

# pCon.planner PRO Plugin VR-Viewer

## Manual

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# pCon.planner PRO Plugin VR-Viewer Manual

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## 1 Things to Know

You would like to provide an interactive experience along with your drafts? Export your whole planning or just single typicals to present them via the VR headset in no time and inform about the project state by using a virtual tour. Important settings, like the use of sunlight for a realistic representation, can be chosen additionally. It tells its own tale!

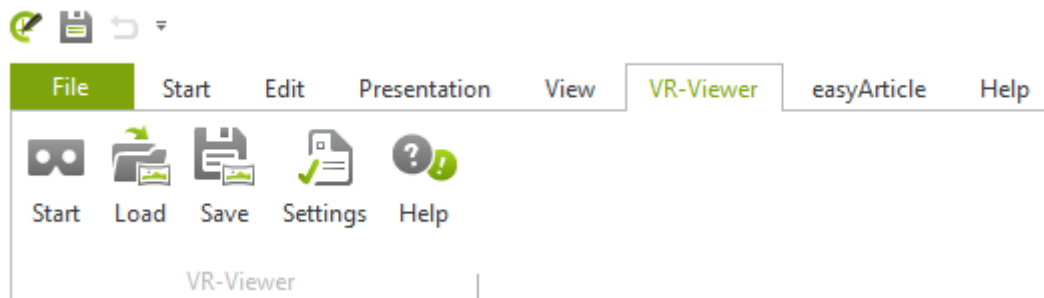


Figure 1: Navigation of the Plugin "VR-Viewer"

We will present the operations of the *VR-Viewer* plugin in the following sections.

## 2 Technical Tips

### 2.1 Check of the General Requirements

#### 2.1.1 Hardware Specifications

An appropriate computer is needed for the proper creation of your planning with pCon.planner PRO and the subsequent presentation in virtual reality. The following components are recommended:

- Strong CPU (Quad Core processor), e.g. CPU Intel Core i7-7700K 4.2 GHz
- Enough memory capacity; Minimum requirement: 16 GB RAM
- Adequate disc space; Suggestion: 1 GB or better
- Powerful graphic card, e.g. NVidia GeForce GTX 1080 or better
- Video output, e.g. HDMI 1.4, DisplayPort 1.2 or newer
- USB port, e.g. USB 2.0 or better port
- High-quality display with a screen resolution of 1920 x 1080 pixels
- Mouse with scroll wheel

Using a VR headset gives you the possibility to look at the planning in virtual reality and also move through it. Important facts for the VR glasses – one part of the VR equipment – are: an extraordinary display quality, a comfortable fit and easy handling. The controller needs smooth-running keys with good pressure points and is also easy to handle. You will find hardware examples in [chapter 4](#).

#### 2.1.2 Software Components

In addition to a 64-Bit Windows System (Version 7 or 10) and the pCon.planner PRO including VR-Viewer an appropriate software is needed to drive the glasses. Examples are listed in [chapter 4](#).

### 2.2 Plugin Installation

Before using the VR-Viewer you need to make sure that you use the latest version of the pCon.planner PRO, which is provided at [http://download.pcon-planner.com/pCon.planner\\_PRO\\_x64\\_setup.exe](http://download.pcon-planner.com/pCon.planner_PRO_x64_setup.exe).

To install the plugin you have to do the following:

1. Download the setup of the pCon.planner PRO and install it. Please note, that you will require administrator rights for the installation.
2. Download the zip-file of the plugin from <http://www.eastern-graphics.com/su?ref=bf8ce7622298d524cfaa012a7290fc63>.
3. Install the package as well. Administrator rights are also required.

The pCon.planner PRO as well as the VR-Viewer are now ready to use.

## 3 Using the Plugin

### 3.1 Start

Your planning is immediately displayed on the glasses by simply pressing *Start*. The loading time depends on several key factors like the hardware components.

After pressing *Start*, a query mask opens to ask, if the whole planning should be exported or just a selection of objects. Depending on your choice it can take a bit time to display the scene on the VR headset.

Next put on the Virtual Reality glasses and take the controller. Now you are already able to move through the planning by walking around. Get an impression of the scene while turning your head.

### 3.2 Load

*Load* a created pCon.planner PRO VR file directly into the virtual environment.

### 3.3 Save

*Save* your planning as .pvvr file to avoid long loading times in the VR-viewer later on.

## 3.4 Settings

### 3.4.1 Common

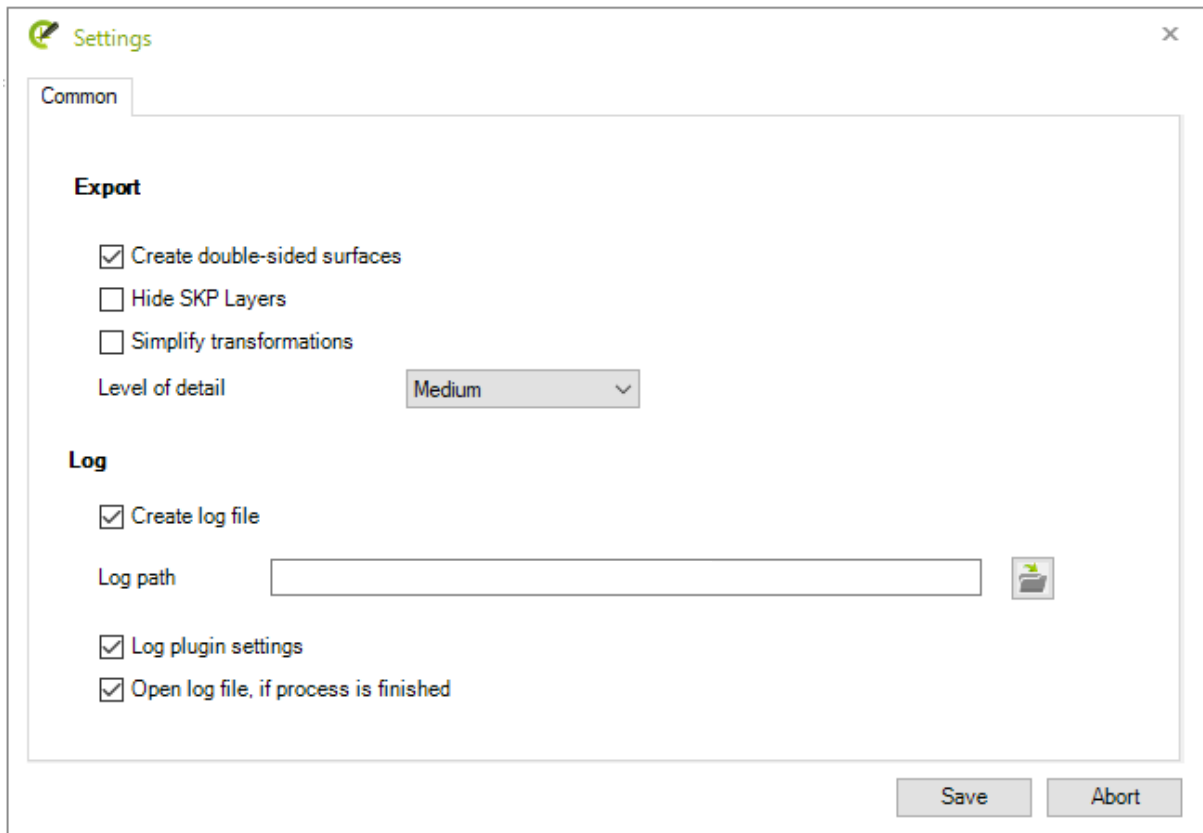


Figure 2: Tab "Common" at "Settings"

The following [Export] options are available at the Common tab:

1. Create double-sided surfaces: Use this setting to avoid smaller mistakes for the object presentation.
2. Hide SKP Layers: You hide .skp objects to faster display a planning on the VR glasses.
3. Simplify transformations: This option controls whether the focus of mirrored surfaces should be inverted. It depends on whether the target application specially treats mirroring transformations or not.

Choose {Medium} as optimum level of detail to provide the best possible presentation within an acceptable loading time. Further settings are {Minimum}, {Low}, {High} and {Maximum}.

Create a [Log] file under the Common tab, if desired. Determine first, if the plugin settings will be logged as well. The generated data can be displayed and checked after the process ends.

## 3.5 Help

Pressing the Help button a browser window with the pCon.planner Help Center opens. Additionally to this document numerous tips, hints and notes can be found there to successfully plan with pCon.planner.

## 4 Examples of the Application

In this chapter we focus on the combination of pCon.planner PRO and several Virtual Reality systems. Further hardware products will be added, depending on the level of experience.

### 4.1 HTC VIVE VR System

At the moment EasternGraphics uses a HTC Vive VR System to present objects in virtual environment. The system includes a headset, wireless controllers as well as base stations to enable room-scale motion tracking. The free software solution SteamVR of Valve is needed to control the hardware. More information is available at [http://store.steampowered.com/app/358040/HTC\\_Vive/](http://store.steampowered.com/app/358040/HTC_Vive/).

#### 4.1.1 The Controller and its Operations

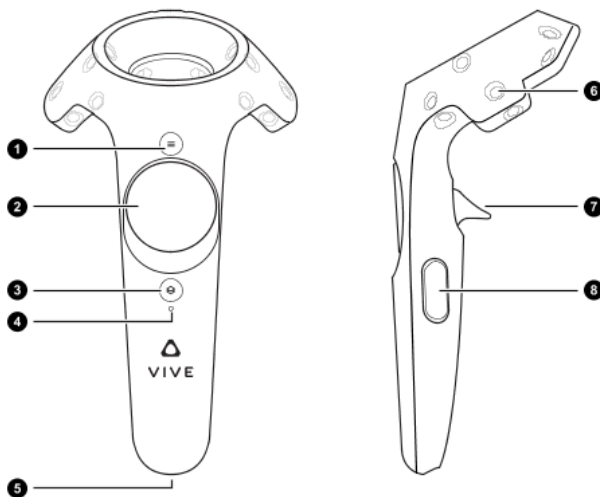


Figure 3: HTC Vive Controller

After transferring the planning to virtual environment, the controller provides the following functions:

- 1 Menu: By pressing the menu button the VR menu opens on the glasses or rather on the desktop.
- 2 Trackpad: A slight touch on the upper section of the Trackpad presents more *{Navigation}* options, while a touch on the lower part gives you more settings for the *{Environment}*. Choose the desired area with a click.

There are two opportunities at the *{Navigation}*:

- Hover mode: You move smoothly over your planning like a helicopter. Press and hold the Trackpad, while you move the controller to the direction you want to move to. The more you move your controller, the faster you go. This mode is especially designed for larger scenes, which are reaching over different layers.
- Teleport mode: This function allows you to move horizontally to different places inside your planning, even from level to level, without losing reference to the ground.

With the *{Environment}* function you enable or disable sunlight or light shadows.

- 3 + 4 Vive Home: Press the button to activate the controller.
- 5 Connection for the (charging) USB cable
- 6 - 8 These keys have no functionality at the moment.



## 5 Solving Problems

### 5.1 Motion Sickness – Recommendations

Moving in virtual reality can sometimes cause some problems. In reality a person stands on solid ground, while they experience trouble in the virtual scenery, where a flight over mountains is simulated. This can be very confusing!

If you suddenly feel sick with symptoms like nausea, vomiting, dizziness, headache or difficulties with the orientation while using the VR system, stop using the hardware right away. Continue the usage only, if you feel perfectly fit.

Useful tips and more information about “Motion Sickness” can be found at the Internet.

### 5.2 Error Messages

Error Message	Problem	Solution
The function is not licensed.	You are not authorized to use the selected function.	If you are interested, please contact us via e-mail at <a href="#">EasternGraphics GmbH</a> .
There are no articles to export.	There are no articles within the plan that can be exported.	Open a .pvvr file by using <i>Load</i> . Then restart the process.

### **Legal remarks**

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