



# USER GUIDE

CADverter VR

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## Overview of CADverter

### About Theorem

Theorem Solutions is a world leader in the field of Engineering Data Services and Solutions. This leadership position stems from the quality of our technology and the people in the company. Quality comes not only from the skills and commitment of our staff, but also from the vigorous industrial use of our technology & services by world leading customers.



We are proud that the vast majority of the world's leading Automotive, Aerospace, Defense, Power Generation and Transportation companies and their Supply chains use our products and services daily. Working closely with our customers, to both fully understand their requirements and feed their input into our development processes has significantly contributed to our technology and industry knowledge.

Theorem Solutions is an independent UK headquartered company incorporated in 1990, with sales and support offices in the UK and USA. Theorem has strong relationships with the major CAD and PLM vendors, including; Autodesk, Dassault Systemes, Icem Technologies (a Dassault company), PTC, SolidWorks, Spatial Technology and Siemens PLM Software. These relationships enable us to deliver best in class services and solutions to engineering companies worldwide.

## Theorem's Product Suite

Theorem have 3 main Product brands. These are:

*TRANSLATE*

Direct translation of 3D data to or from an alternate CAD, Visualization or Standards Based format.

See our [website](#) for more detail.

*PUBLISH*

The creation of documents enriched with 3D content

See our [website](#) for more detail.

*VISUALIZE*

Visualization for [Augmented \(AR\)](#), [Mixed \(MR\)](#) and [Virtual \(VR\)](#) Reality applications

See our [website](#) for more detail.

CADverter VR provides a quick and efficient workflow to enable users to visualize their CAD datasets in VR. Users can select parts or assemblies, convert them at a click of a button and then launch our Review Experience application where the data will be ready to visualize in an immersive environment.

Within this environment, users will be able to see their data in 1:1 scale to assist them in making better decisions and have the ability to use a range of tools such as manipulation of data, taking section cuts and take measurements.

CADverter VR comes as part of our Unified Interface application, it can translate all major CAD formats as long as the translator for that particular format is installed on the machine. There are 2 licence options – single viewer or multi viewer – with the multi viewer licence all converted models will be added to your library which can be viewed and selected from within the Review Experience application.

## Primary Product Features

- Quick workflow to go from CAD to VR
- Ability to translate all major CAD formats (dependant on translator installed)
- Visualise data in 1:1 scale
- Manipulate and transform data in VR
- Take measurements immersively
- Section data

## Primary Product benefits?

- Easy workflow to go from CAD to VR without the need of manually translating data into multiple formats
- Conversion powered by Theorems Translate products means data integrity is retained
- Unified Interface provides a user friendly GUI allowing the user to browse, convert and visualize data
- Integrated application allows you to launch the Theorem Review Experience soon as conversion is done, where the data can be viewed in VR
- With over 20 years industrial use Theorem's product robustness and quality is well proven, reducing your business risk

This document will focus specifically on guidance for the use of the CADverter VR. For information regarding any of Theorem's product ranges please contact [sales@theorem.com](mailto:sales@theorem.com)

## Getting Started

### Documentation

The latest copy of this documentation can be found on our web site at:

<http://www.theorem.com/Documentation>

Each product has a specific link that provides user documentation in the form of PDF and Tutorials.

### Installation Media

The latest copy of Theorem software can be found via our web site at:

<http://www.theorem.com/Product-Release-Notes>

Each product has a specific link to the Product Release Document, which contains a link to the download location of the installation CD.

Alternatively, you can request a copy of the software to be shipped on a physical CD.

### Prerequisites

CADverter VR can be in VR or desktop mode, for VR use we support all Major VR headsets such as the Oculus Rift, HTC Vive and Windows Mixed Reality headsets. In order for the VR headsets to run with CADverter VR please ensure you have setup and installed the relevant software for your headset:

Oculus Rift – Oculus App



HTC Vive – Steam VR

Windows Mixed Reality – Windows Mixed Reality Portal and Steam VR

### License Configuration



In order for the translation to run successfully, the Theorem license file provided to you needs to be configured using FlexLM. For a full guide to this process, please see our 'FlexLM License Set Up and Configuration' demonstration video located [here](#).

## Installation of CADverter VR

The installation is run from the CD or ZIP file download provided.

Currently, there are 3 distinct installation stages that are required.



Install the translators required, select the corresponding msi file for your chosen translator, for CATIA V5 to NX it would be for example ***CAD\_23.0\_CA5NX\_WIN.01.msi***. Follow the installation process, for a full guide to the process, please see our 'Translator Installation Process' demonstration video located [here](#).



Install the Theorem Unified Interface, to do this launch ***CAD\_24.0\_UI\_WIN.01.msi*** file. For a full guide to this process, please see our 'Unified Interface' demonstration video located [here](#).



To install CADverter VR, select the ***CAD\_24.0\_CADVERTERVR\_WIN.01.msi*** file and follow the installation process. For a full guide to the process, please see our 'CADverter VR Installation Process' demonstration video located [here](#).

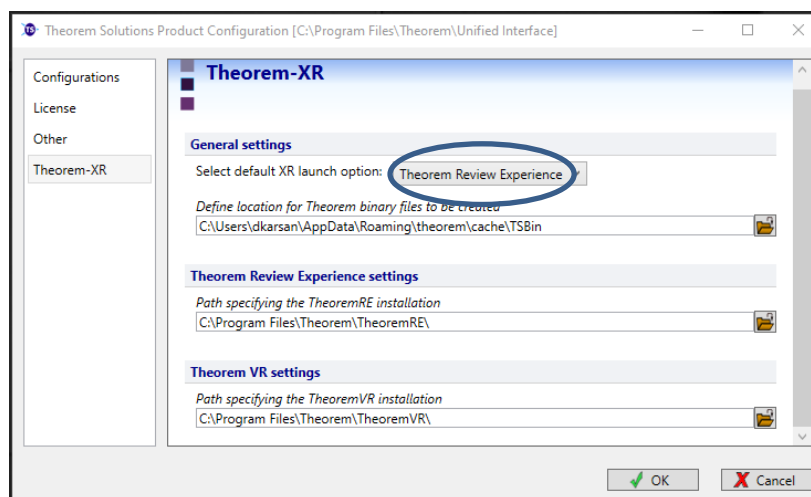
## CADverter VR Configuration

When you complete the installation stages above, you will need to specify your VR device in the Unified Interface Product Configuration. This configuration will run automatically after installation or you can manually run it from the desktop/Start menu shortcut or from the Unified Interface installation directory:

**<UI\_installation\_directory>\bin\Configure.exe**

There are 4 XR launch options to choose from the drop down menu:

1. Theorem Review Experience (this is the desktop version of the application)
2. Vive
3. Oculus
4. MSIR



Select the launch option which applies to your setup and click OK to save the configuration.

## Running the Product

Once configured and licensed, the product is ready to be run.

Prior to running the product you must ensure that you can access a licence to the CAD platform for your chosen formats, e.g. CATIA V5 for .catparts and .catproducts, on the machine you use.

The product can only be used and launched with 1 method:

- Via the Theorem Unified Interface



- The Unified Interface offers a Desktop Environment that allows CAD and Visualization data to be viewed pre and post translation



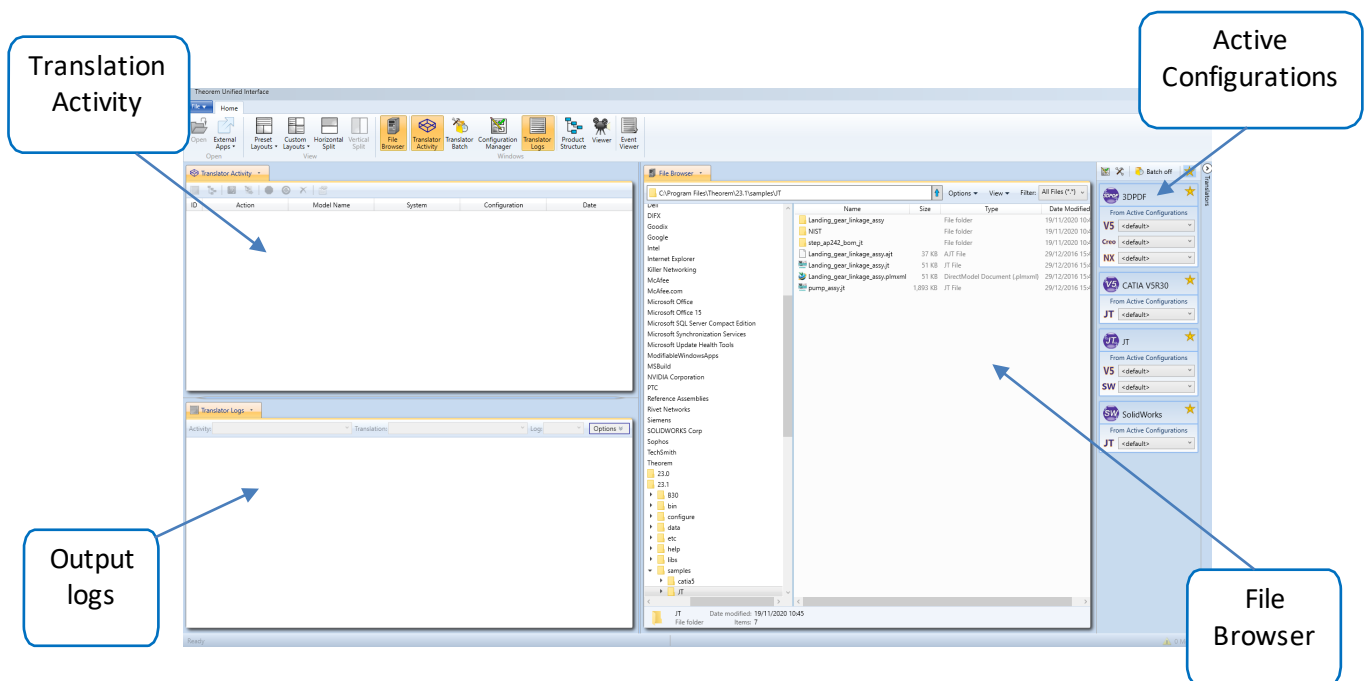
The Unified Interface can be started via the Start Menu – if a shortcut was added during installation.

Alternatively, the Unified Interface can be run via a Windows Explorer selection in:

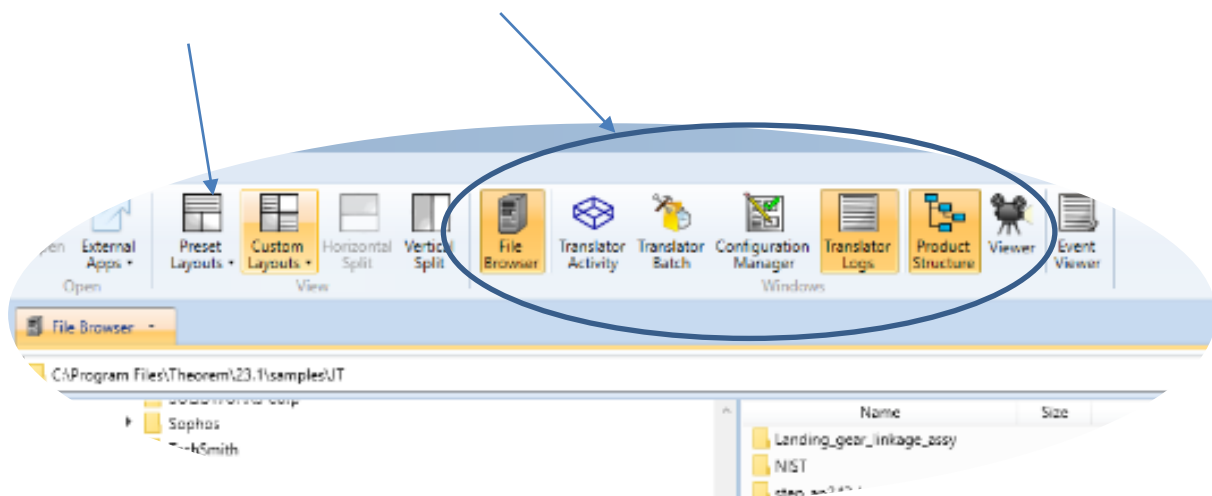
**<UI\_installation\_directory>\bin\Unified\_Interface.cmd**

## Using the Product

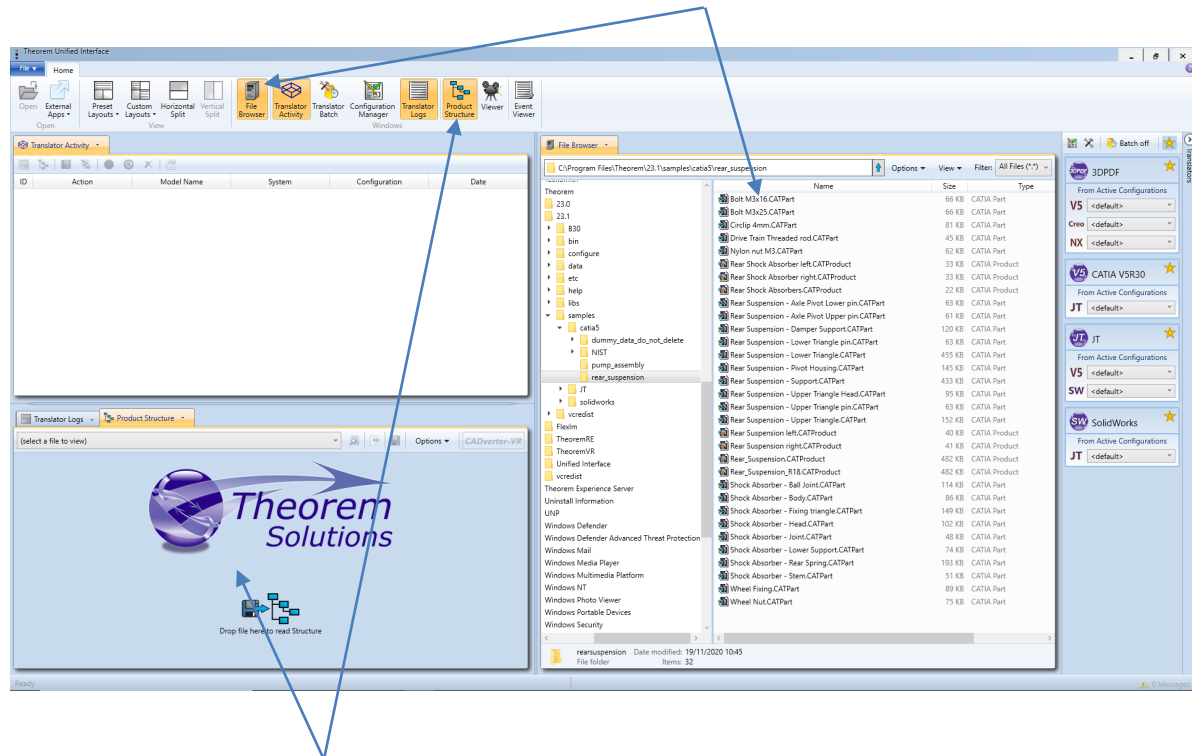
The following interface will be launched, the default layout is split into 4 primary areas:



The layout of the windows can be modified by selecting a Preset layout and windows can be shown or hidden by activating one of the windows:

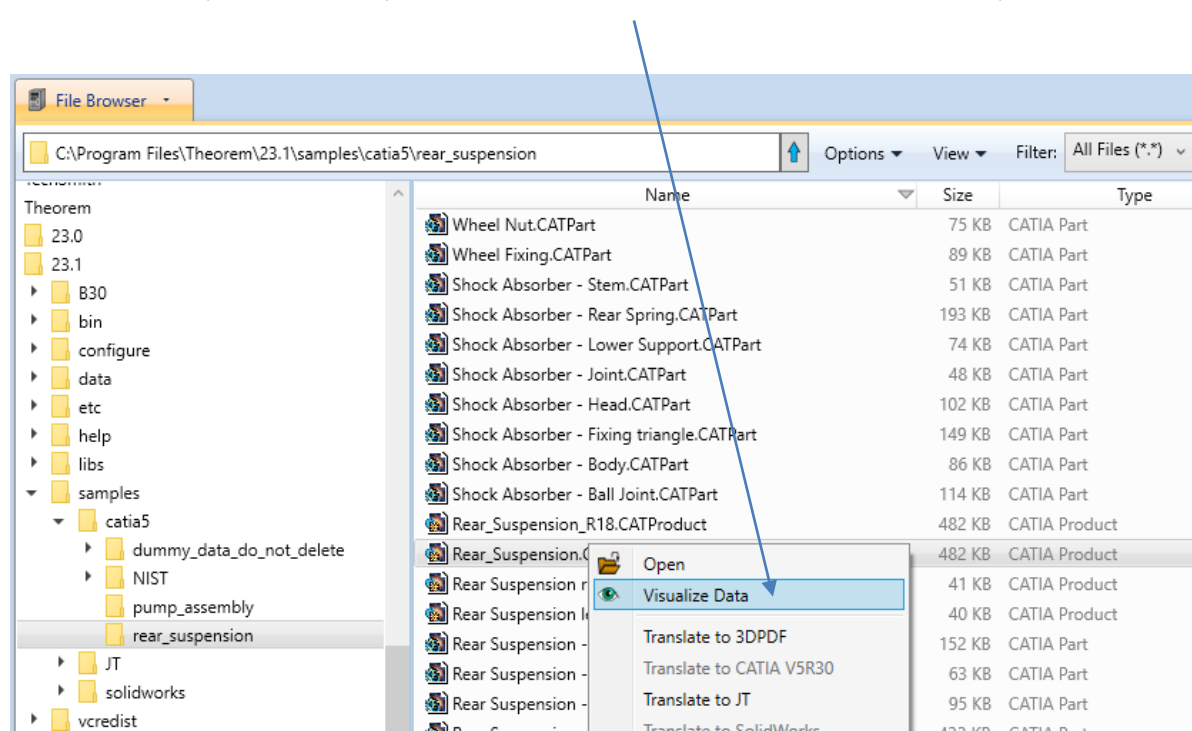


To use CADverter VR, first make sure you have the file browser window open:

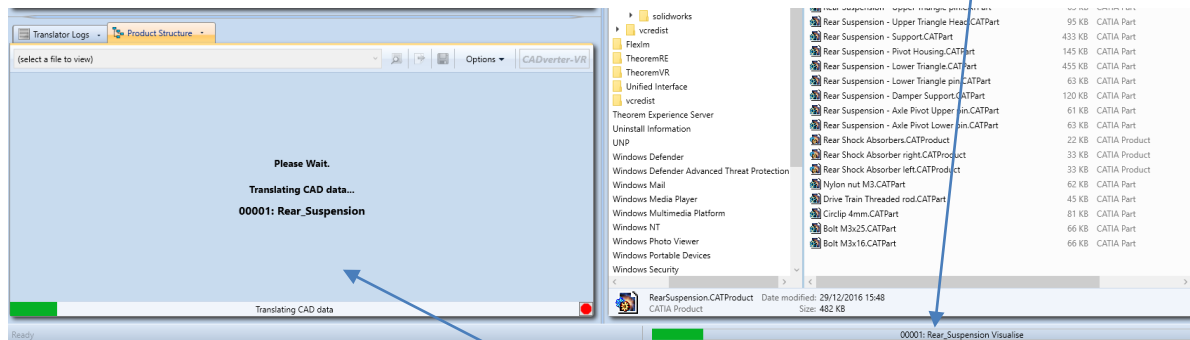


Then activate the Product Structure window.

In the file browser window, navigate to the directory where your CAD geometry is located, right mouse button click on a part or assembly file, then click Visualize Data to start the conversion process:



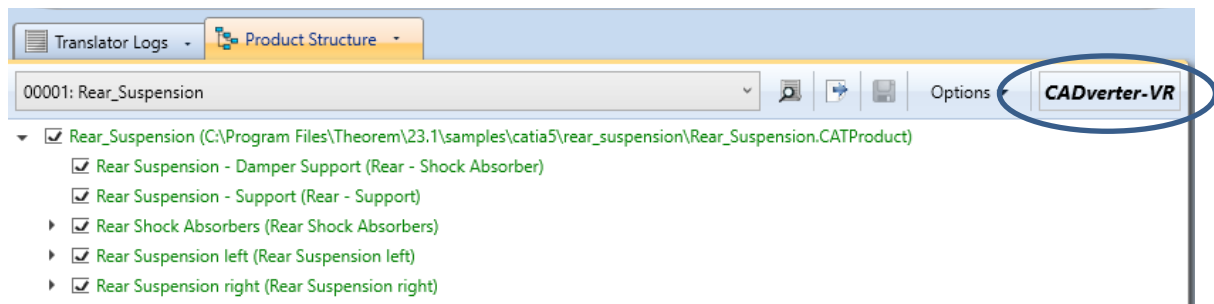
The time the conversion takes to complete will depend on the size of the data, at the bottom of the UI window you will see the process bar to alert you that a conversion is taking place.



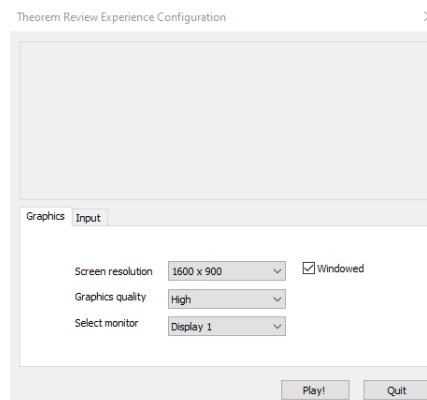
The Product Structure window will also show the process bar at the bottom and display a status “Translating CAD data” followed by the name of the dataset.

Once data is converted, the Product Structure window will be populated with the data’s tree structure, the structure will appear in green to show that the conversion has completed successfully.

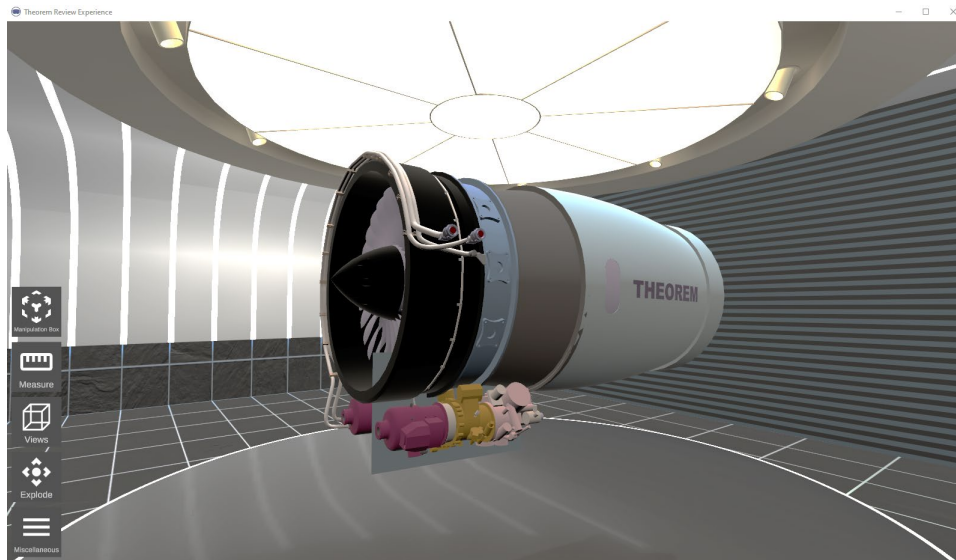
The CADverter-VR button will also appear, this means the data is ready to launch in VR, click this button to launch the data in Review Experience application:



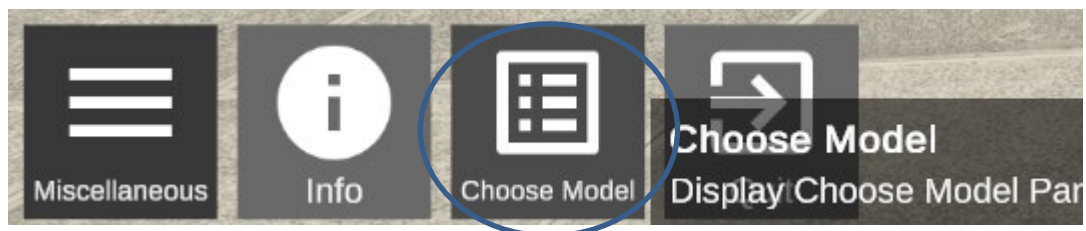
In the next window, you have the option to make changes to the configuration of the Review Experience application such as resolutions and Input controls. Click on Play! to continue launching:



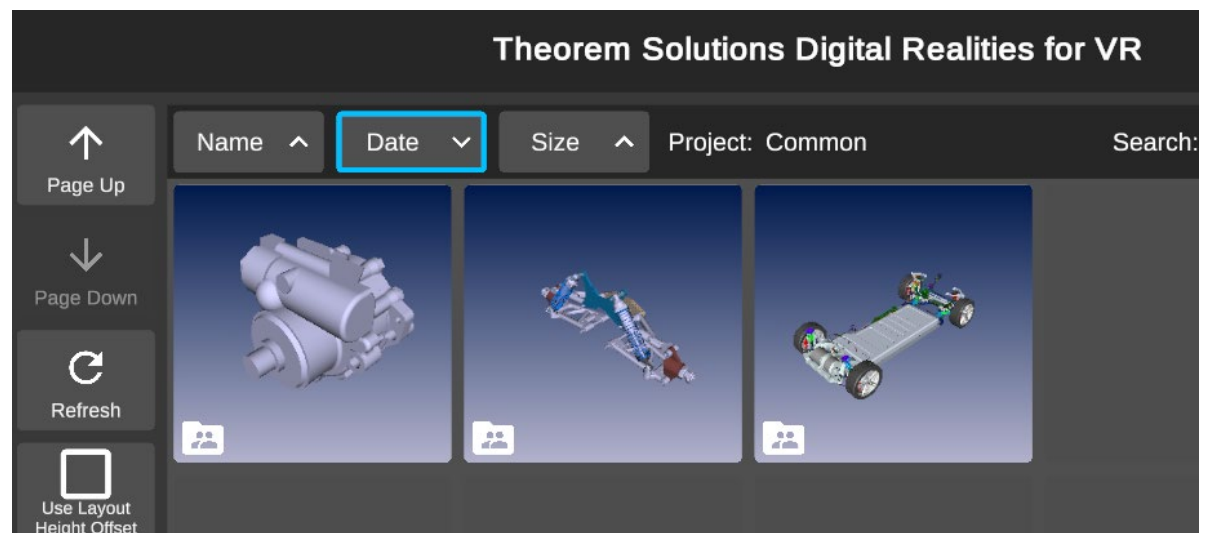
Your data will be shown in the Review Experience application, details on how to navigate within the application are found [here](#).



Users with a Multi user licence will be able to view previously converted models in a library within the application, this can be accessed by going to Miscellaneous > Choose model:



Here you can view and select a model to be loaded into the application without the need to go back into the UI:



## Troubleshooting

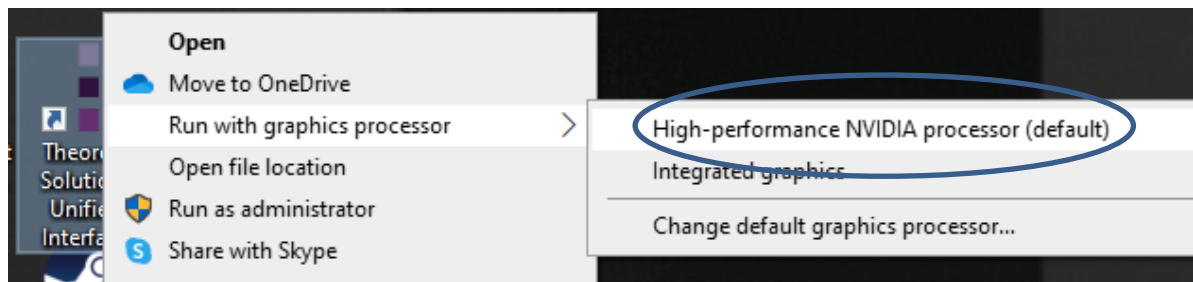
If your machine contains 2 graphic cards, by default the Unified Interface will run using the integrated onboard graphics, this can cause slow performance for viewing models within the UI and thumbnails\* will not be shown in the library within the Review Experience application for converted models.

**\*this feature is applicable for users with the multi view licence which allows previous converted models to be added and viewed in the library**

## Switching Graphics Cards

There are 2 ways to run the UI with the High Performance Graphics card:

1. Right click on the shortcut > go to Run with graphics processor > then select High-performance NVIDIA processor:



2. For NVIDIA GPU's, set the default graphics card as the High-performance NVIDIA processor as the preferred graphics processor in the NVIDIA Control Panel:

