model. HDRI images offer information relative to the quantity of light coming from each direction. By using this feature it is possible to use appropriate algorithms to regulate the exposure of the virtual camera. LinceoVR includes a set of standard HDRI environments and allows to import personal ones converting them in the proper 360iÆ format automatically.

### ❖ **Ambient Occlusion**

A new efficient Ambient Occlusion algorithm offers an extremely realistic rendering of the shadows, conferring impressive high quality illumination to every single element of the model.

### ❖ **3D data Optimization**

During the import process, 3D data are optimized in order to warrant the best performances for the realtime visualization. LinceoVR automatically provides tassellation of the model and a primary optimization of the material assignment. Once the model has been opened elements, or group of them, can be further optimized sharing vertex and merging geometries and materials.

### ❖ **Normals management**

Normals can be managed in order to properly visualize the 3D model, both swapping them or entire geometry faces and calculating a crease angle in order to get continue the surfaces.

### ❖ **Catalogues and Geometry and Material Variants Management**

Useful advantages in using virtual prototypes for presenting ideas and design goods is the possibility to quickly switch form a variant to another. Designers can propose alternatives for the same projects, marketing and sales people can show different configurations for the same product. LinceoVR includes a new innovative approach to variants management. Multiple 3D data and scenes can be handled and visualized all in the same session, allowing to edit and work on different 3D models at the same time. Each 3D model can be treated separately, customizing its own geometry and material variants, background and lighting environment.

### ❖ **Material libraries**

The higher quality of the materials is available the more realistic rendering is visualized. LinceoVR offers the management and customization of high quality standard and dedicated material libraries. Materials can be edited and enriched with textures. Specific libraries for specific needs of the customer can be created.

### ❖ **Backgrounds**

3D data can be visualized with different kinds of background, meeting different possible needs of the users. Depending on the result desired, it's possible to visualize the model inside 360iÆ environments, photographic pictures, neutral and colored backgrounds with linear or gradient fills.

### ❖ **Views and Camera Paths**

Presentations can be prepared in advance for showing the best of the design of the 3D model. Viewpoints can be saved in a proper list and load back at the need with a simple click. In the same way, users can mark sequential views in order to interpolate a path that can be played and stopped in realtime. Views and camera paths prepared in advance, as well geometry and material variants, bring no technician people closer to Virtual Reality, allowing them to easily visualize and show to customers, suppliers and partners virtual projects.

### ❖ **High Resolution images and video output**

3D scenes can be used in order to produce high quality communication material, both for internal design reviews purposes and marketing and sales activities. LinceoVR allows users to export and save at unlimited resolution images for photographic print and videos in AVI and mpeg format.

### ❖ **Video Backgrounds for real time camera matching**

LinceoVR 3.0 allows instantaneous camera matching for immediate contextualization of 3D models in the real world. A wide series of camera options is available, allowing users to plug standard inputs (USB, FireWire, SDI, HDMI) for live video background. Avi and mpeg videos may be used as pre-recorded background as well.

LinceoVR 3.0 also allows direct high definition picture taking, plugging compatible photo cameras (Canon PowerShot series, Canon EOS 400D) to the PC, for real time picture camera matching.

✦ **Camera calibration Wizard**

LinceoVR 3.0 offers an advanced procedure for fine camera calibration. The Wizard procedure allows to correct optical distortions of the camera used.

✦ **Camera matching panels**

A user friendly interface with dedicated panels offers complete camera matching setting options.

✦ **Stereoscopy**

LinceoVR 3.0 supports the stereoscopic visualization. Virtual Rooms proper equipped can run the software in stereo mode in order to evaluate 3D data perceiving depths.

✦ **Customizable Shortcuts**

A common added value for a software tool is to let users to personalize calls to commands depending on his or her utility. LinceoVR allows to associate customized shortcuts to most of its functions becoming even easier and friendlier to be used.

✦ **Advanced Input Devices**

Presentation can be powered by advanced input devices in order to control the visualization. LinceoVR is compatible with 3D Connexion Space Mouse and Nexio Multitouch systems.