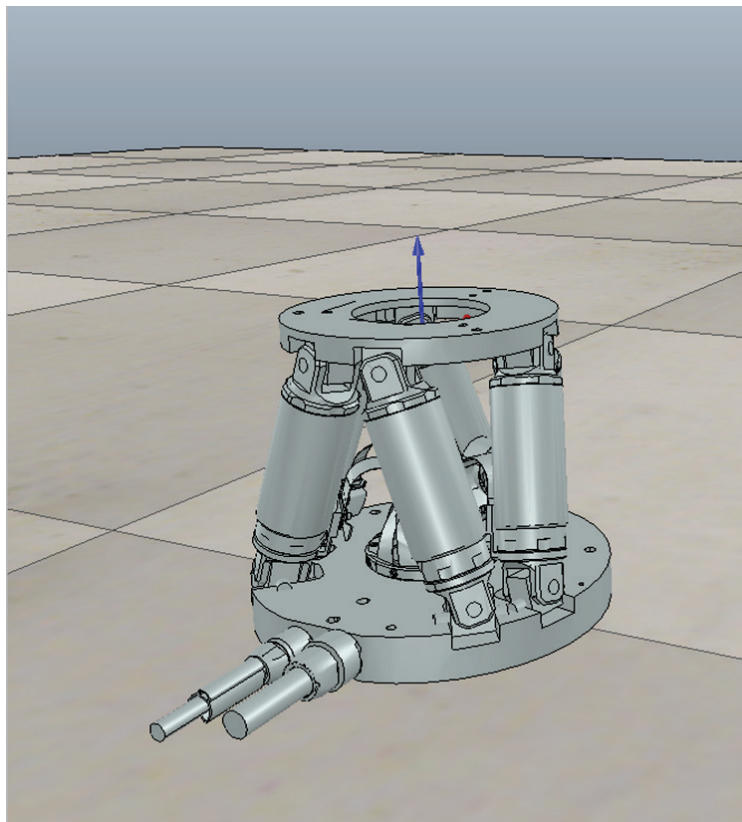


## PI Simulation Models for CoppeliaSim / V-REP

How to use PI simulation models with the robotic simulation application CoppeliaSim or its predecessor V-REP (Virtual Robot Experimentation Platform)



## About this Document

This document describes how to use PI simulation models with CoppeliaSim or V-REP.

The robotic simulation application CoppeliaSim is the 100 % compatible successor of V-REP.

## Symbols and Typographic Conventions

The following symbols and typographic conventions are used in this document:

### **INFORMATION**

Information for easier handling, tricks, tips, etc.

Symbol	Meaning
1.	Action consisting of several steps whose sequential order must be observed
➤	Action consisting of one or several steps whose sequential order is irrelevant

## Figures

If a picture in this document shows one of the applications, it is valid for both, CoppeliaSim and V-REP.

## Integrating PI Simulation Models into CoppeliaSim / V-REP

### INFORMATION

If you want to compare the geometric values between CoppeliaSim, or respectively V-REP, and PI Hexapod Simulation Tool, make sure to compare the appropriate values:

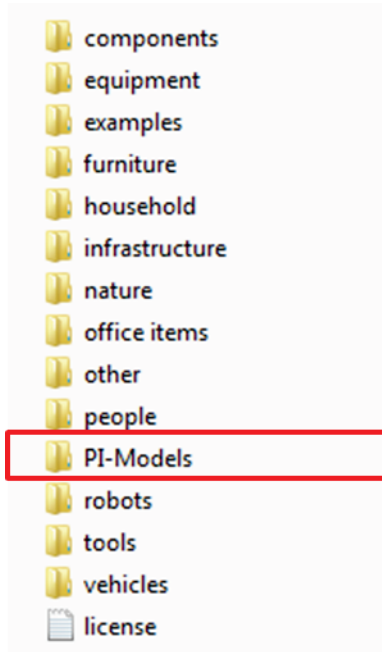
- Use the values of  $L[n]$ .  
Do **not** use the values of  $dL[n]$ , as they additionally take into account the drive screw pitch.

### Requirements

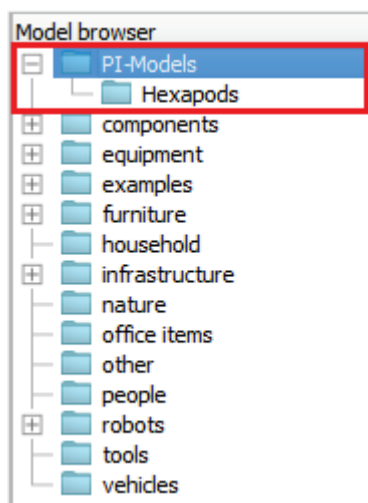
- ✓ CoppeliaSim is installed on the PC  
or  
V-REP version 3.5.0 (rev. 4) or higher is installed on the PC.
- ✓ The PI Software Suite (C-990.CD1, available at [service@pi.de](mailto:service@pi.de)) is installed.
- ✓ The **PI-Models** folder which contains the PI simulation models is available on the PC.

### Integrating PI-Models

1. Copy the folder **PI-Models** to the subdirectory **models** in the simulation application's installation directory, for example:  
C:\Program Files\CoppeliaRobotics\CoppeliaSimPro\models  
or  
C:\Program Files\V-REP3\V-REP\_PRO\models



With this, the PI simulation models are integrated into CoppeliaSim, or respectively V-REP. When CoppeliaSim / V-REP is started, the application's **Model browser** shows the folder **PI-Models** with its subfolders.



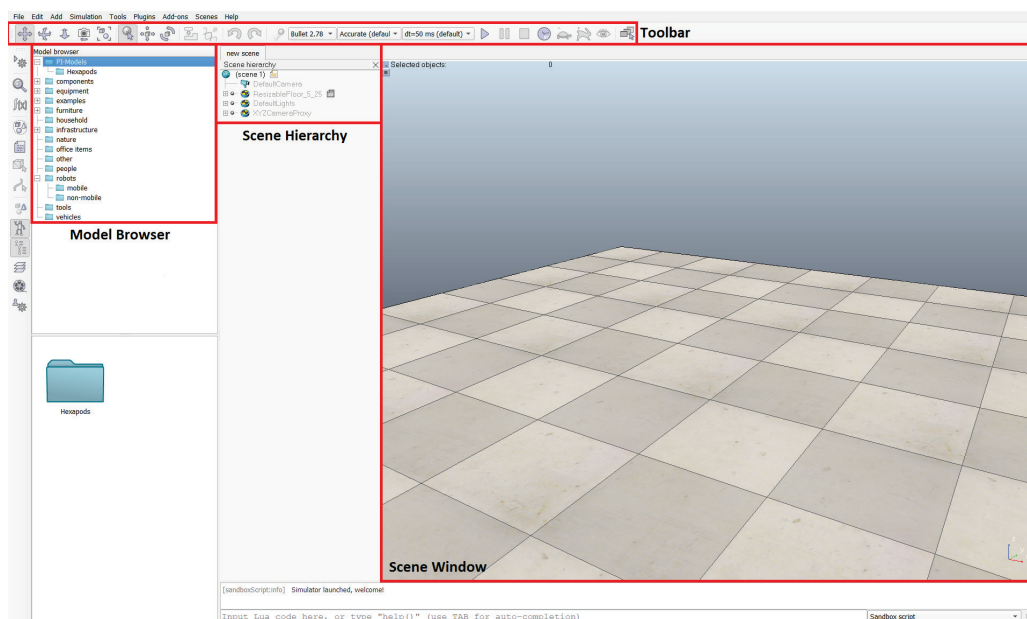
## Working with PI Simulation Models in Coppeliasim / V-REP

### INFORMATION

You do not need mechanics and controller to work with the PI simulation models.

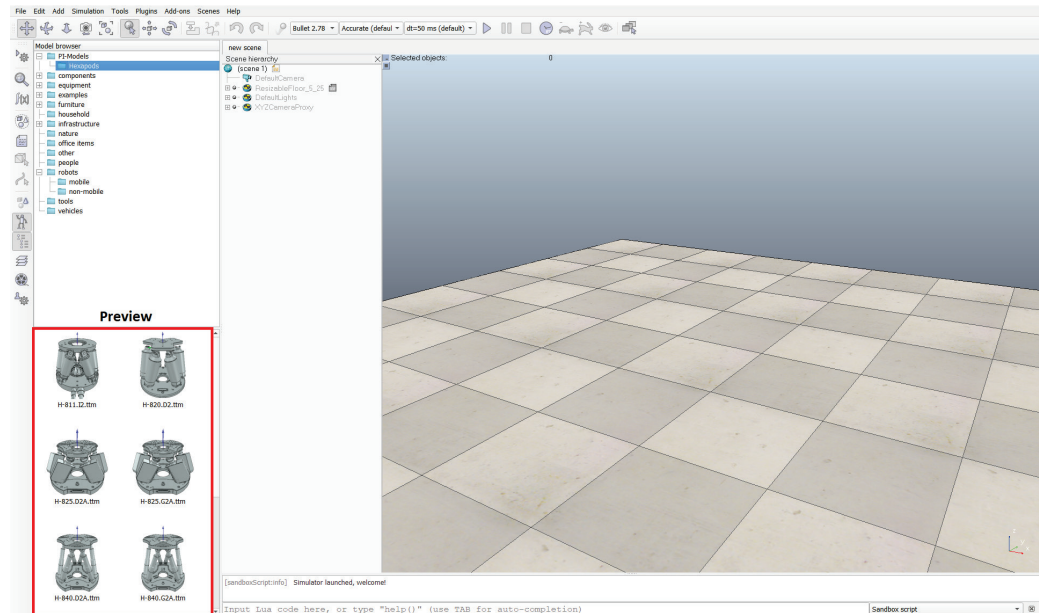
1. Start the robotic simulation application.

The application starts with the application window.



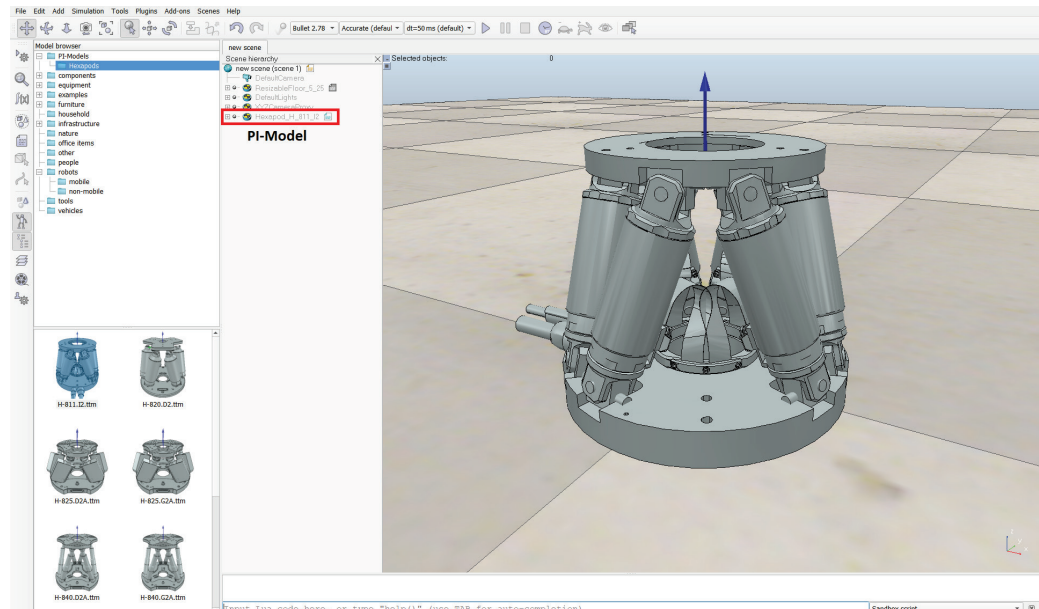
- In the application's **Model browser**, select the desired folder.

The preview below the folder list shows the individual models contained in the selected folder.

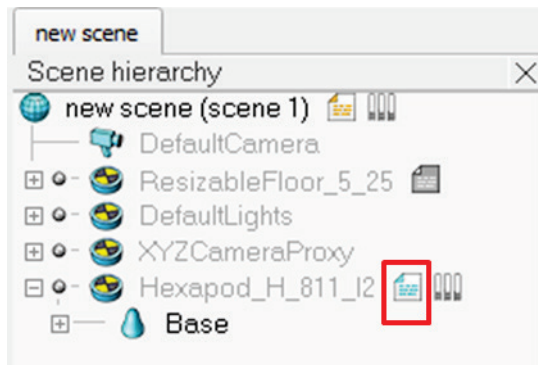


- Select the desired model in the preview window and drag it with the mouse into the application's scene window.

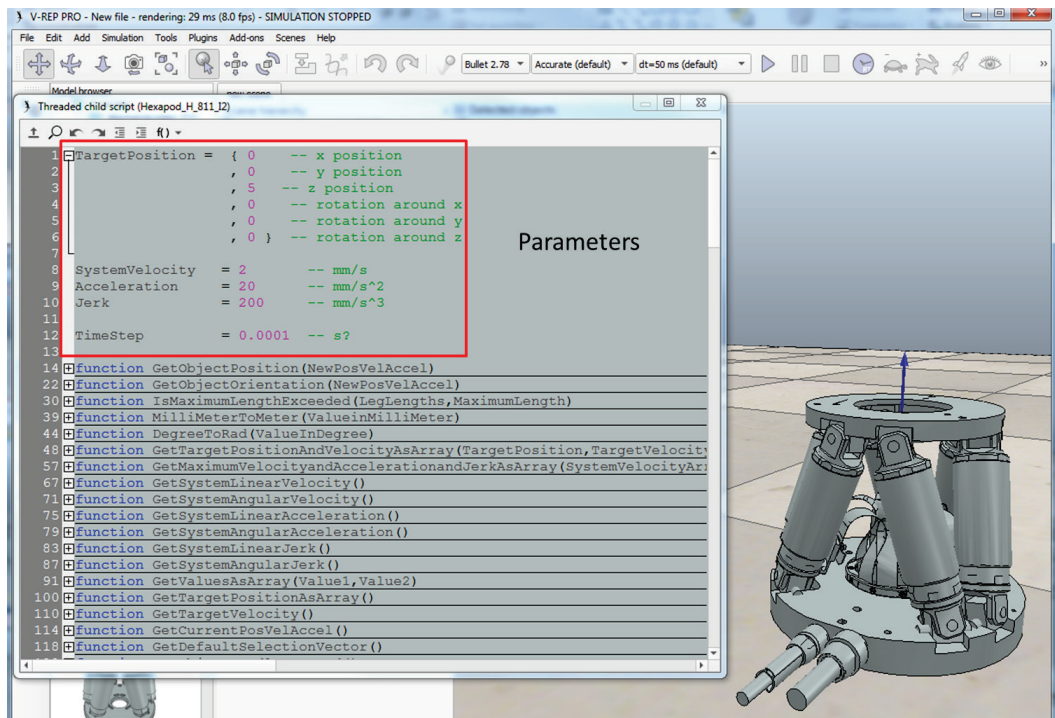
The selected model is loaded into the scene window and it is shown as an entry in the scene hierarchy in the **new scene** window.



- To set parameters for the simulation, click on the entry's script icon in the **new scene** window.



The model's script is opened, in which you can change the preset parameter values for the simulation (modifiable parameters are indicated by the box in the figure).



- Now you can start, pause, and stop the simulation with the set parameters via the start, pause, and stop buttons in the application's toolbar.

