AUTODESK UNIVERSITY 2013

Understanding Autodesk® Revit® Visualizations with Autodesk® 360 Rendering

Jochen Tanger – Autodesk
Emmanuel Di Giacomo – Autodesk

Class ID AB2873

This class provides answers to at least the following questions: How many cloud credits do I need for my renderings? What are sun study, panorama, and illumination renderings? What is the alpha channel option for? Why does my background image not show up or why is it displaced? How can I download cloud renderings? Is there an offline viewer for panorama renderings? How can I share my renderings without sending them by email? We address these and other rendering questions.

Learning Objectives

At the end of this class, you will be able to:

- Use and understand the functionalities of Autodesk 360 Rendering
- Explain what cloud credits are and how many are needed for renderings
- View Autodesk 360 panorama renderings offline
- Be more efficient with visualizations out of Autodesk Revit software

About the Speakers

Jochen Tanger

Technical Sales Specialist , Autodesk

Based in Munich, Germany, Jochen works as Technical Sales Specialist at Autodesk for more than nine years. Since Autodesk decided to market Revit in Central Europe in 2004, he presents, sells, trains and supports it to resellers and customers. Today he is still responsible for Revit Architecture and Structure but also for all BIM and Autodesk 360 products and solutions.

Jochen holds a 'Diplom Ingenieur' degree in civil/structural engineering from the university "Ostfalia Hochschule für angewandte Wissenschaften". After his studies he worked as a consultant for IBM until he decided to work for Autodesk in 2003.

Emmanuel Di Giacomo

AEC Technical Specialist , Autodesk

Emmanuel has been working for more than 11 years at Autodesk. With more than seven years of experience as a BIM solutions expert on Autodesk Revit in Europe, Emmanuel Di Giacomo has a degree in architecture - 1993 - and has more than 23 years of experience in 3D technology for the architecture and building industry.

Actually owning the position of BIM Technical Expert for Autodesk France, he promotes BIM solutions in France's major architectural practices, design offices and construction companies in the building industry. He also ensures their technical and relational follow up as well as Autodesk's Channel Network mentoring.

He also trained some famous architectural practices in Europe in advanced modeling like Zaha Hadid Architecture.

Formerly AEC Marketing Manager for 3 years at Autodesk and also product manager for 3 years in another company. Finally, he also loves making his Utopic City evolve and has many followers in the world: www.facebook.com/revitarchitectureutopiccity

Autodesk 360 Rendering – Getting started

Getting started with Autodesk 360 Rendering

This AVI shows how to start and use the cloud rendering:
http://usa.autodesk.com/adsk/servlet/ps/dl/item?siteID=123112&id=17812620&linkID=17690248

What are cloud credits and how many do I have?

Cloud credits are the unit of measurement required to perform certain tasks, such as **creating a rendering** or running a simulation, in Autodesk ® 360.

Users receive 100 cloud credits per license for every year of Subscription purchased. LT point products are excluded. The cloud credit allocation is flat across all products and suites. For multi-year contracts, annual allocations are issued each year of the contract.

Product/Suite	Annual	Quarterly	Monthly
All Suite Levels, including LT Suites (Subscription)	100	N/A	N/A
All Suite Levels, including LT Suites (Rental Plan)	100	30	10
Point products (Subscription)	100	N/A	N/A
Point products (Rental Plan)	100	30	10
LT Point products (Revit LT, Inventor LT, AutoCAD LT)	N/A	N/A	N/A
Autodesk ® 360 (baseline)	N/A	N/A	N/A
Standalone service	Depends on Service	Depends on Service	Depends on Service
Trial (minimum value)	Depends on Service	N/A	N/A

Cloud credits are available for purchase from the Autodesk e-Store, Autodesk resellers and Autodesk direct sales.

To purchase through Autodesk Store: Go to Subscription Center or accounts.autodesk.com and select “buy more cloud credits” to a specific contract to purchase. This will take you through a

guided Autodesk Store experience.

Cloud credits are sold in packs of 100 for $100USD, based on US SRP.
For more information about cloud credits in general see:

http://usa.autodesk.com/adsk/servlet/ps/dl/item?siteID=123112&id=17980122&linkID=17690248

How many cloud credits do I need for my Renderings?

Cloud credits are charged per megapixel (MP), and at different rates depending on the size, quality, and type of rendering.

- Renderings of single images at Standard quality under 1 MP are free.
- Renderings over 1 MP at Standard quality cost half a cloud credit per total number of MPs.
- Renderings of any size at Final quality cost one cloud credit per total number of MPs.

A megapixel (MP) is one million pixels. It is used as a unit of measurement for cloud credit charging when rendering.

You can calculate the number of MPs a single rendering will be by multiplying the width and height values in the Render Settings window. For example, if you set the width and height to be 1500 px and 1029 px, respectively, the total MPs for the rendering will be 1,500 x 1,029 = 1,543,500 px, or 1.54 MPs. If you render 6 views in Revit at this size, you would be requesting 9.24 MPs.

Solar Studies and Panoramas consist of more than one frame, so to calculate the total MPs in these renderings, you need to multiple the MP in each frame by the number of frames. Panoramas require 6 frames each.

Cloud credit charges are always rounded to the nearest integer. You will never be charged fractional cloud credits for a job.

For example, for a single rendering of 5.5 MPs at Standard quality, calculations are as follows:

5.5 MP X 0.5 cloud credits/MP = 2.75 cloud credits
The 2.75 cloud credits are rounded to 3.

For more information see here:
http://docs.autodesk.com/ADSK360/help/ENU/rendering/index.html?url=files/GUID-4496707E-30AC-4581-B937-25FE31A89EE8.htm,topicNumber=d30e2911

What's the difference between Standard and Final render quality levels?

- **Standard quality** gives you a rendering that is adequate for seeing the results of your render without using a large number (or any) cloud credits. Standard renderings may be good enough for your needs in some cases, but are not necessarily of high enough quality to provide, for example, to a client as final presentation material. Standard quality renderings will, however, give you a very good sense of what the Final version will look like.

- **Final quality** gives you a high quality rendering that you can use to share with interested viewers. Final quality renderings require more cloud credits, so you should test at Standard quality before creating a Final render.

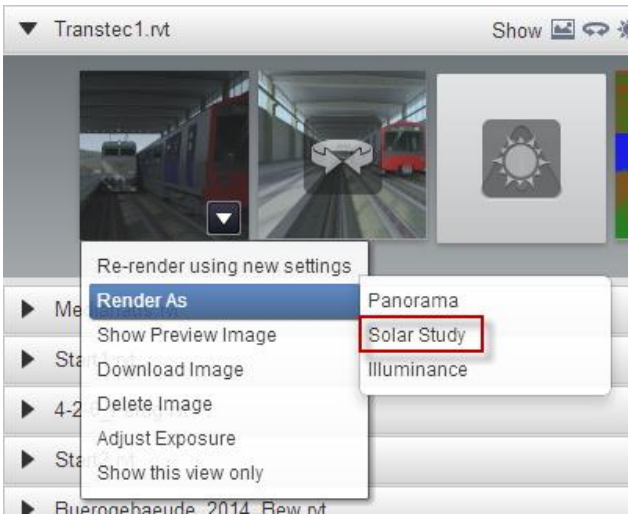
Standard

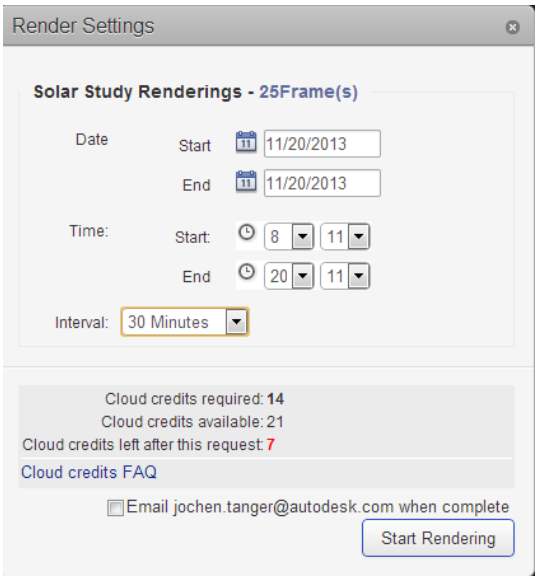
Final

What is a solar study?

Since January 2013 solar studies are possible within Cloud Rendering. You can compare them with the solar studies in Revit itself, but they are fully calculated within the cloud.

Solar studies cannot be rendered directly, you first need to render a 3d view and then rerender it in the cloud as solar study



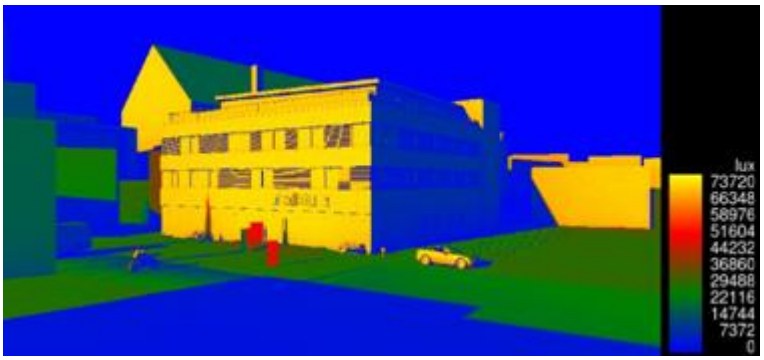


The final solar study can be watched as AVI in the Autodesk 360 account

Or you can download it as a series of pictures:

What is an Illuminance rendering?

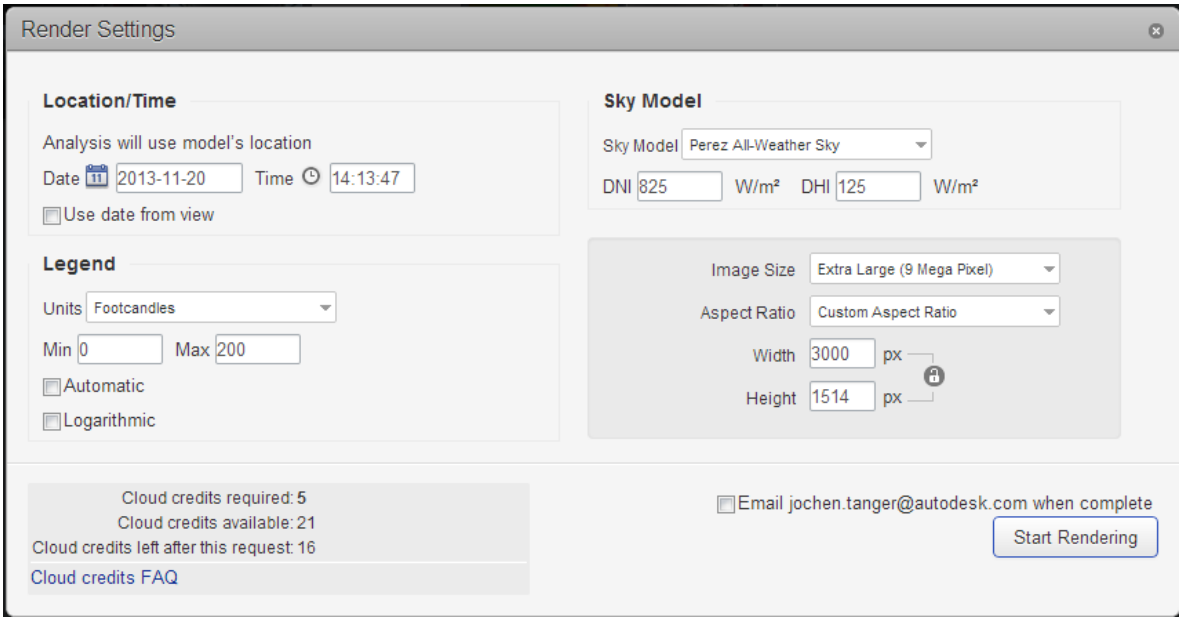
This option allows you to render a picture showing the brightness of every single point in the model, either through daylight or artificial light.



New since Novmber 2013 are physically based Illuminance studies: They give you much more control over sky and lighting in your Illuminance studies. Choose Sky Model (level of overcast),

Location (global position, day, and time), and Legend (unit of measurement for light). There is also an option to use the settings contained in your Revit model.

NOTE: you must install Revit 2014 UR2 to use these new Illuminance settings.



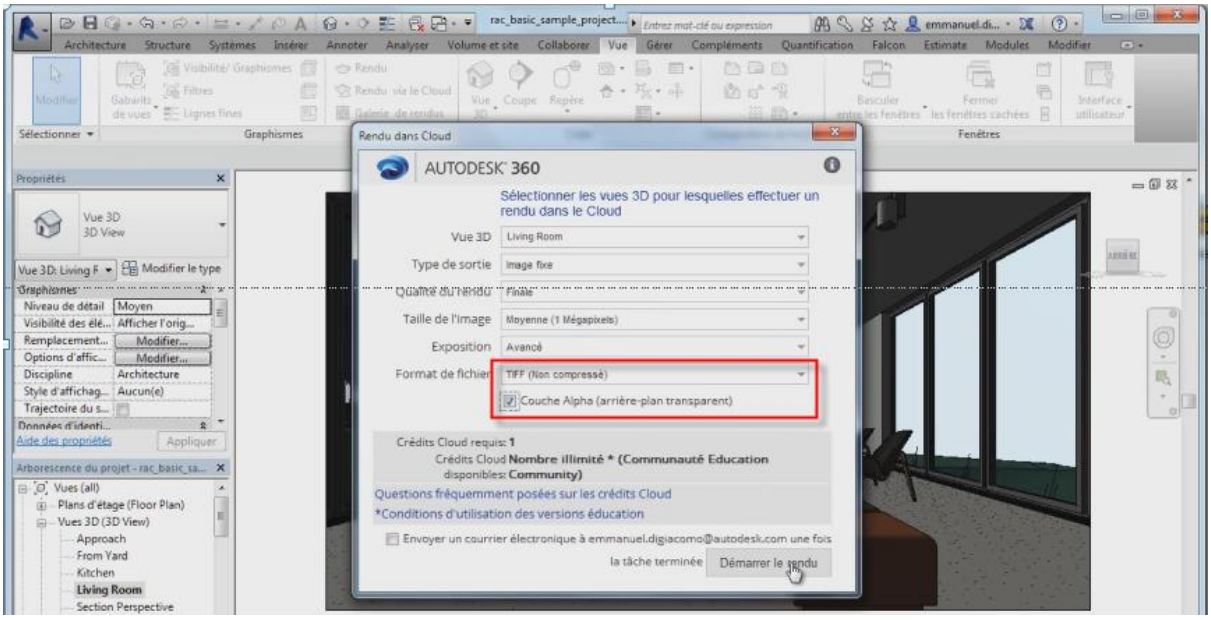
Exposure: Advanced or Native

Native: Rendering uses same exposure than Mental Ray in Revit uses

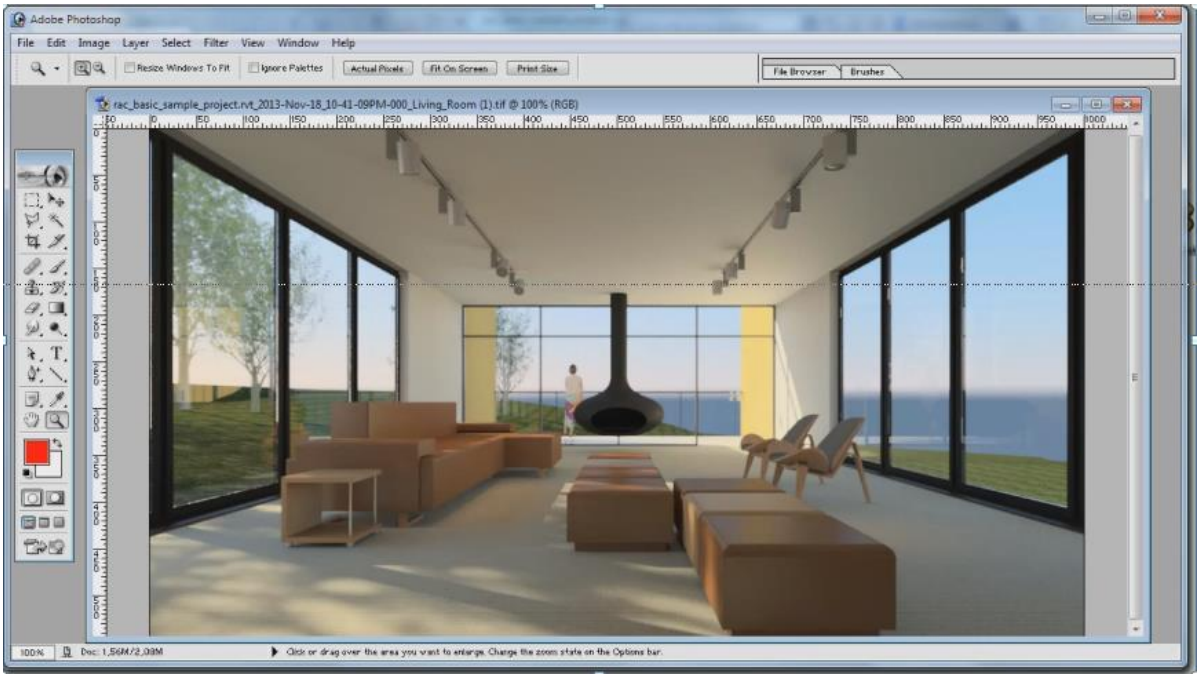
Advanced: Optimized Rendering and exposure, can be compared with HDR photography

Using an alpha channel with a TIFF image

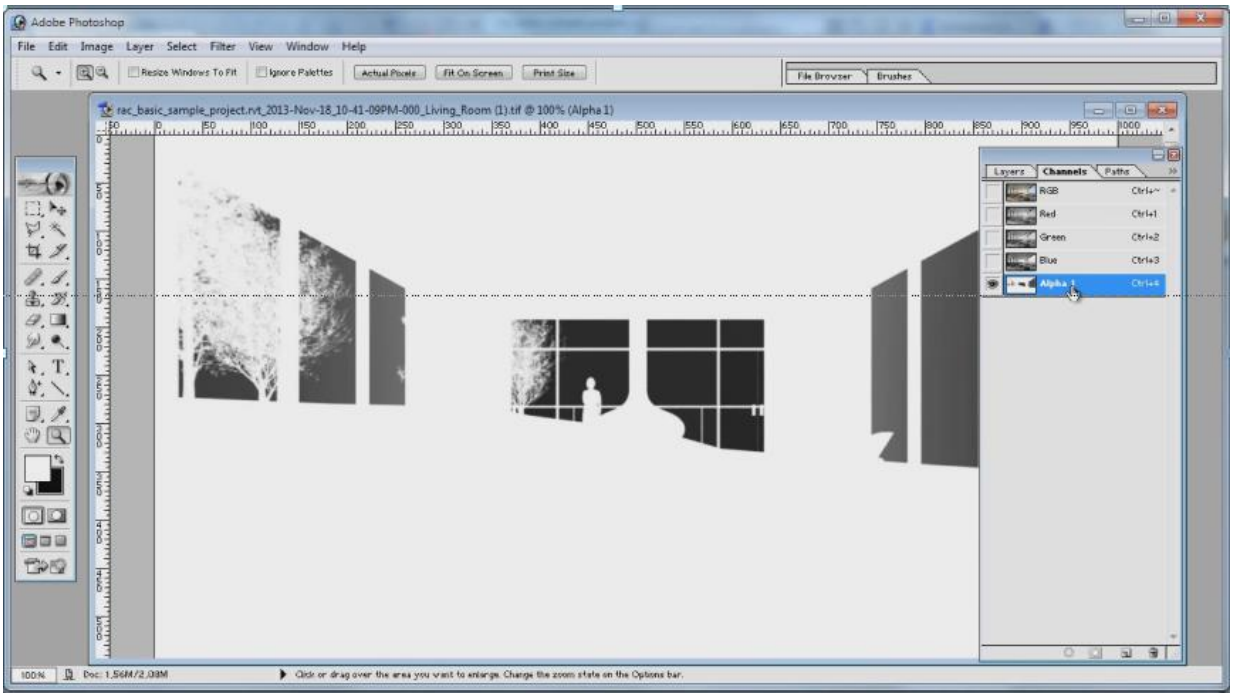
If you need to make environmental insertion for your projects, you may need to work with an alpha channel to perfectly crop your image and use the transparent channel to place something underneath it.
Step 1 in Revit, create your rendering using the TIFF format desired and checking the “Alpha Channel” check box.



Open it in Adobe Photoshop like below.

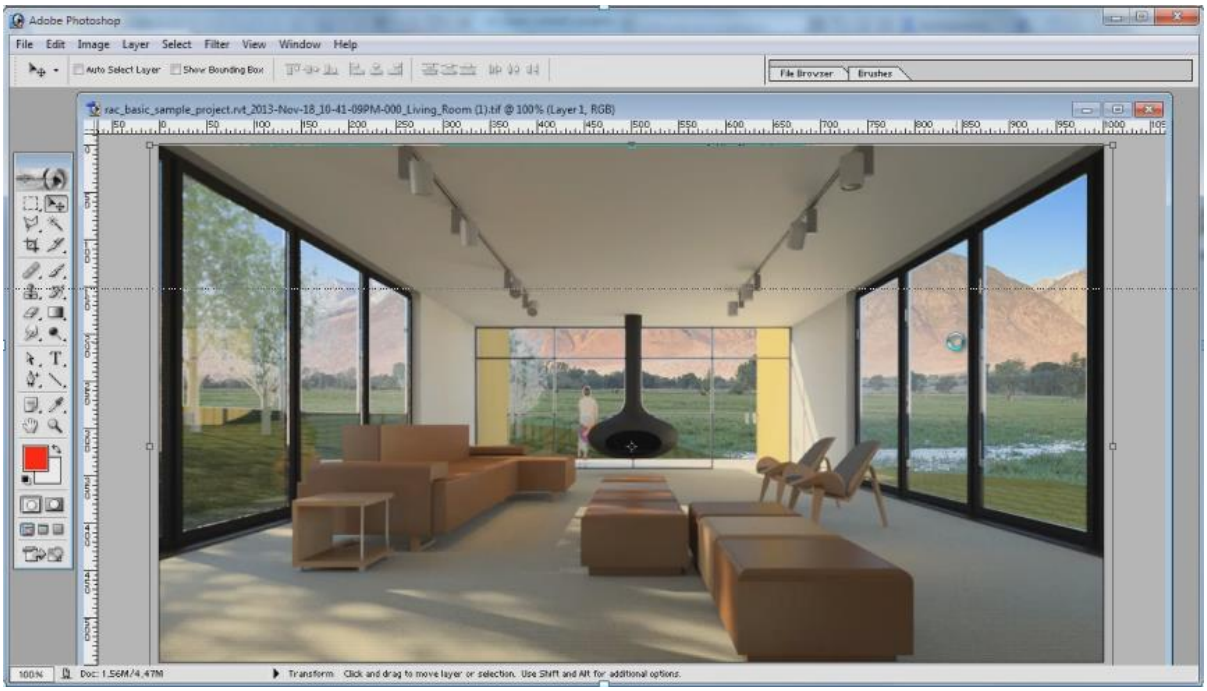


Play with the Alpha Channel to verify if it works correctly.



Now you're going to put an image in background.

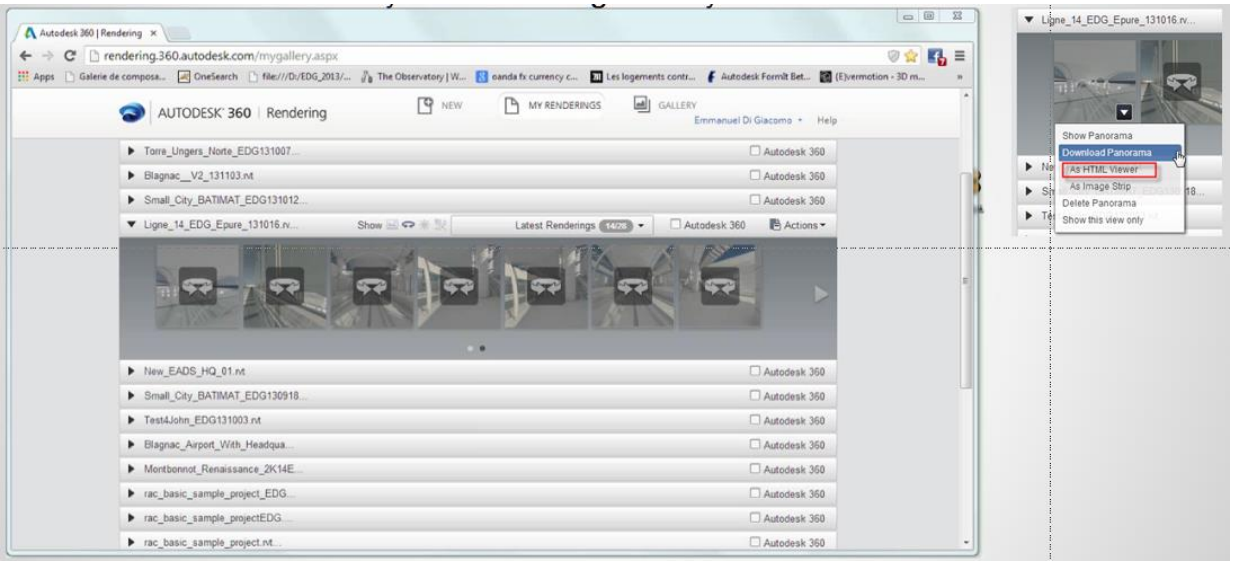
Play with it, rescale it, etc. An Alpha Channel will really help you achieve these results!


Adobe Photoshop
File Edit Image Layer Select Filter View Window Help
rac_basic_sample_project.rvt_2013-Nov-18_10-41-09PM-000_Living_Room (1).tif @ 100% (Layer 1, RGB)
Doc: 1.56M/4.47M
Transform: Click and drag to move layer or selection. Use Shift and Alt for additional options.

Autodesk 360 Rendering – Sharing your projects – Online & offline

HTML file download from your Rendering Gallery (Panorama)

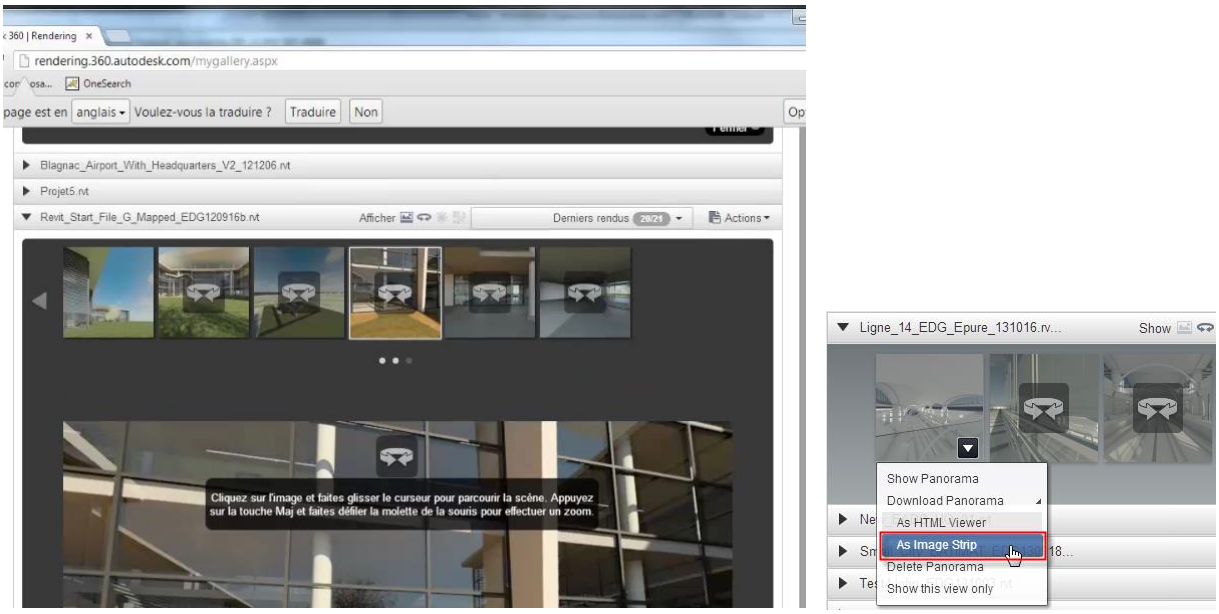
In Autodesk 360 Rendering Gallery, you can choose to download an embedded HTML file that you will be able to view offline on your Desktop Computer. Once downloaded, you can navigate with your mouse in a cubic environment and decide to move back to the original location by clicking on the "Home" button. This is the Autodesk viewing technology offered with Autodesk 360 Rendering.



Autodesk 360 Rendering – Panorama viewers

1. KubeGL.exe

This is a kind of home made cubic panorama viewer that you can find on the web. The process is very simple. First, just download a strip of panorama image by selecting the right drop down menu underneath the panorama like shown below and select the "Download Panorama" as Image Strip like shown below.

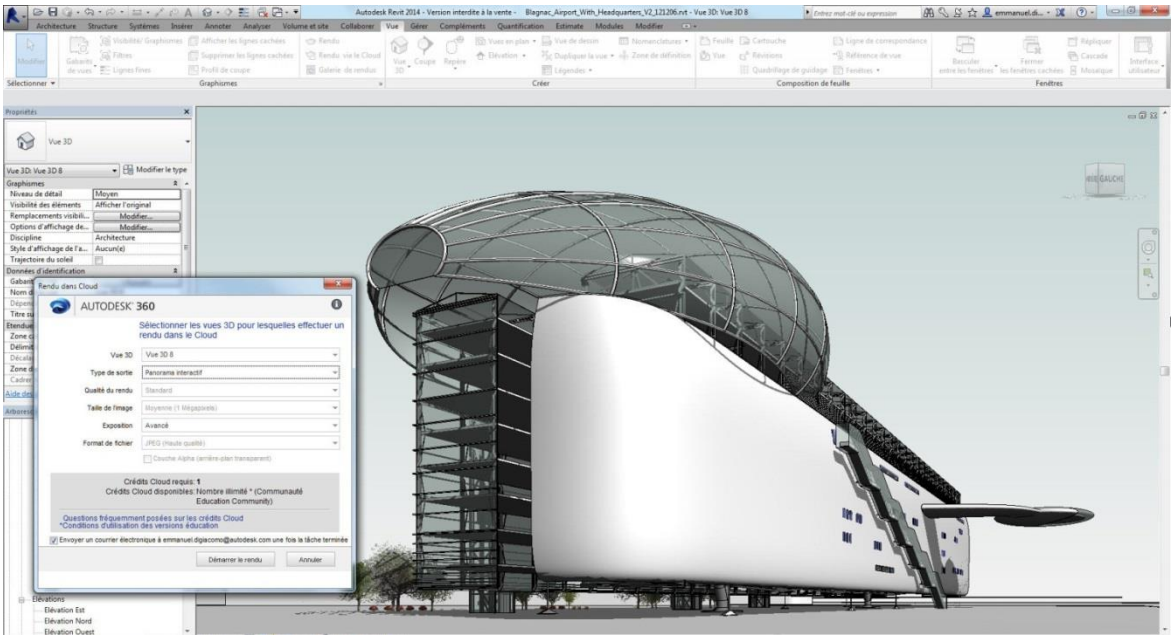


Then open "KubeGL.exe" and select the image from the open image menu. KugeGL.exe will switch your monitor resolution and will play your panorama automatically.

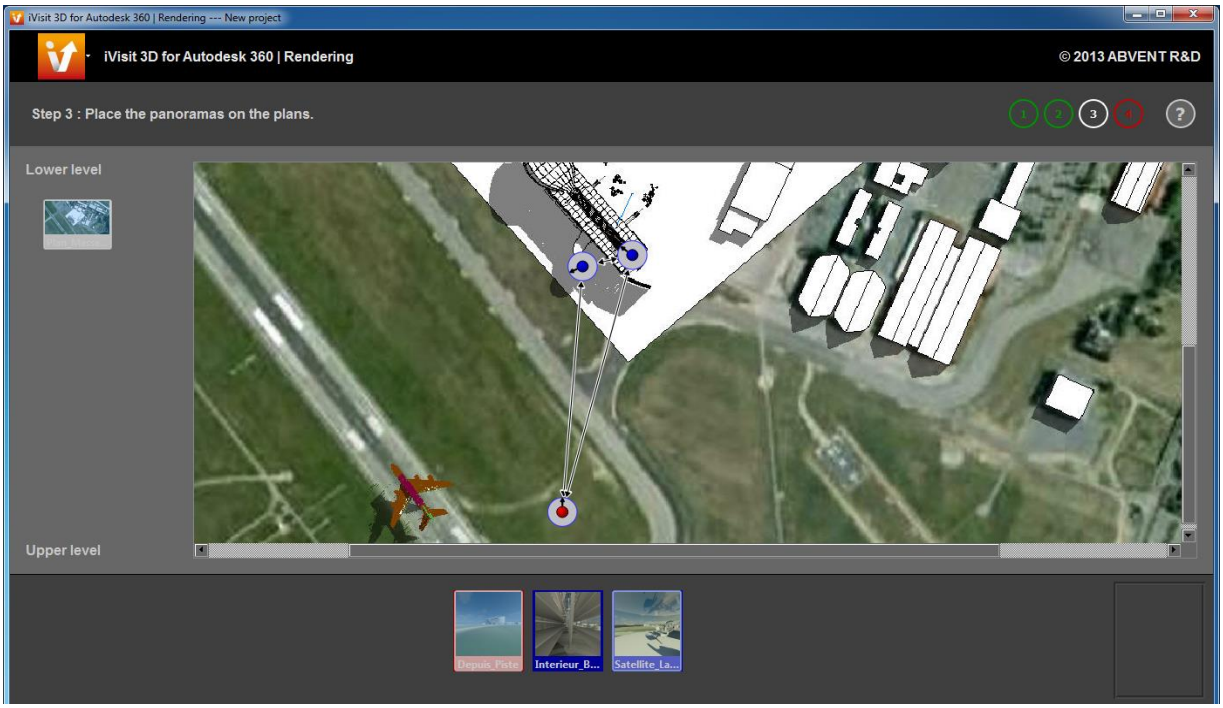
2. iVisit 3D for Autodesk 360 Rendering – The what!

You want to see the most advanced panorama viewing technology? iVisit3D for Autodesk 360 Rendering is for you. It will allow you to create interactive multinode panoramas for any platform (Android, iOS, Windows).

iVisit 3D for Autodesk 360 Rendering – the how



Connect to your Autodesk 360 account and launch your rendering calculation in the cloud. Calculate the different camera viewpoints as Panorama images. Create large, vertical images with six different views of a project. Launch your panoramas calculation on Autodesk 360 Rendering, and when it's done, just download them to your computer from Autodesk 360 Rendering Gallery.Import your images in iVisit 3D and create the navigation

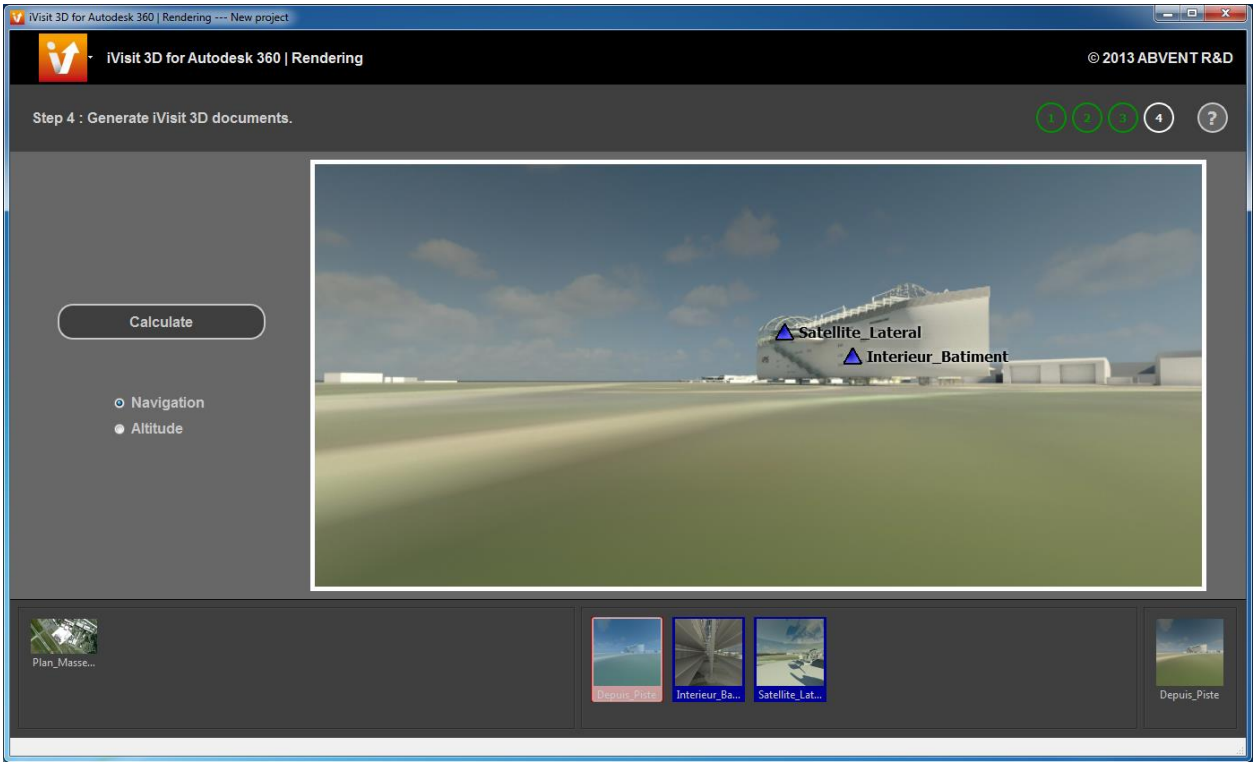


iVisit 3D works on both Mac and PC. Simply import your panoramas and, if necessary, the plan views of your project. Link all the panoramas together and position them on the plan views. The links created in this step will bring the navigation between nodes in your final iVisit 3D panorama.

Calculate iVisit 3D panoramas in Flash format or view on a mobile device

Once your panoramas are linked altogether and after testing the navigation, simply calculate the final iVisit 3D Panoramas in both HTML and PNO formats. HTML allows you to upload your panorama to a website, while the PNO format allows you to view your panorama on an iOS or Androïd mobile device. The PNO file can be transferred to your tablet or smartphone through different ways using Dropbox, box.com and iTunes.

It's a very easy 5 steps process in 5 minutes, compiling for all the Market platforms…

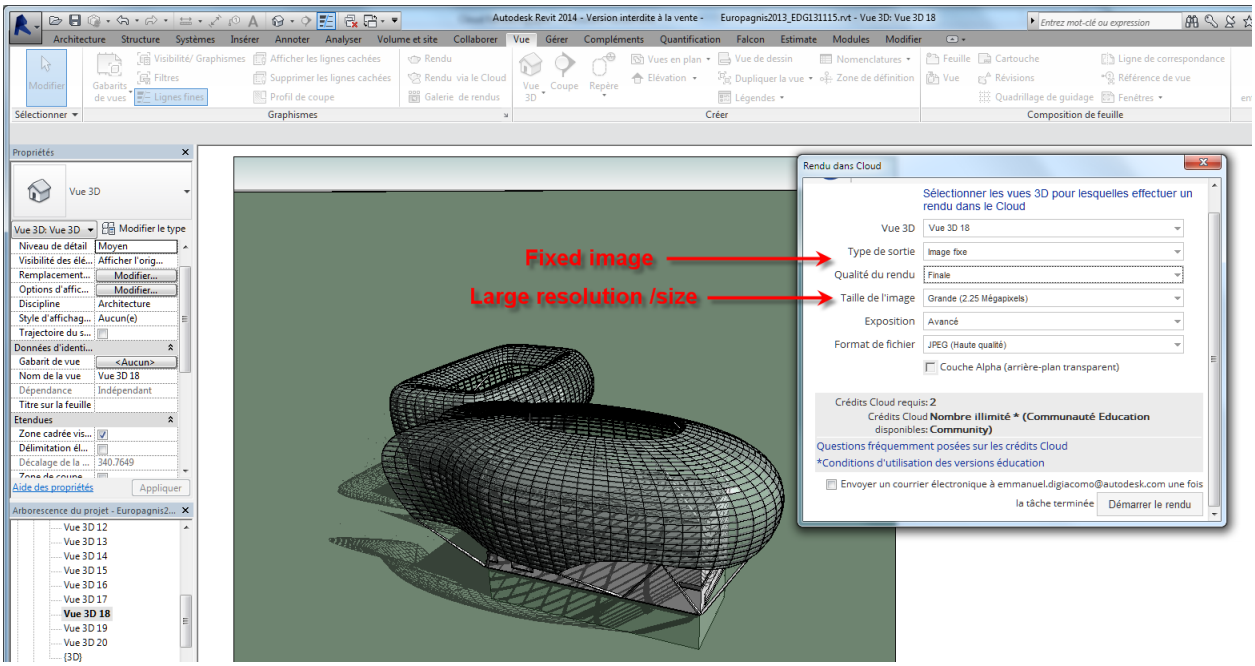


Autodesk 360 Rendering – Tips & tricks

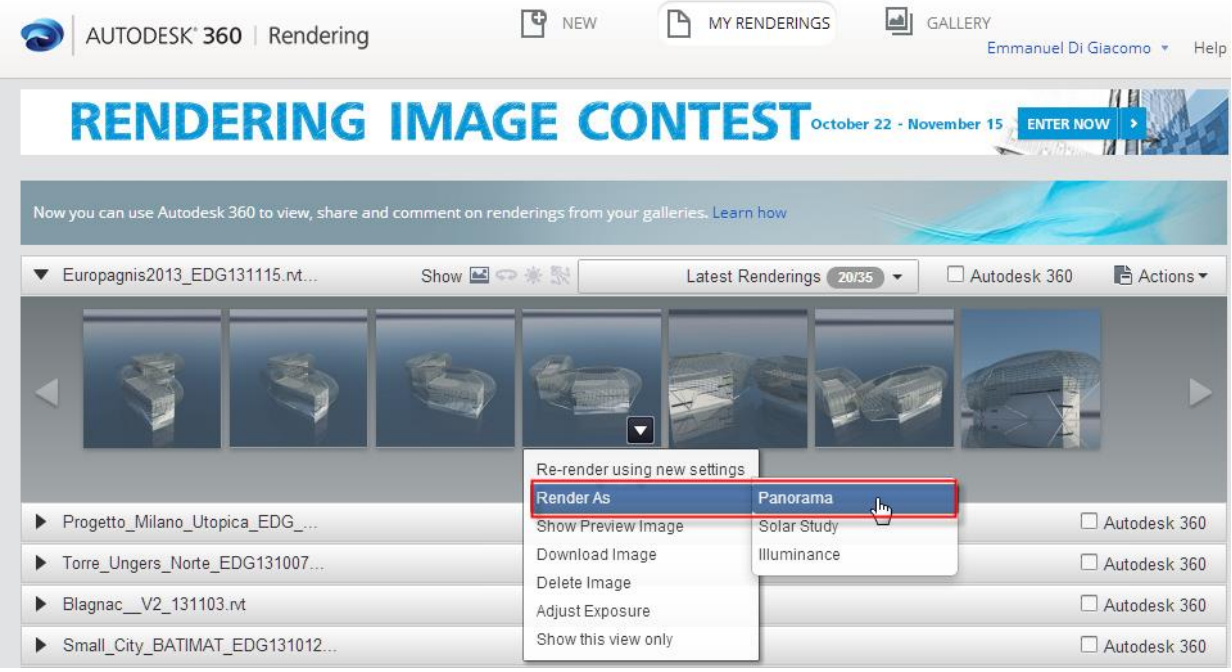
Want a large panorama for a high resolution screen/projection?

If you want to display a large panorama on a high resolution screen/projector, you have to calculate it in hugh resolution. But it's a specific process. You have to first :

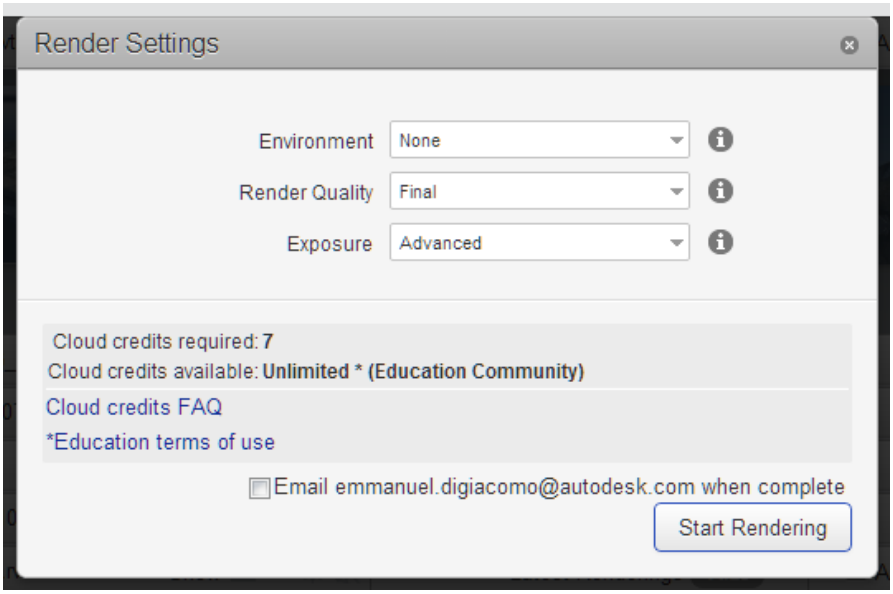
Launch a fixed image rendering in the right dimension /resolution



Then, from your rendering gallery, launch back again the same calculation but ask to "render as panorama"



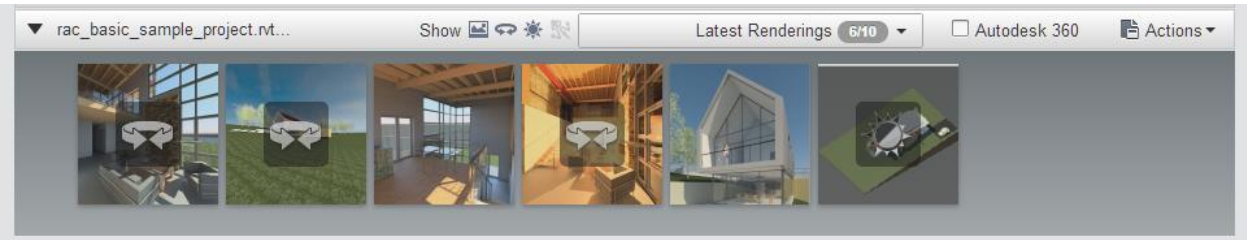
And don't forget to ask for the right resolution !



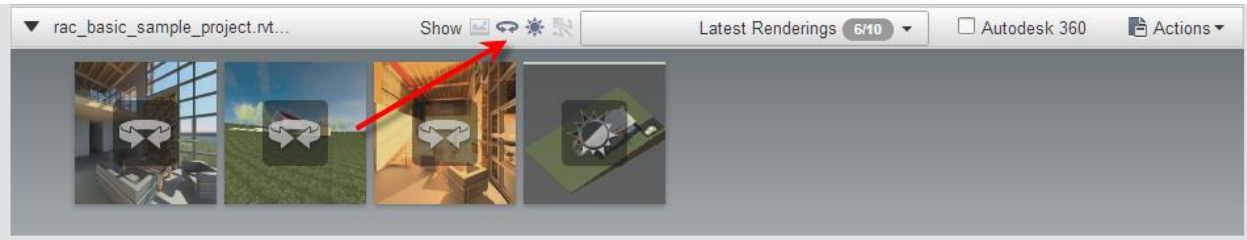
Fast panoramas download?

You want to quickly download your panoramas and you have different media types? That's an easy game to solve.

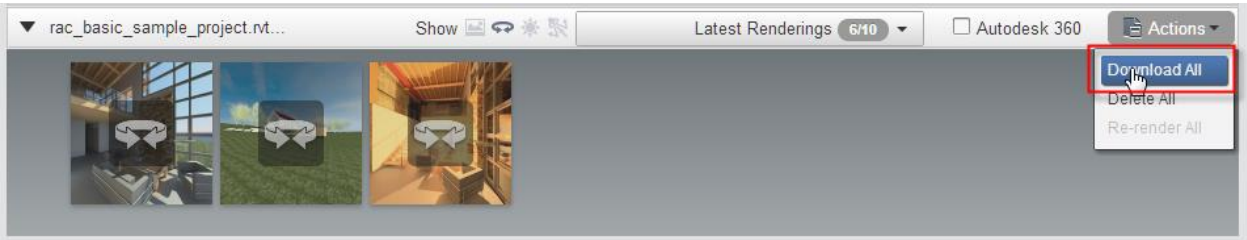
1/ Go on your Rendering gallery



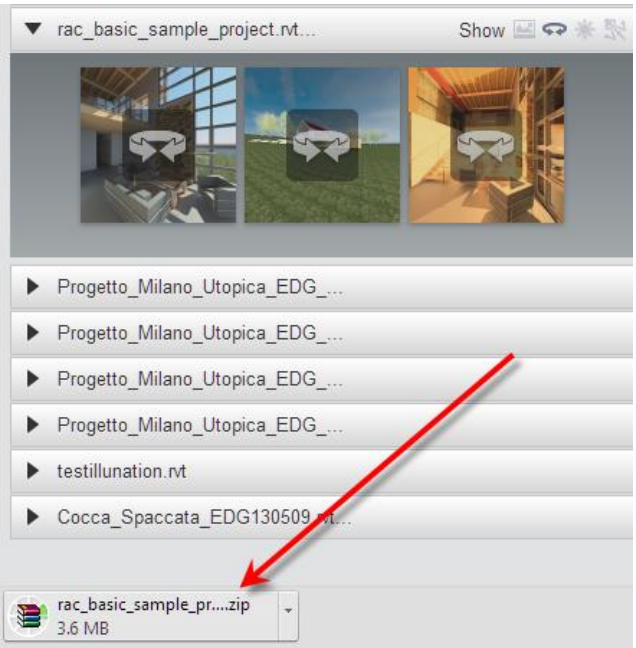
2/ Filter panoramas only



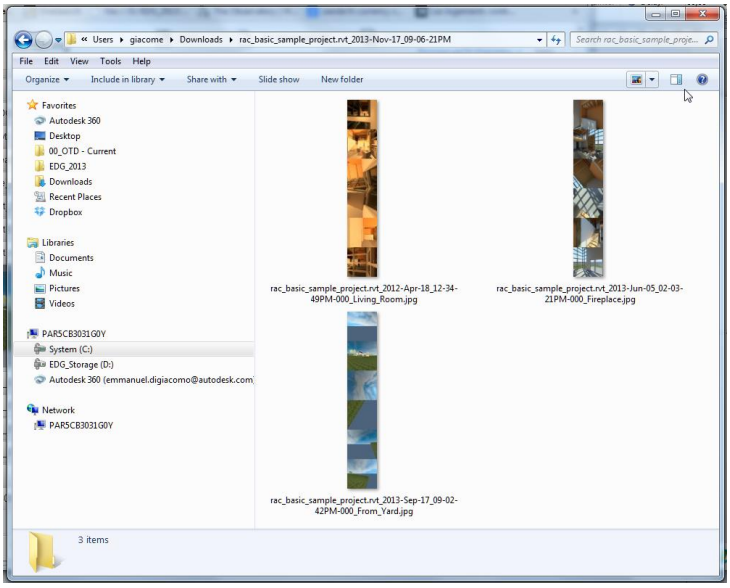
3/Select the "Download All" Option from the right top drop down menu at the top right corner or your Autodesk 360 Rendering gallery.



Autodesk 360 Rendering will create a zipped file of all your panoramas.

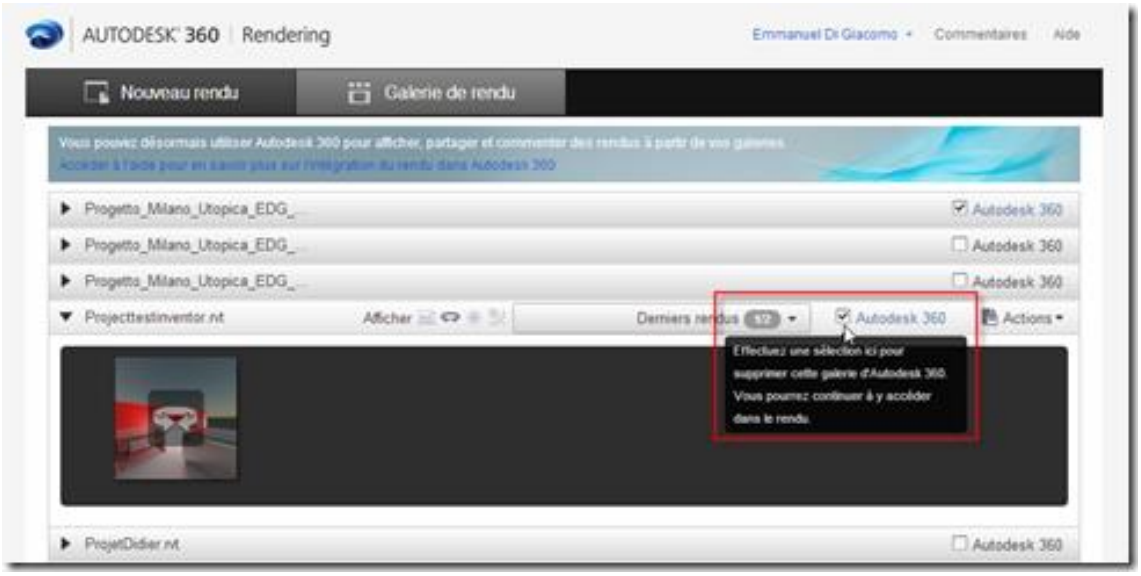


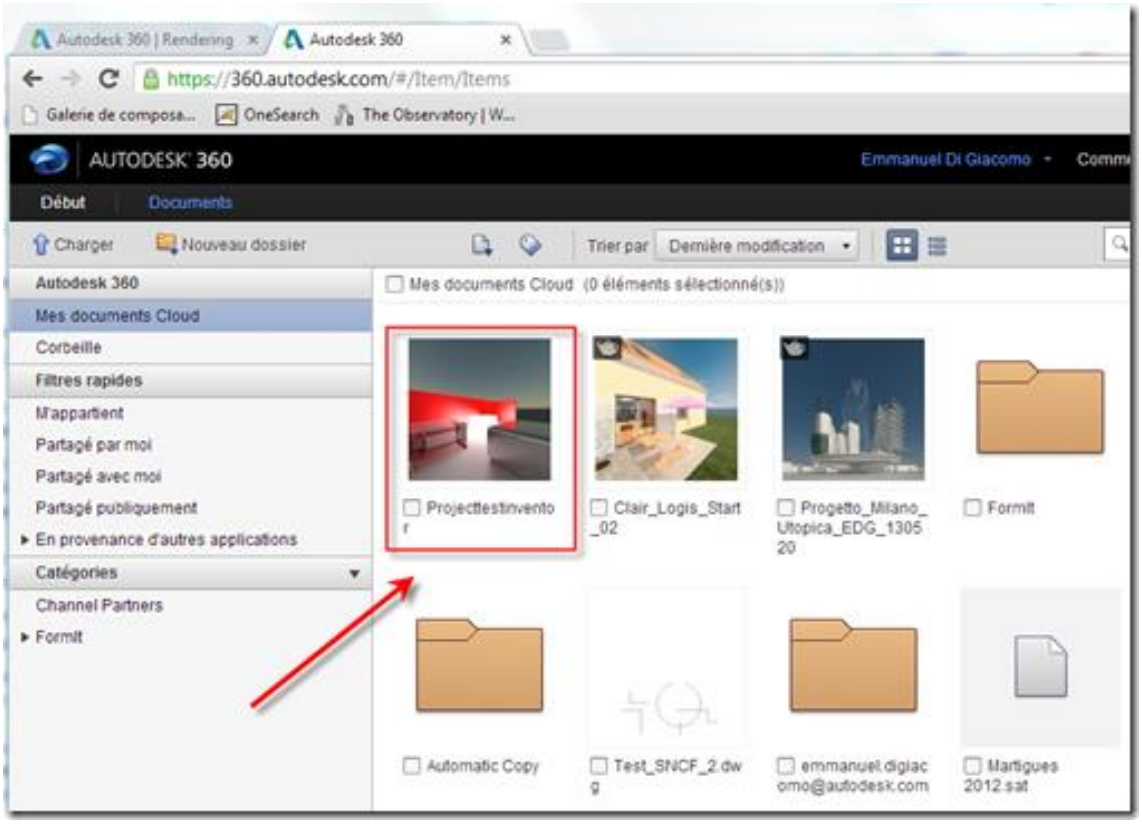
Here's what they should look like once unzipped:



Gallery Sharing on Autodesk 360

You want to be able to share some of your perspectives, drawings, BIM Projects with your External Contractors or your internal Team? By simply activating the ad-hoc check box, your Rendering will appear in your Autodesk 360 Documents Gallery.


AUTODESK 360 | Rendering
Emmanuel Di Giacomo
Commentaires
Aide
Nouveau rendu
Galerie de rendu
Progetto_Milano_Utopica_EDG_
Autodesk 360
Projecttestinventor.rvt
Afficher
Derniers rendus
Actions
Effectuez une sélection ici pour supprimer cette galerie d'Autodesk 360. Vous pourrez continuer à y accéder dans le rendu.
ProjetDidier.rvt


Autodesk 360 | Rendering
Autodesk 360
https://360.autodesk.com/#/Item/Items
AUTODESK 360
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Début
Documents
Charger
Nouveau dossier
Trier par
Dernière modification
Autodesk 360
Mes documents Cloud
Corbeille
Filtres rapides
M'appartient
Partagé par moi
Partagé avec moi
Partagé publiquement
En provenance d'autres applications
Catégories
Channel Partners
Formit
Mes documents Cloud (0 éléments sélectionné(s))
Projecttestinventor
Clair_Logis_Start_02
Progetto_Milano_Utopica_EDG_130520
Formit
Automatic Copy
Test_SNCF_2.dwg
emmanuel.digiacomo@autodesk.com
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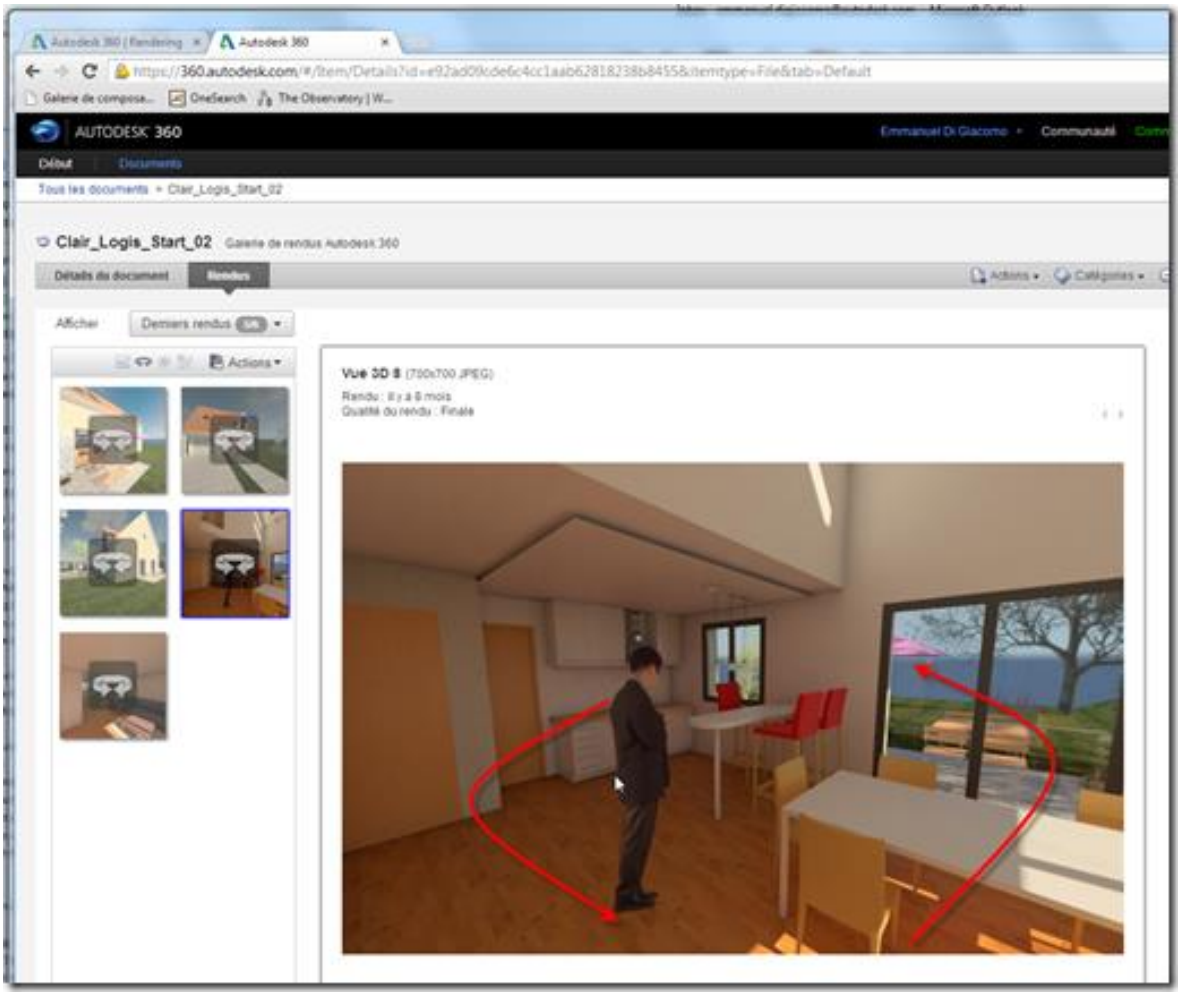
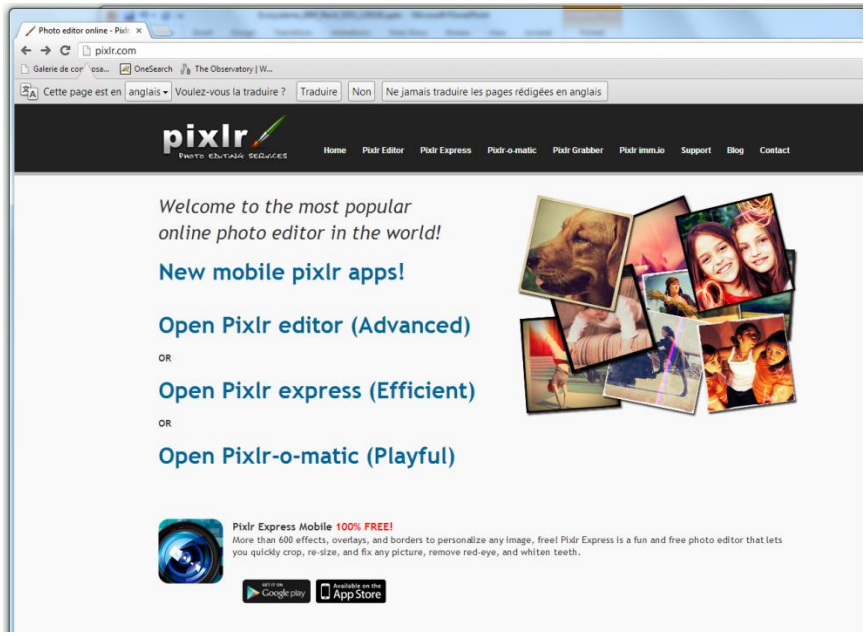


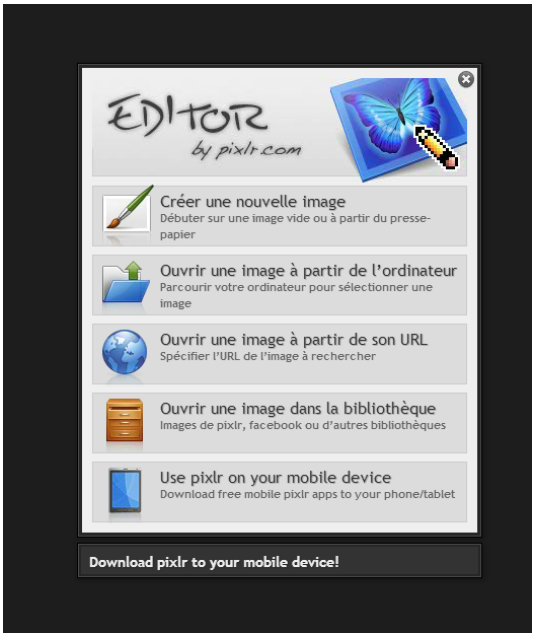
Online Images post-processing

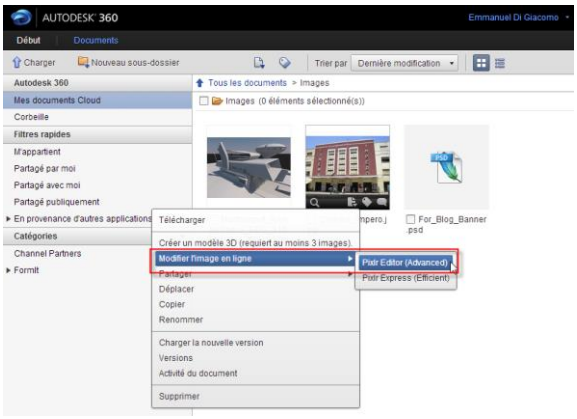
A post processing tool is always interesting in your daily job. But not ot everyone can afford to buy a high end online post processing solution. To fulfill this gap, Autodesk can bring you a free of charge post processing tool called Autodesk Pixlr.

To make it work? Very simple…Open your Internet Browser and type in the address www.pixlr.com



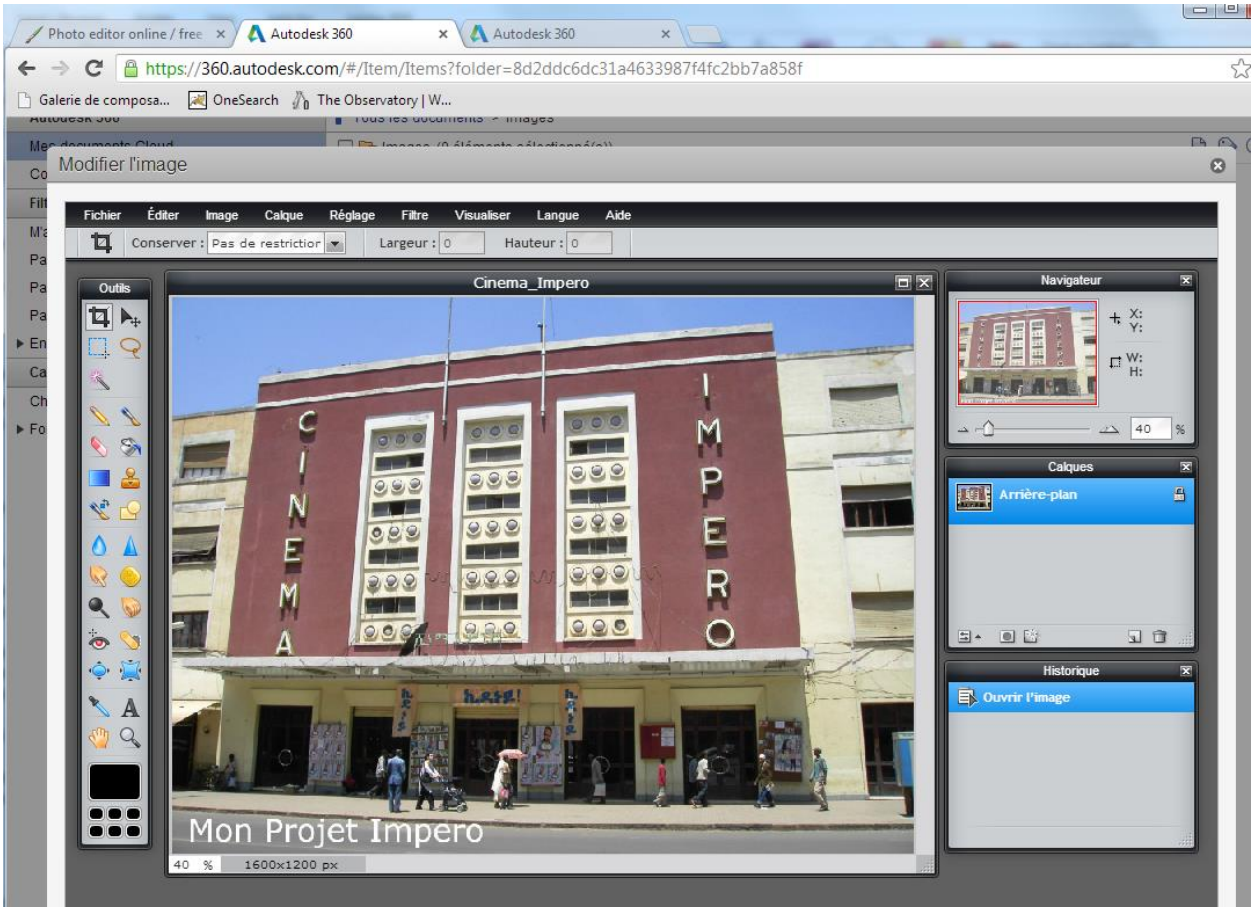
You will then get prompted on what you want to do. Open a file on your computer, create a new one…





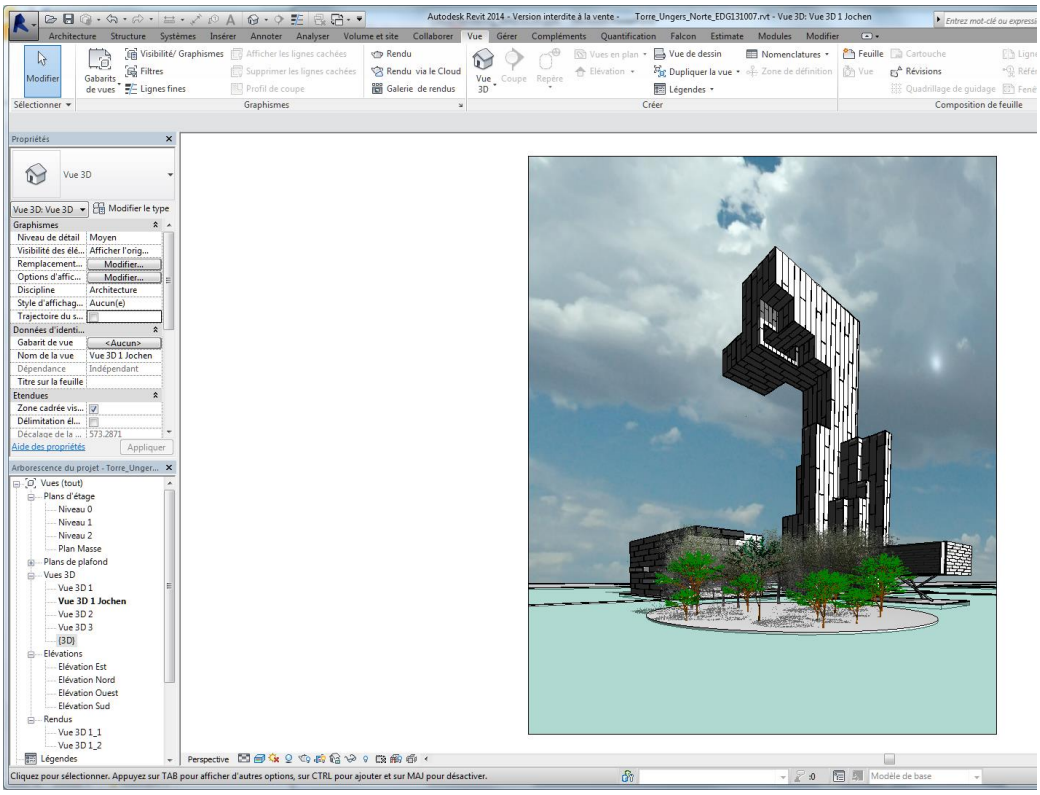
As you can see, Pixlr Editor is perfectly associated to Autodesk workflows and is very attached to our BIM Solution.. Additionnaly, it's interfaced inside Autodesk 360 Renderings.

You can therefore rework your images, save them and that's ok!.

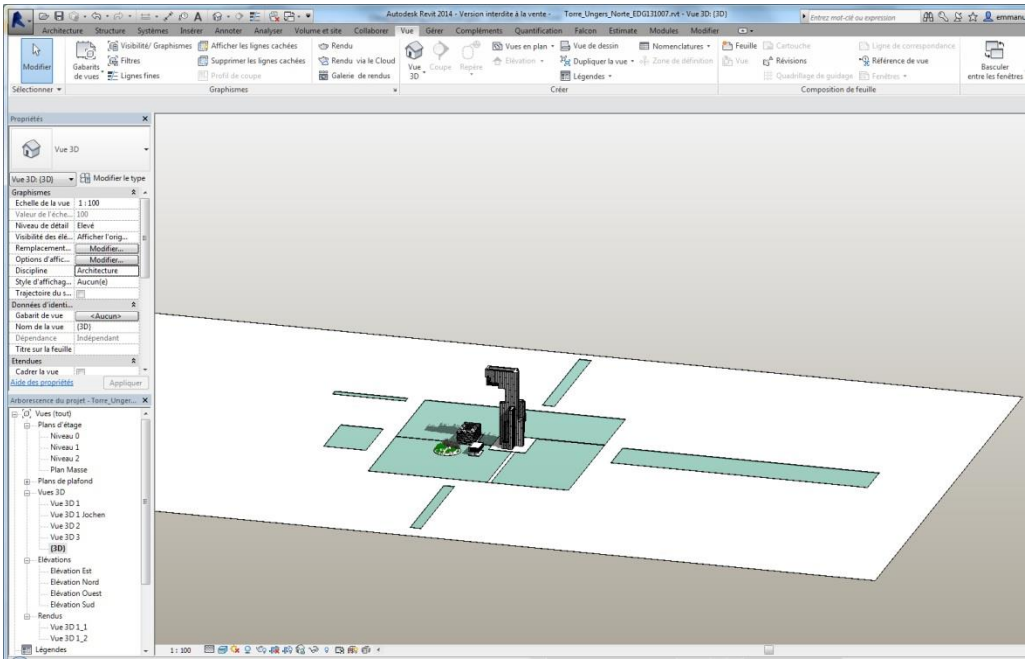


Simulating a sky background for Autodesk 360 Rendering

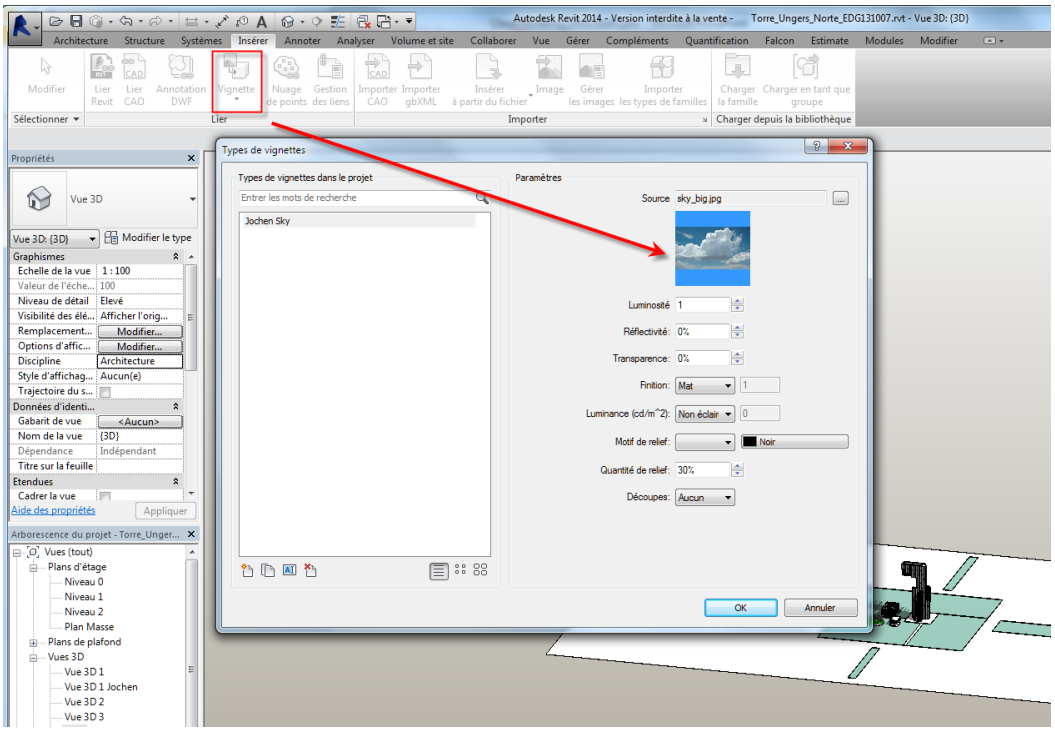
You may already know that the background image feature in Revit is not supported yet by Autodesk 360 Rendering. So, if you need to simulate a background sky for example, you will need to use a workaround. The most important thing is to first have your background image ready with enough resolution.



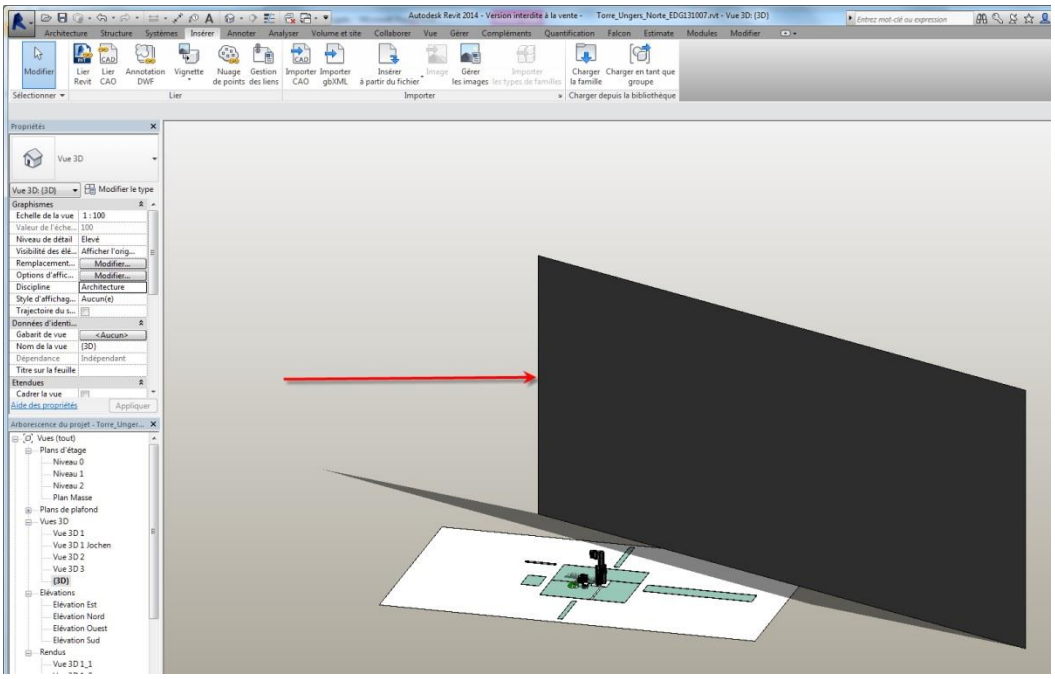
Then, switch to the axonometric view to control what you're doing.



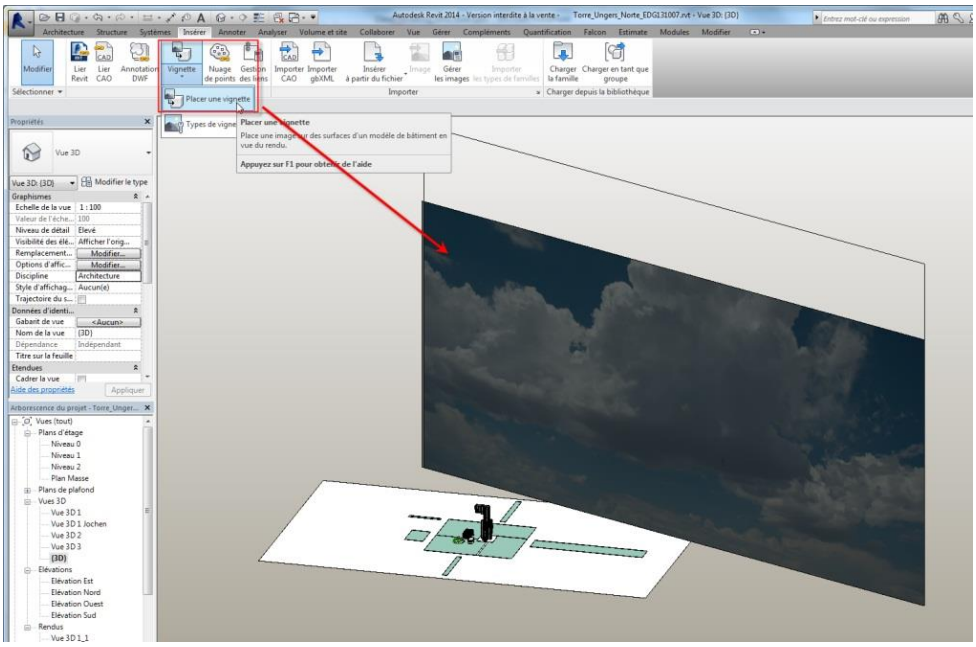
From the “Insert” tab, create a Decal using your background image as shown below, using the right effects and appearances desired.



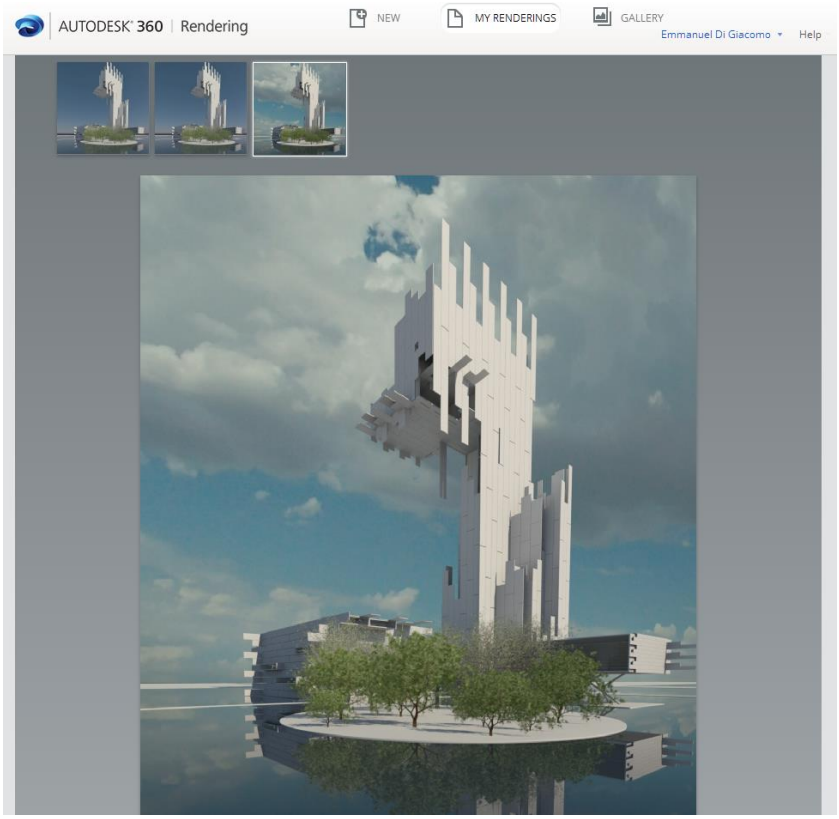
Then, create a long enough wall in the same direction as the camera view point. It needs to be high if the building is high. Don’t hesitate to reach high heights buildings.



And place your Decal on the visible face of the wall. Extend it if needed as much as possible as shown below to cover the whole field of view.



Launch your rendering and send it to the Cloud Autodesk 360. Here's the final result!



Correct Modeling of lightning fixtures

Place center of illumination behind glass (glass should have a high courseness)

Consider to illuminate glass element as well