



**UNIVERSITÀ DI PARMA**

DIPARTIMENTO DI INGEGNERIA E ARCHITETTURA  
CORSO DI LAUREA IN ARCHITETTURA E CITTA' SOSTENIBILI

**BUILDING INFORMATION MODELING:  
DIGITAL MODELING OF ARCHITECTURE  
DIGITAL VISUALIZATION OF PROJECT**

A.A. 2022-2023, Prof. Sandra Mikolajewska  
30/05/2023

THE SLIDES PRESENTED IN THE CLASSROOM ARE INTENDED ONLY AS A REFERENCE FOR THE LECTURE.

THE CONTENT OF THESE SLIDES IN NO WAY REPLACES THE RECOMMENDED REFERENCE BIBLIOGRAPHY.



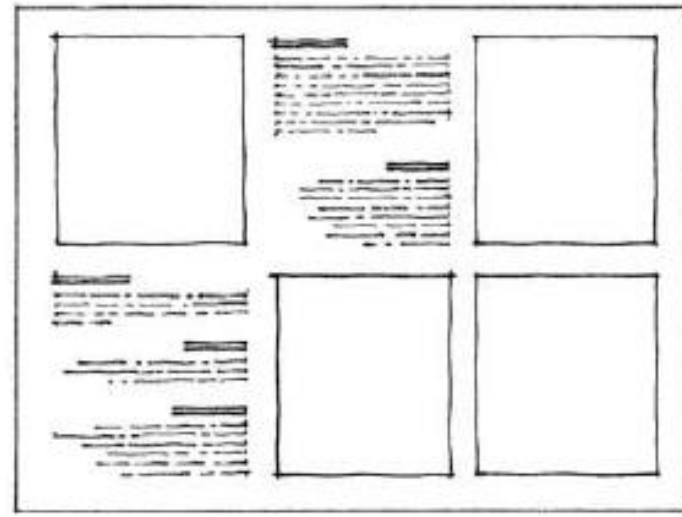
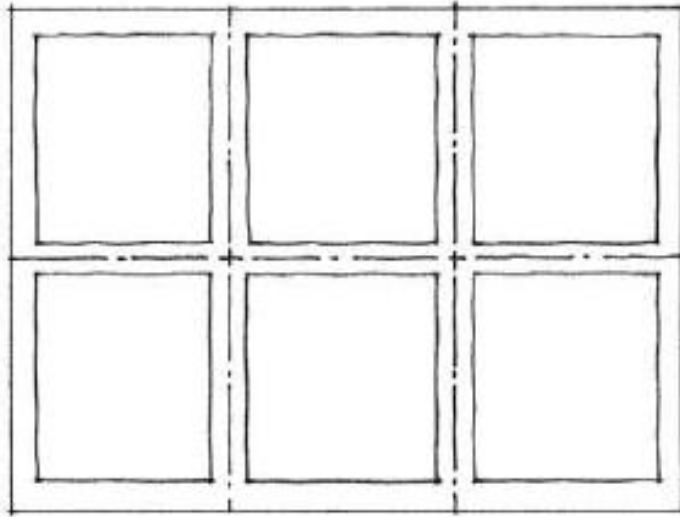
THE **COMPETITION SHEET** CAN BE CONSIDERED AS AN **EXPLANATION** OF A **DESIGN PROCESS** AND THE ARCHITECTURAL PROJECT, ILLUSTRATED WITH **EXTREME SYNTHESIS**. THIS SHEET SHOULD BE EXHAUSTIVE IN ORDER TO COMMUNICATE YOUR IDEAS IN AN EFFECTIVE WAY.

IN GENERAL, THE COMPETITION SHEET IS COMPOSED OF **SEVERAL GRAPHIC REPRESENTATIONS**:

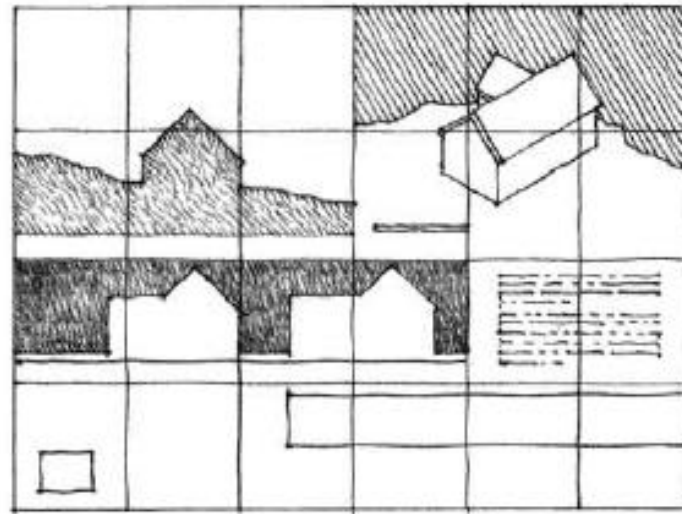
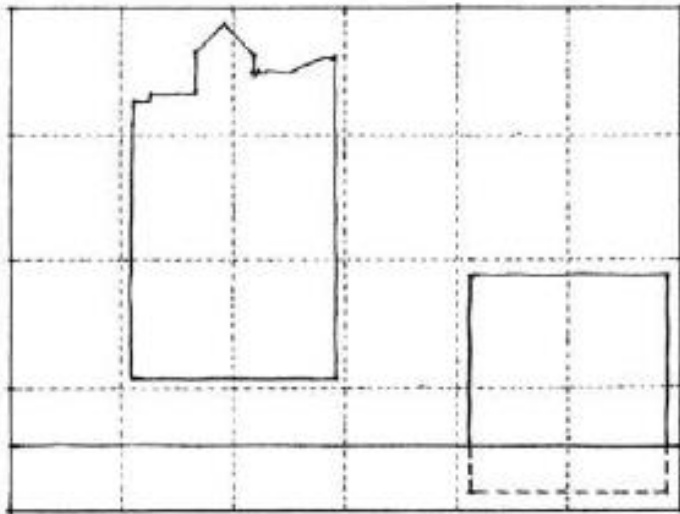
- 2D TRADITIONAL **DRAWINGS** (PLANS, SECTIONS, ELEVATIONS);
- FUNCTIONAL, STRUCTURAL **DIAGRAMS** (ORTHOGRAPHIC, AXONOMETRIC, PERSPECTIVE);
- WELL-BALANCED **TEXTS** AND DESCRIPTIONS (SYNTHETIC DESCRIPTIONS; KEYWORDS, HIERARCHIZED TEXTS);
- 2D **VISUALIZATIONS** OBTAINED FROM 3D DIGITAL MODELS (RENDERINGS);
- ADDITIONAL IMAGES (PHOTOGRAPHS);
- ...

WHY SHOULD THE COMMITTEE CHOOSE YOUR SHEET = YOUR PROJECT?





- FIND A CORRECT LAYOUT TO YOUR PROJECT;
- OPTIMIZE THE SHEET SPACE;
- BALANCE THE VISUAL WEIGHT OF GRAPHIC ELEMENTS (IN TERM OF CONTENT, COLORS, ETC.);
- MAKE IT EASY TO READ THE SHEET;
- EMPHASIZE IMPORTANT ELEMENTS (THROUGH DIMENSION, COLOR, ETC.);
- FIND YOUR OWN GRAPHICAL LANGUAGE.



IT IS PARTICULARLY USEFUL TO **ANALYZE** THE SHEETS SUBMITTED WITHIN **INTERNATIONAL COMPETITIONS**.

**YOU SHOULD ANALYZE THEM WITH A CRITICAL APPROACH!**





**NATIONAL ARCHAEOLOGICAL MUSEUM OF GREECE - ATHENS**  
2022\_COMPETITION PROPOSAL\_HERZOG AND DE MEURON & AETER ARCHITECTS





**NATIONAL ARCHAEOLOGICAL MUSEUM OF GREECE - ATHENS**  
2022\_COMPETITION PROPOSAL\_HERZOG AND DE MEURON & AETER ARCHITECTS



**NATIONAL ARCHAEOLOGICAL MUSEUM OF GREECE - ATHENS**  
2022\_COMPETITION PROPOSAL\_HERZOG AND DE MEURON & AETER ARCHITECTS





















# NATIONAL ARCHAEOLOGICAL MUSEUM OF GREECE - ATHENS

## 2022\_COMPETITION PROPOSAL\_DAVID CHIPPERFIELD ARCHITECTS











## ReUse Italy

Our Manifesto

The Italian landscape is full of forgotten historical buildings.

ReUse Italy has the long term goal of focusing the public attention on this issue, promoting cultural activities that can show how it is still possible to bring back life inside those ruins, activating a reuse process.

We promote the importance of the architecture project in team with national organizations, institutions, worldwide famous architects and the local citizenry.

[READ MORE →](#)



## Previous contests

Discover our previous architecture competitions and exhibitions, and get inspired by the winning projects!

[COMPETITIONS ARCHIVE →](#)

## Competitions' archive



### Reuse the Nymphaeum — Genazzano (Rome)

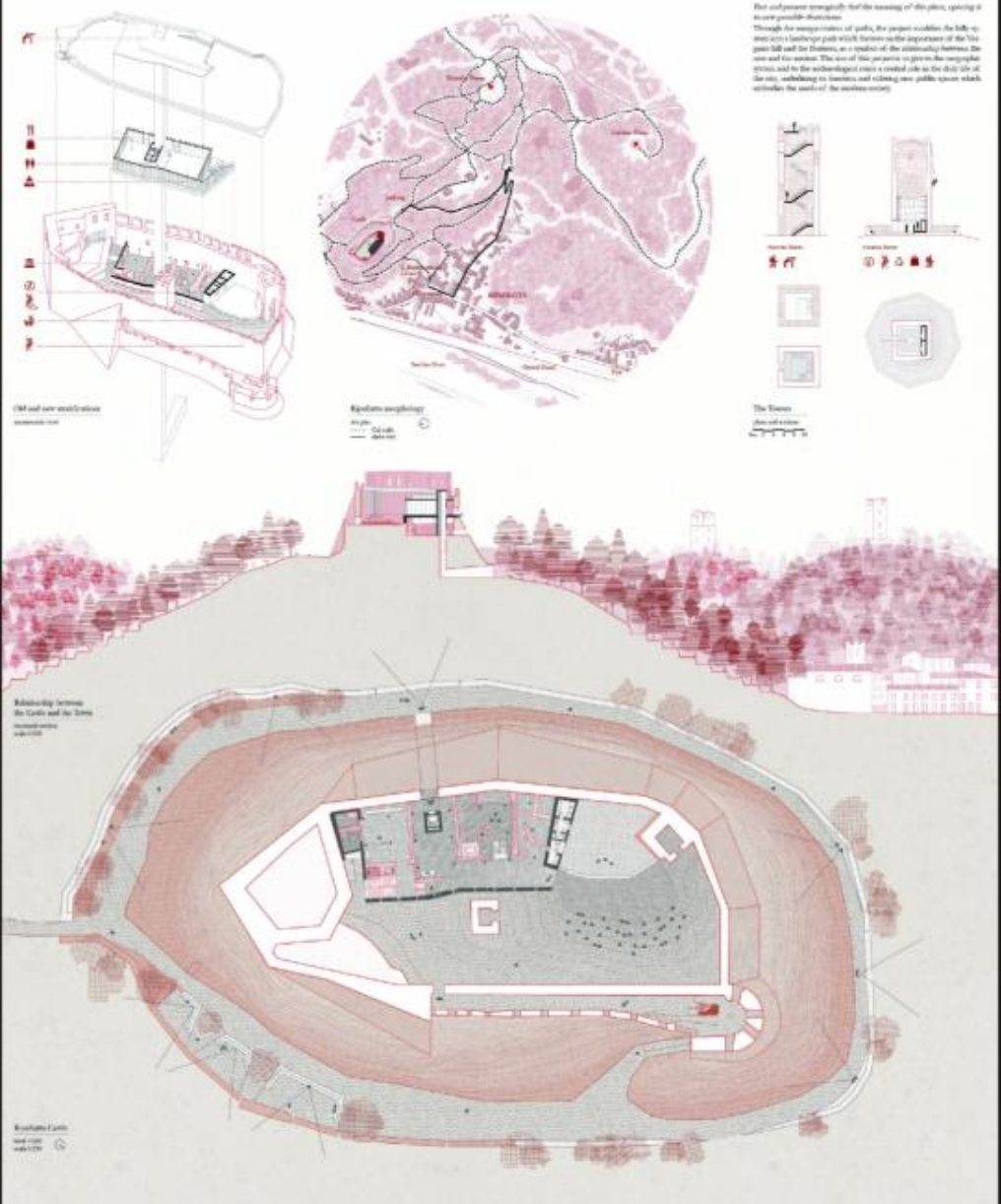
Reuseitaly current competition is about the Bramante Nymphaeum, a forgotten masterpiece of renaissance architecture.

[READ MORE](#)

**Join the mission:  
Reuse the**







For and present strength that the meaning of the place, opening it to new possible functions.  
 Through the reorganization of paths, the project creates the link up them with a landscape path which forms on the appearance of the Via Garibaldi and the Duomo, as a result of the urbanity between the site and the center. The use of the program to give the morphology space, and for the architectural mass a central role in the city life of the site, including its location and adding new public space which includes the medieval the existing context.

**Reuse the Castle – 3rd**  
 Filippo Bison, Enrico Berti, Anastasia Bergamo, Martina Fent

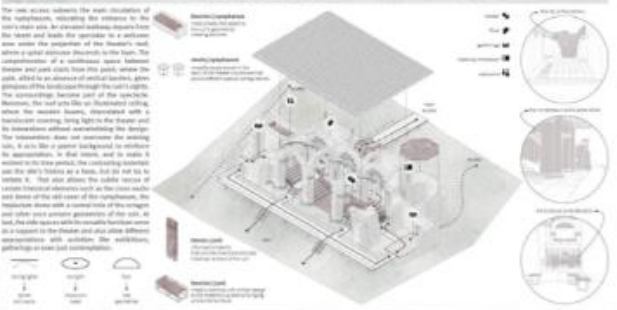
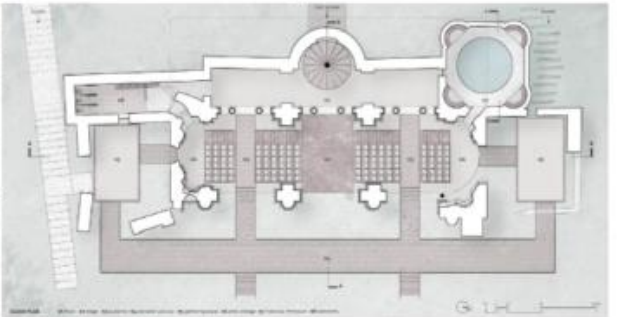






### NYMPHAEUM THEATER

The project is designed to reappropriate the Nymphaeum as the remaining structure of the past while bringing together the history of preservation and after after for and it back in the contemporary scenario of the city. The intervention is divided into three main parts. The theater is situated in the central axis of the urban grid and has an important impact on the urban, urban and cultural and social activities and urban development. The theater of the theater inside the central axis of the urban grid (theater's structure) is situated in the central axis of the urban grid and has an important impact on the urban, urban and cultural and social activities and urban development. The theater of the theater inside the central axis of the urban grid (theater's structure) is situated in the central axis of the urban grid and has an important impact on the urban, urban and cultural and social activities and urban development.



Reuse the Nymphaeum - 3rd  
Ana Luísa Schoenell, João Victor Ortiz



### SAN GIOVANNI IN VAL DI LAGO

The chapel is a modern building designed by Kamil Lipski and Wojciech Pisula. It is a reinterpretation of the traditional Lake Chapel in San Giovanni in Val di Lago, which was destroyed in 1944. The new chapel is a simple, rectangular building with a prominent cylindrical tower. The tower is a reinterpretation of the original chapel's tower, which was a simple, cylindrical structure. The new chapel is built on the same site as the original chapel, but it is a completely new building. The design is a blend of modern and traditional architecture. The building is made of concrete and has a simple, clean design. The tower is a focal point of the building and is a reinterpretation of the original chapel's tower. The chapel is a beautiful example of modern architecture that respects the history and tradition of the site.

Fig. 1.1.1. Site plan

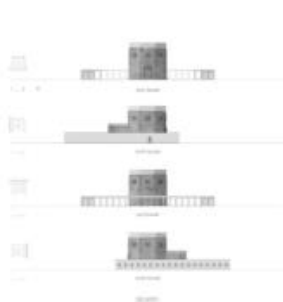


Fig. 1.1.2. Section 1-1

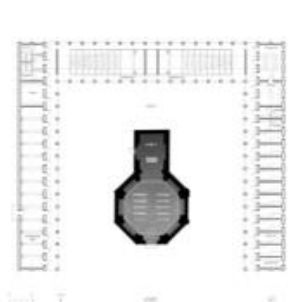
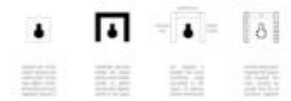


Fig. 1.1.3. Section 2-2

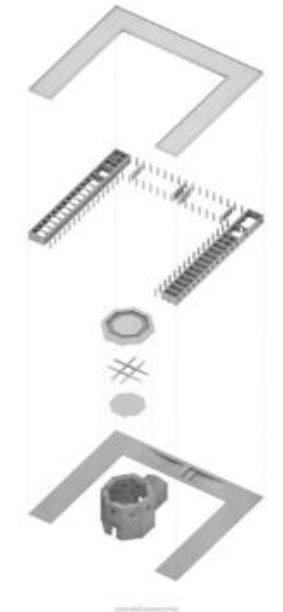


Fig. 1.1.4. Section 3-3



**Reuse the Lake Chapel - 3rd**  
Kamil Lipski, Wojciech Pisula



### PISCINA MIRABILIS

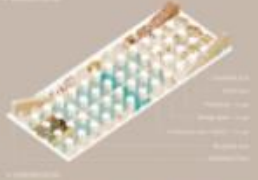


Two columns of text describing the historical and architectural significance of the Piscina Mirabilis. The text discusses its role as a large-scale water reservoir and its unique architectural features, including the vaulted structure and the use of brick and stone.

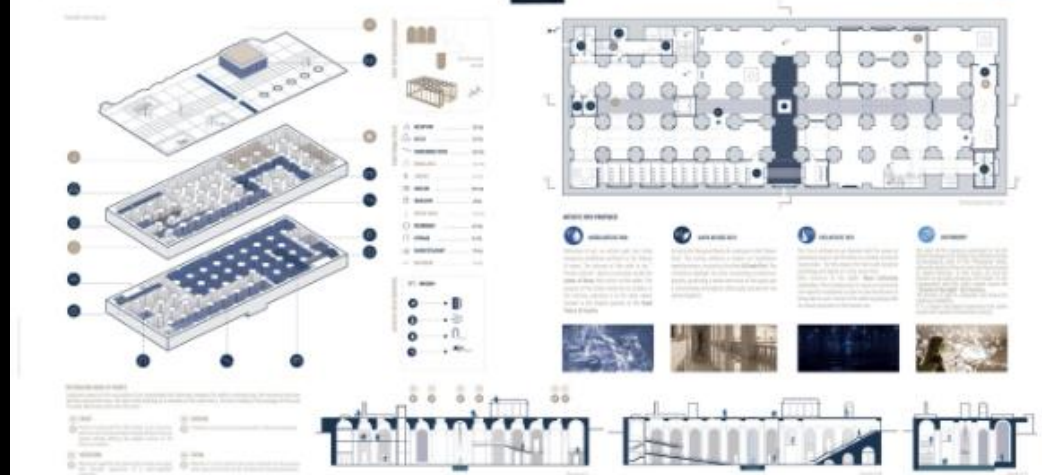


Short introductory text or a list of key features related to the site plan.

- A list of four numbered items (1-4) with small icons, likely describing specific architectural elements or restoration details.








Reuse the Roman Ruin  
Honorable Mention

LUMION EDUCATIONAL LICENSE:

<https://www.lumion3d.it/lumion-educational-per-lo-studente/>

**LUMION** Prodotto Blog Forum Studenti Prova Compra Accedi Carrello  Menù

## Form di richiesta licenza studente

LA LICENZA STUDENTE È CONCESSA AD USO GRATUITO **PER UN UTILIZZO A LIVELLO SCOLASTICO UNIVERSITARIO.**  
 Le licenze vengono rilasciate previo controllo documentazione inviata e i tempi di rilascio possono variare fino a una settimana lavorativa. **Non verranno prese in considerazione richieste inviate via email o attraverso contatti diversi dal presente modulo.**

Nome  Cognome

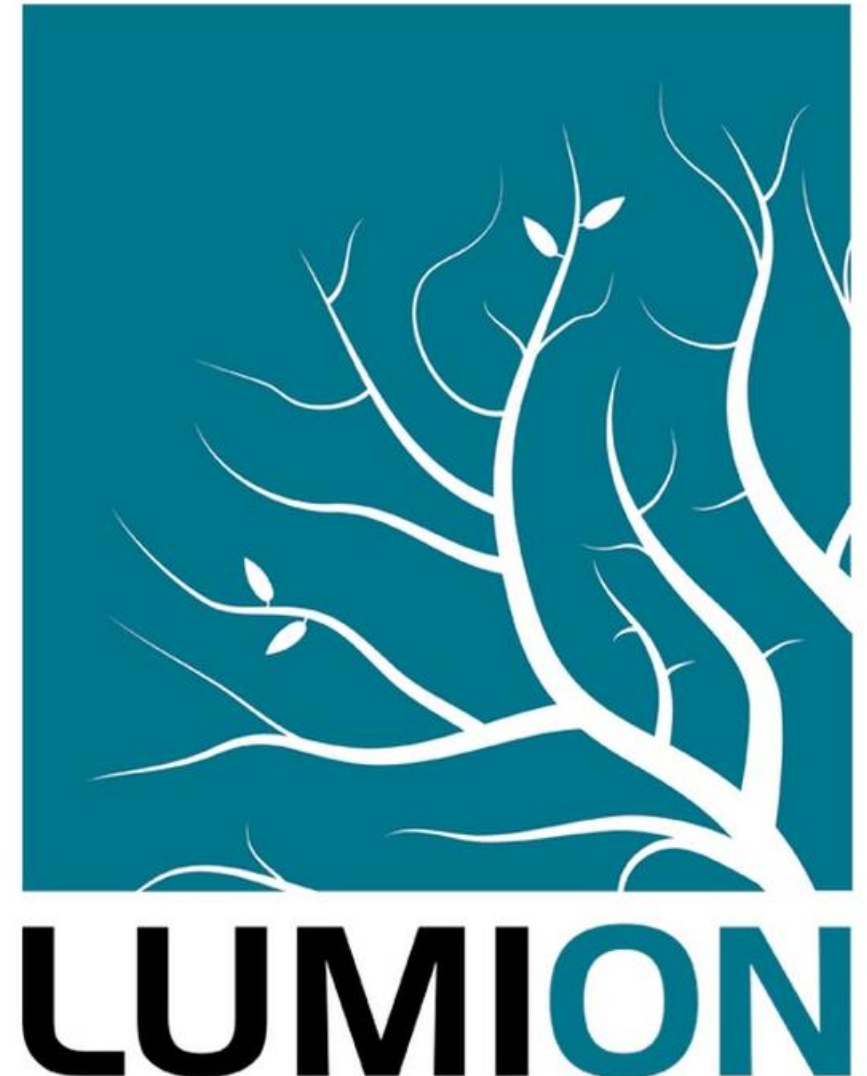
Indirizzo

Cap  Città  Provincia

Telefono  Email Istituzionale Universitaria

Allega documento frequenza universitaria (Immagini o PDF)

Allegare documento di frequenza universitaria anno corrente (immagini e pdf consentiti - 5Mb max.)



## Minimum Requirements

## Recommended Requirements

## High-end requirements

**A PC with this hardware can handle ultra complex designs and projects with several high-end features, such as:**

A detailed city, airport or stadium.

A detailed multi-floor building with interiors made up of many models and HD textures.

A detailed landscape made with high-end Lumion features, such as high-detail trees and 3D Grass.

### Internet connection

The PC running Lumion must be connected to the internet

### Graphics card

A GPU scoring a G3DMark of 22,000 or higher with up-to-date drivers. (Such as the NVIDIA GeForce RTX 3090, NVIDIA RTX A6000, AMD Radeon RX 6800 XT or better).

### Graphics card memory

16 GB or more

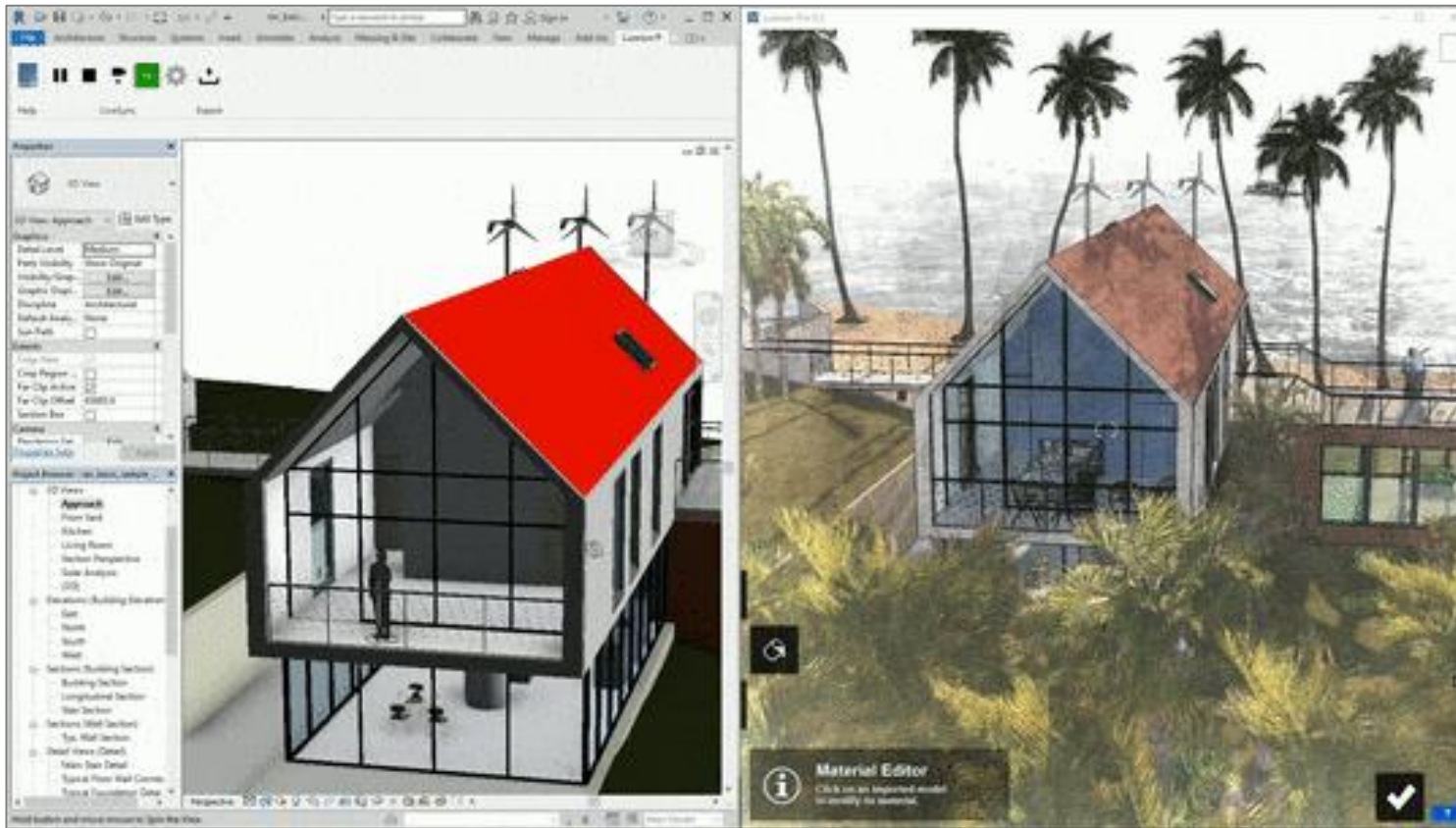
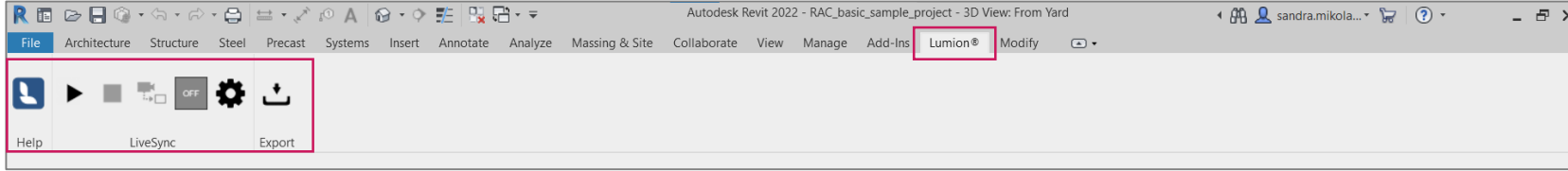
### Operating system

Up-to-date Windows 10 (version 2004) 64bit or newer



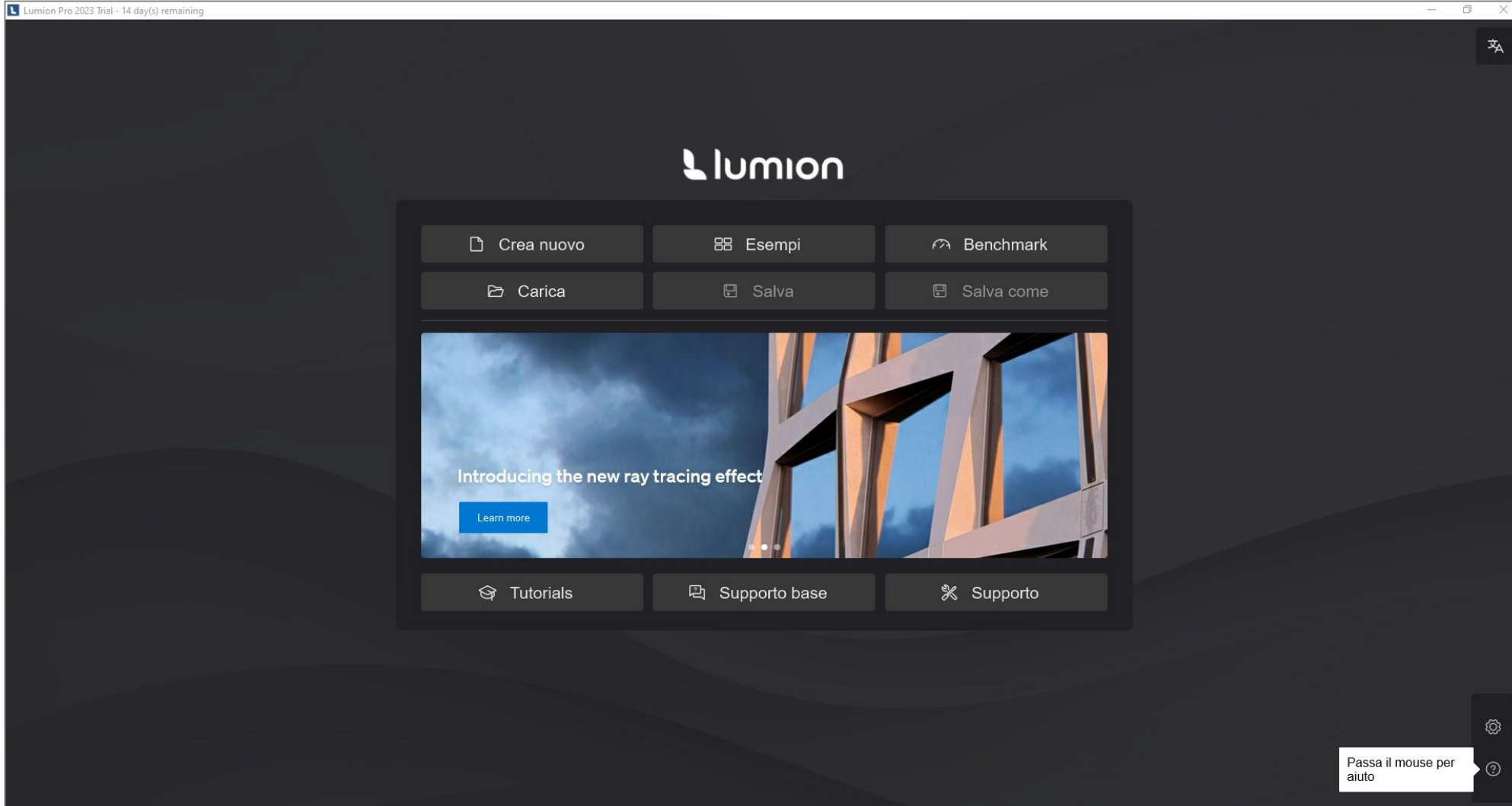


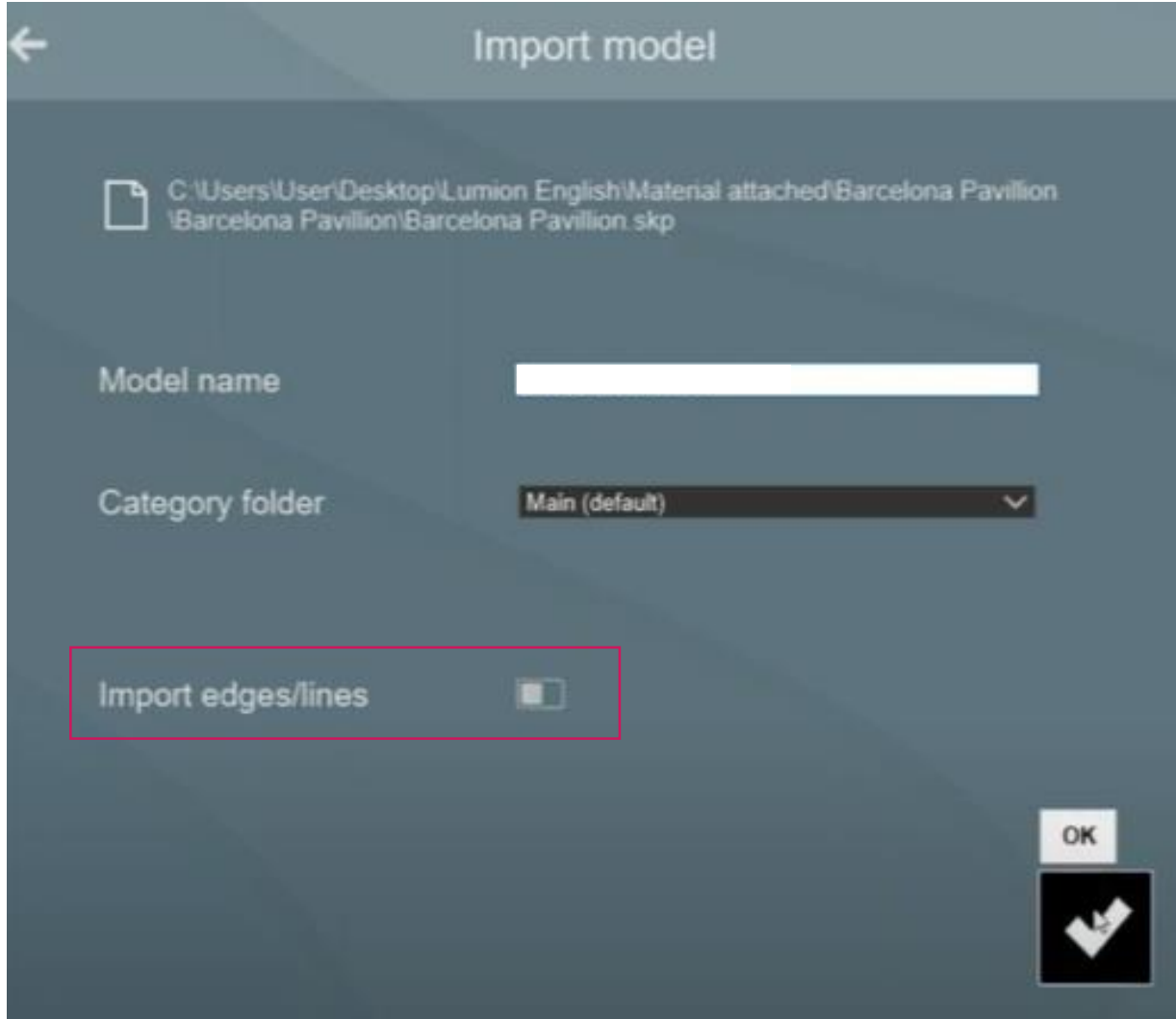
# LUMION: LIVE SYNC FOR AUTODESK REVIT



<https://support.lumion.com/hc/en-us/articles/360007787973-Model-import-guidelines-for-Autodesk-Revit-and-Revit-LT>



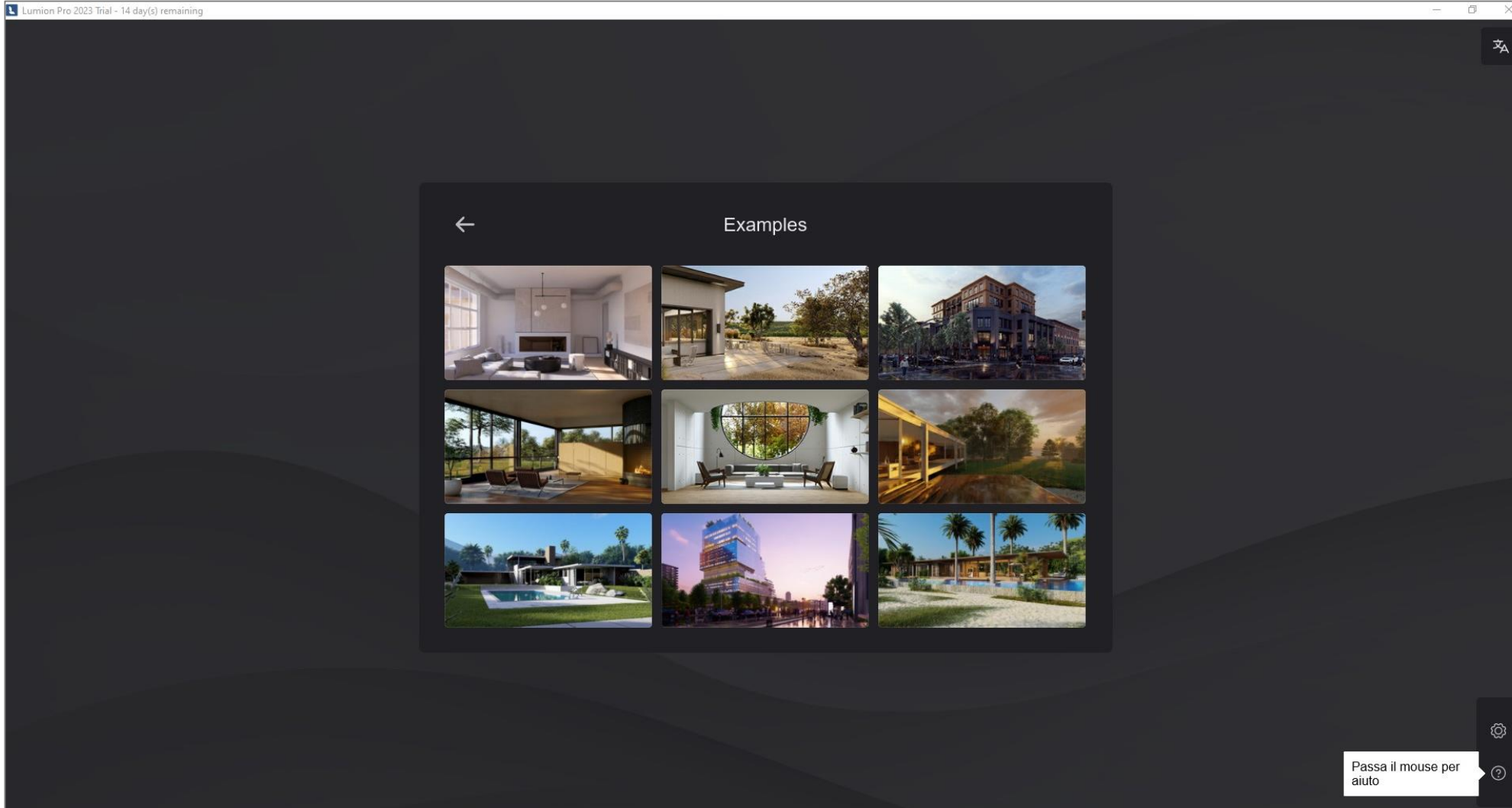




Supported file formats:

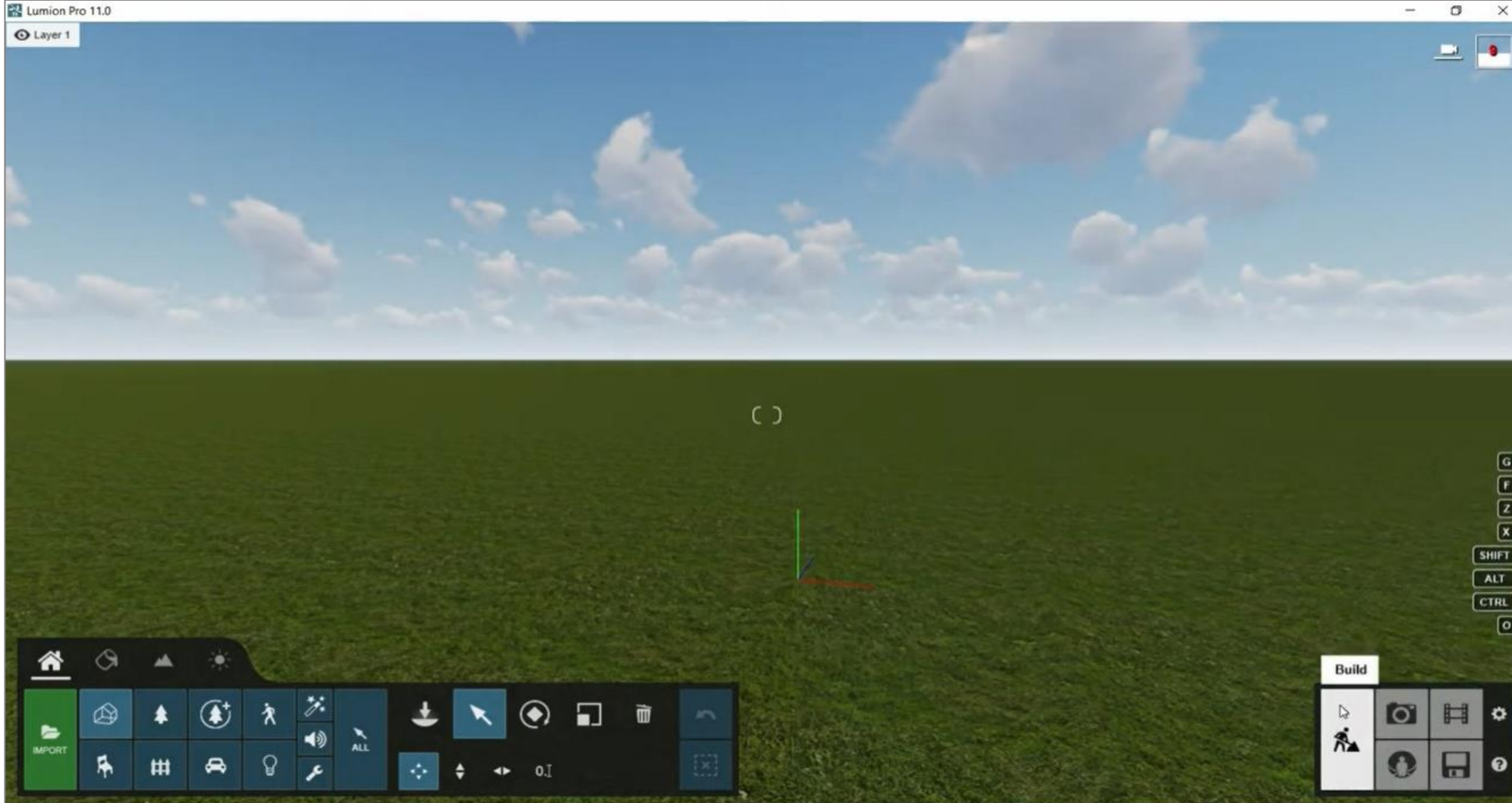
*.dae, .skp, .fbx, .dwg, .dxf, .max, .3ds, .obj.*











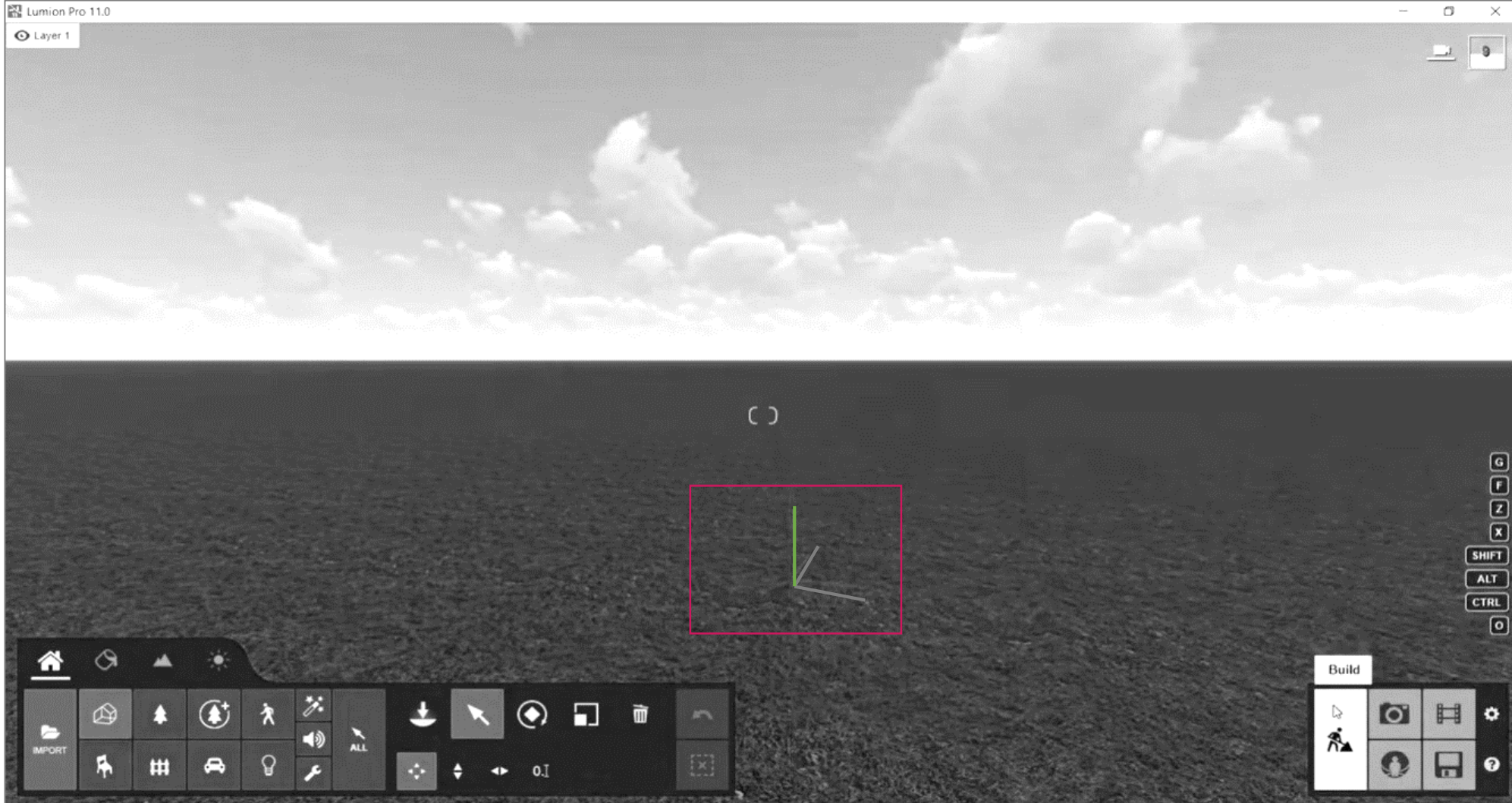
Q – E [up-down]  
W – S [forward-backward]  
A – D [left-right]



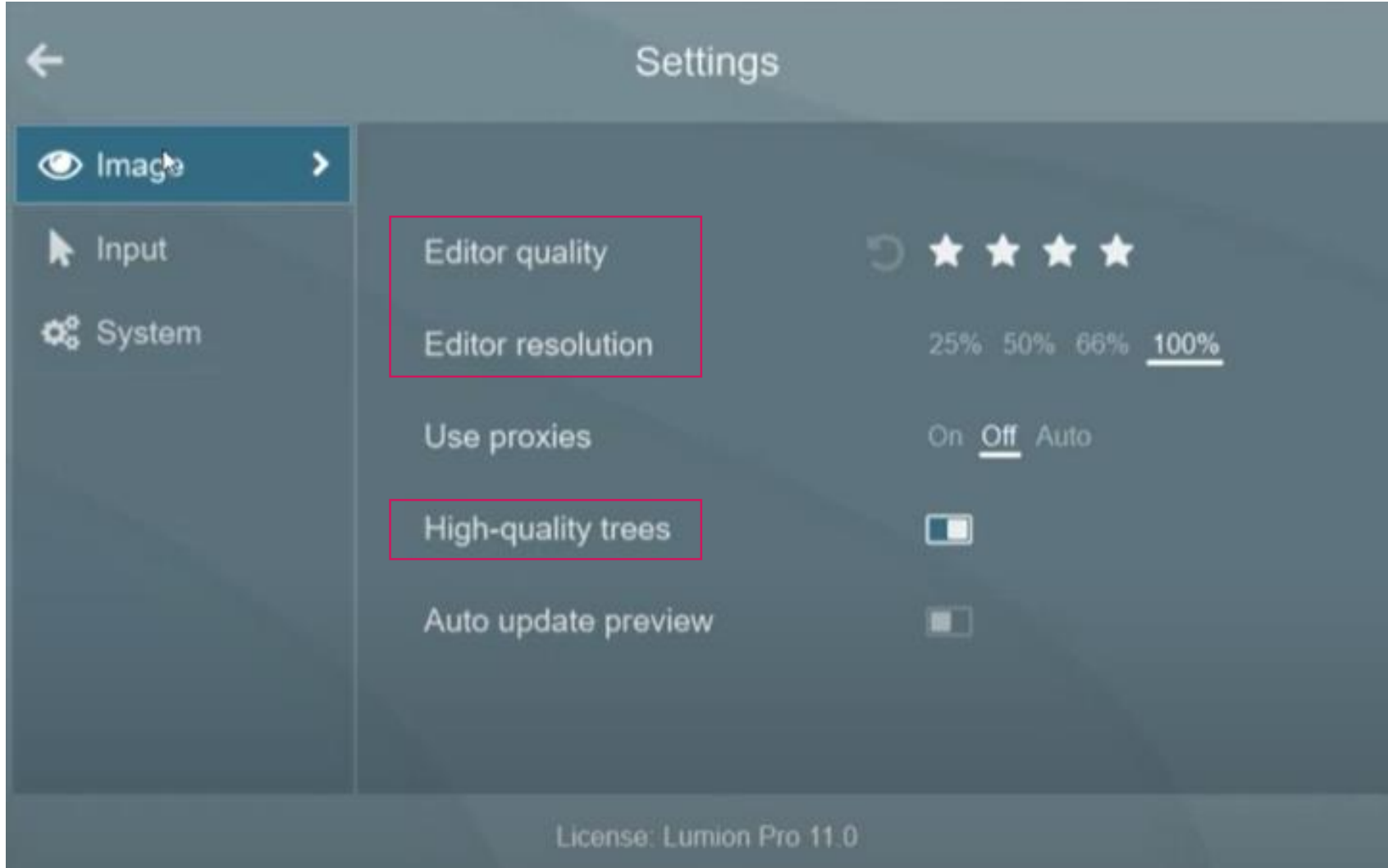




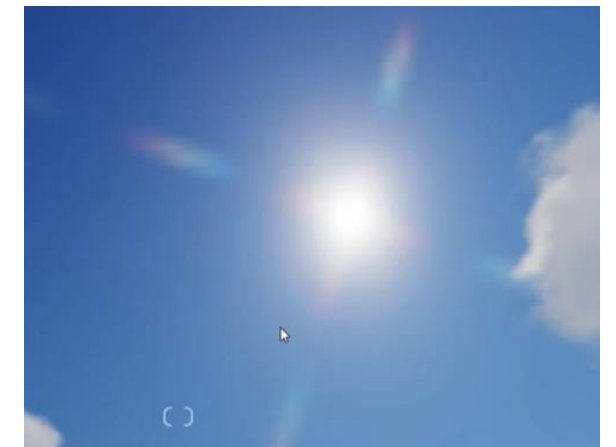


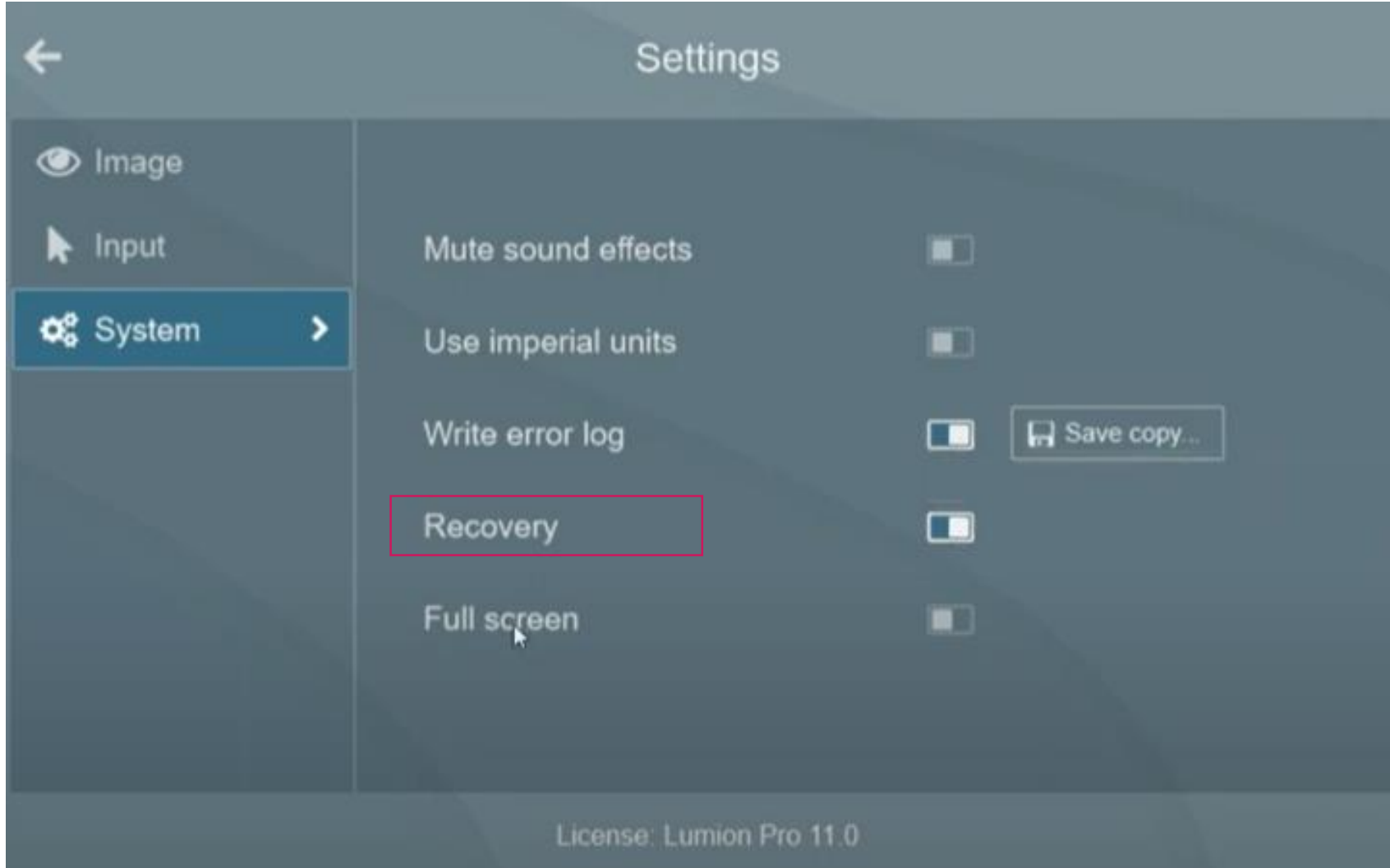


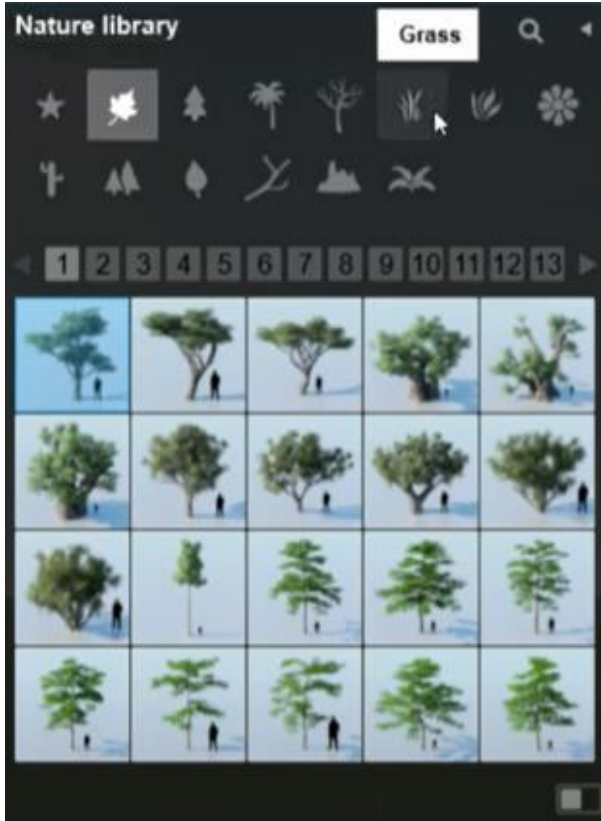




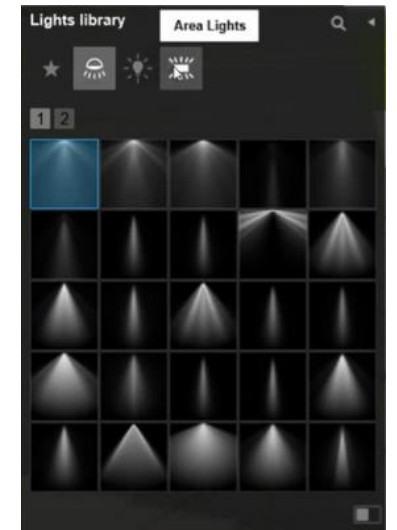
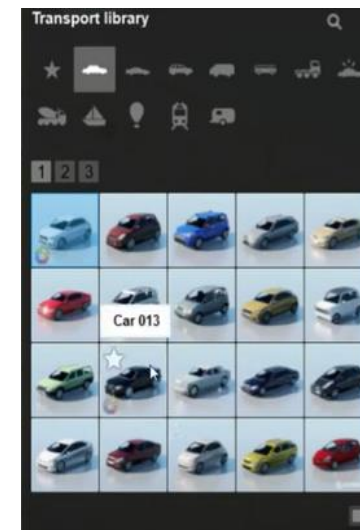
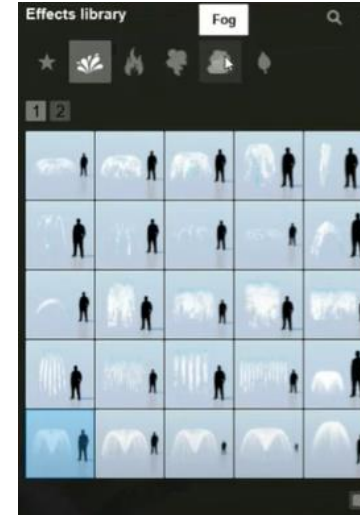
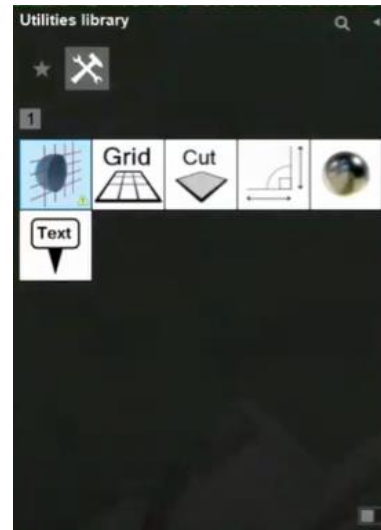
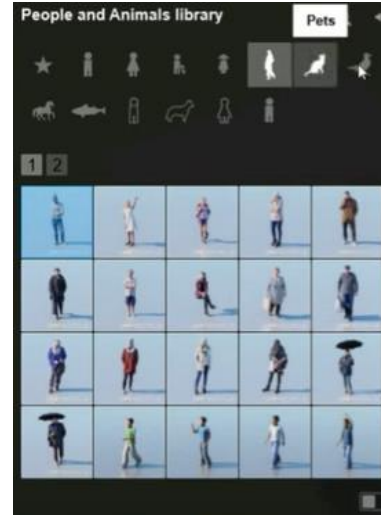
SUN - Editor quality: 1 star.  
SUN - Editor quality: 4 stars.



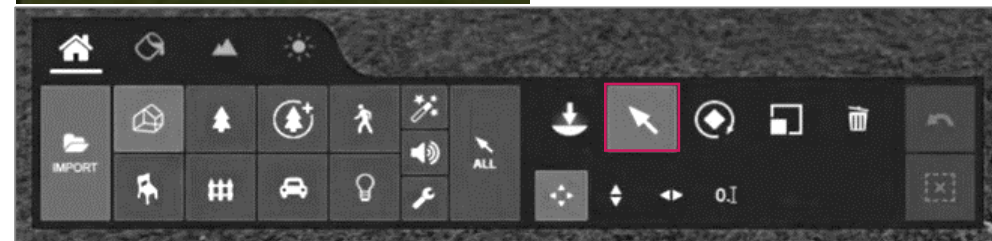
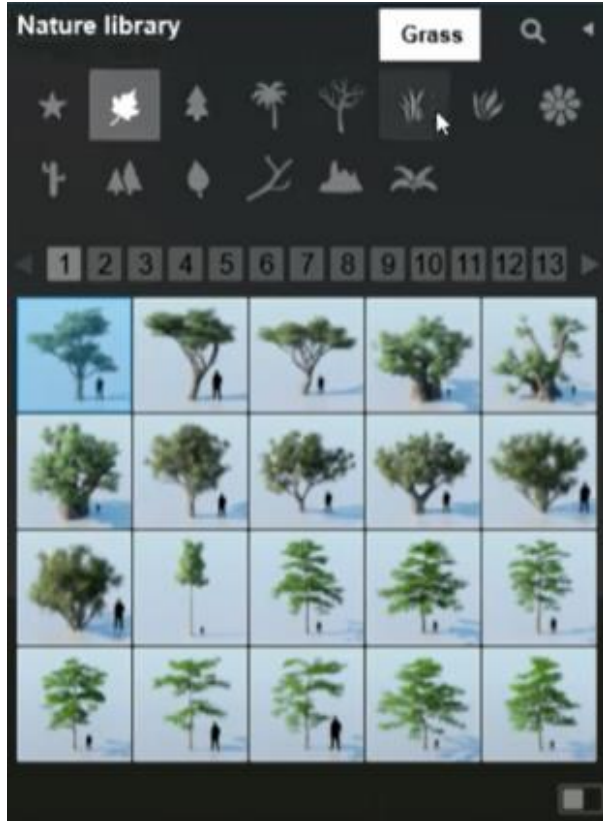




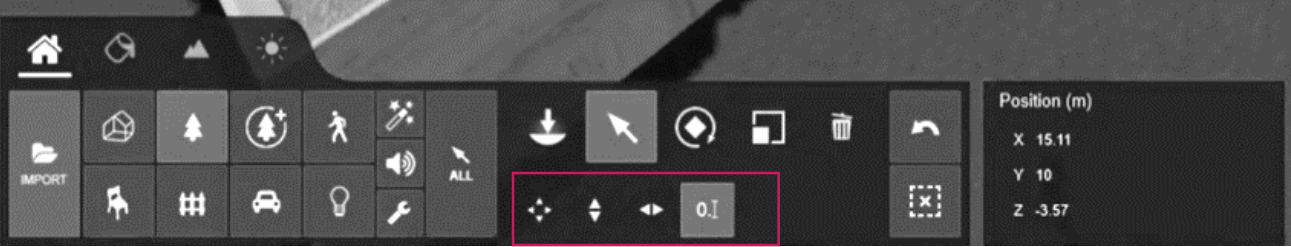
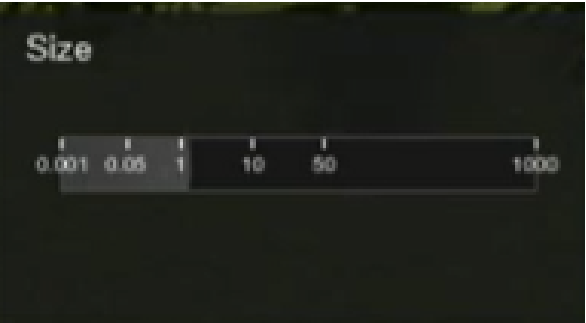
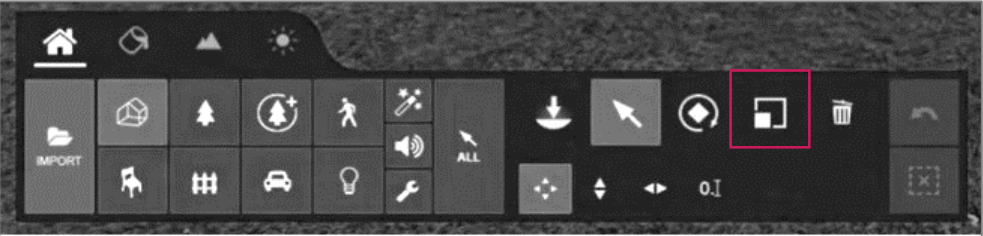
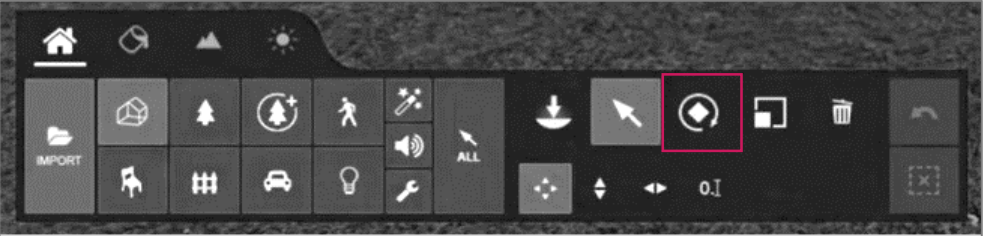
**LUMION LIBRARIES:**  
 Nature library  
 People and animals library  
 Effects library  
 Sound library  
 Utilities library  
 Transport library  
 Indoor library  
 Light library



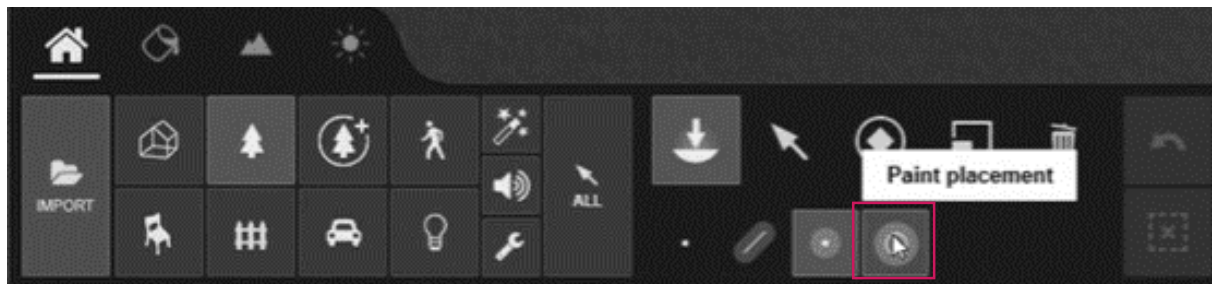
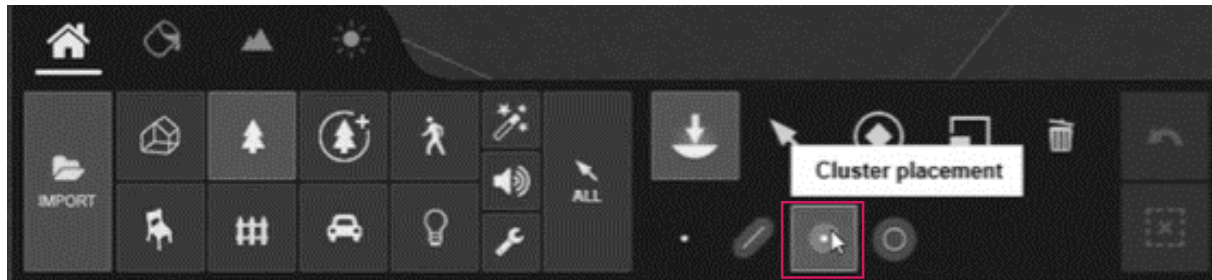
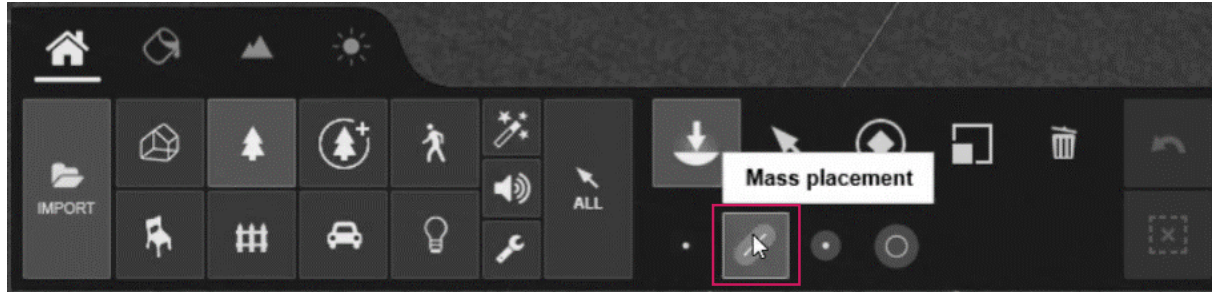




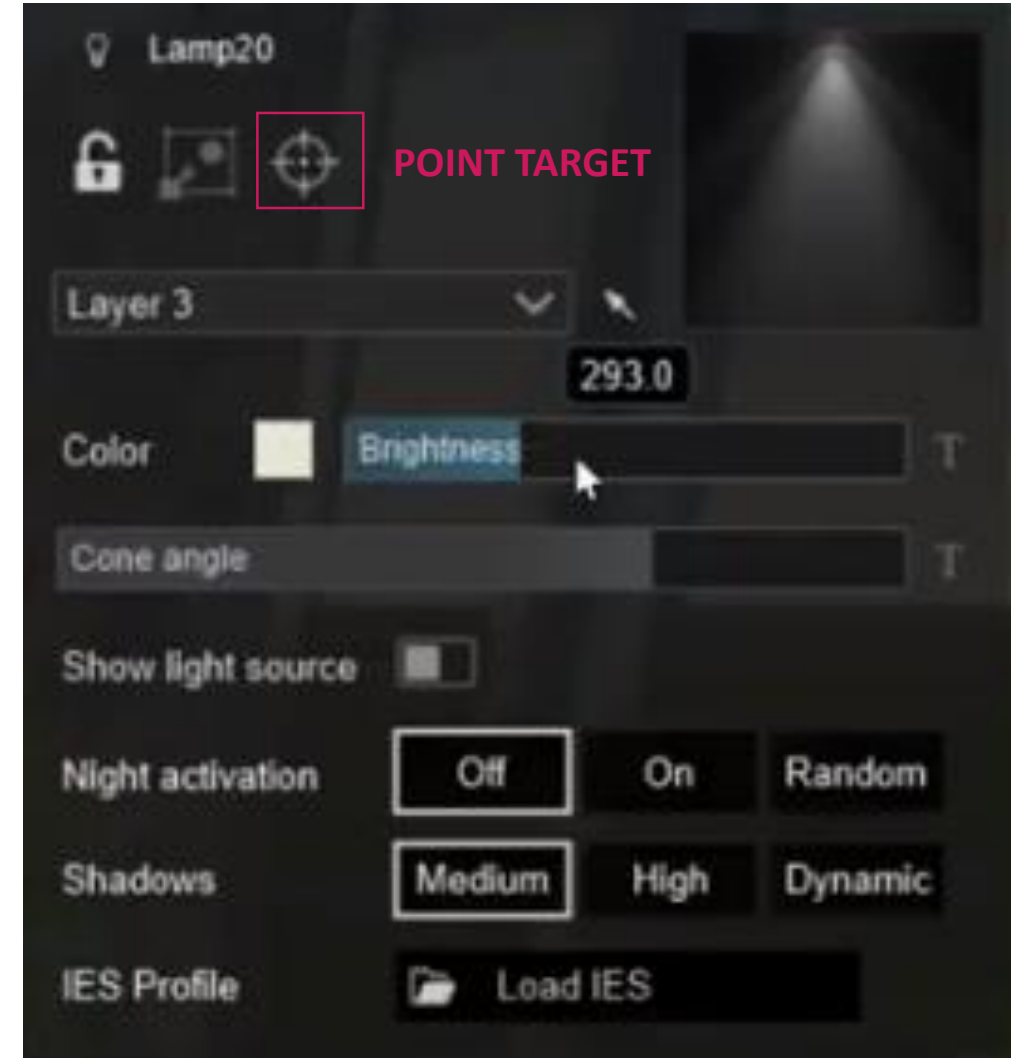
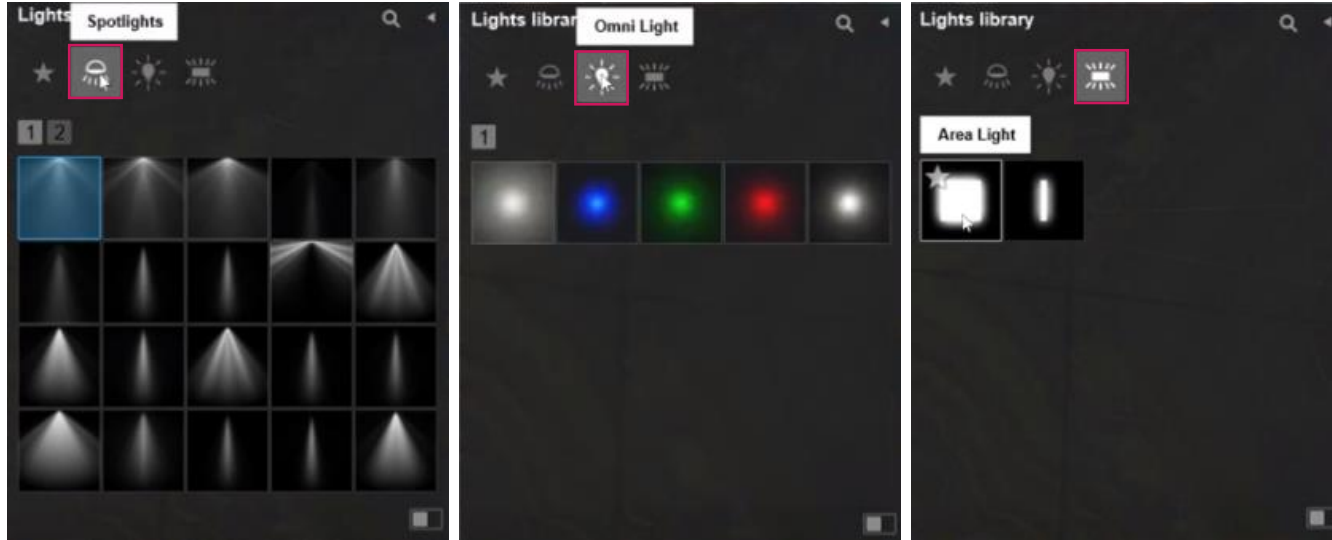
# LUMION: EDIT ELEMENT [ROTATE, RESIZE, MOVE]



# LUMION: PLACE ELEMENT [MASS PLACEMENT, CLUSTER PLACEMENT, PAINT PLACEMENT]







The screenshot displays the Lumion software interface. On the left, a 'Stile Utente' (User Style) panel is visible with a list of settings: '+ FX', 'Visibilità del livello', 'Prospettiva a 2 punti', 'Decolora', 'Cieli veri', 'Rendi nitido', 'Correzione del colore', and 'Riflessione'. The main rendering window shows a scene titled 'Exterior Elevation - Clear' with a building in a grassy field. Below the window, a control bar includes '2.21 m', 'Focale', 'Ruota su Z', 'Ruota su Y', and '16:9'. At the bottom, a toolbar contains icons for navigation and rendering, with a row of preview thumbnails labeled 'Exterior - Sunset', 'Interior - Sunset', 'Exterior - Perspective Clear', 'Exterior Elevation - Clear', 'Interior - Living Room', and 'Interior - Study'. The 'Exterior Elevation - Clear' thumbnail is currently selected.

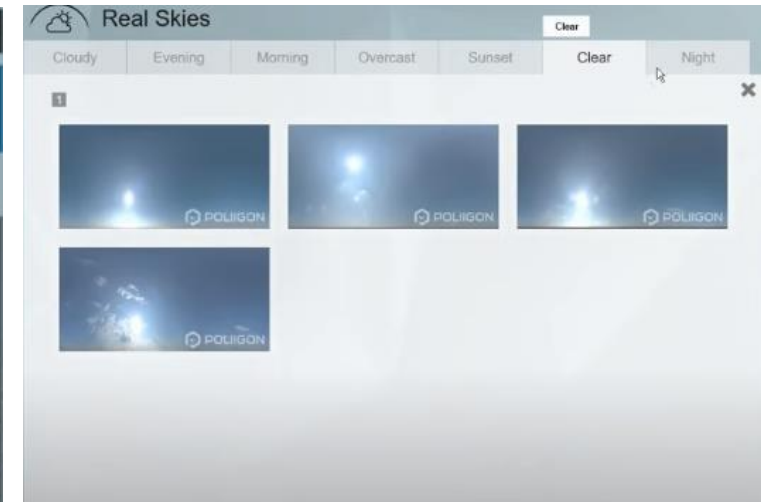
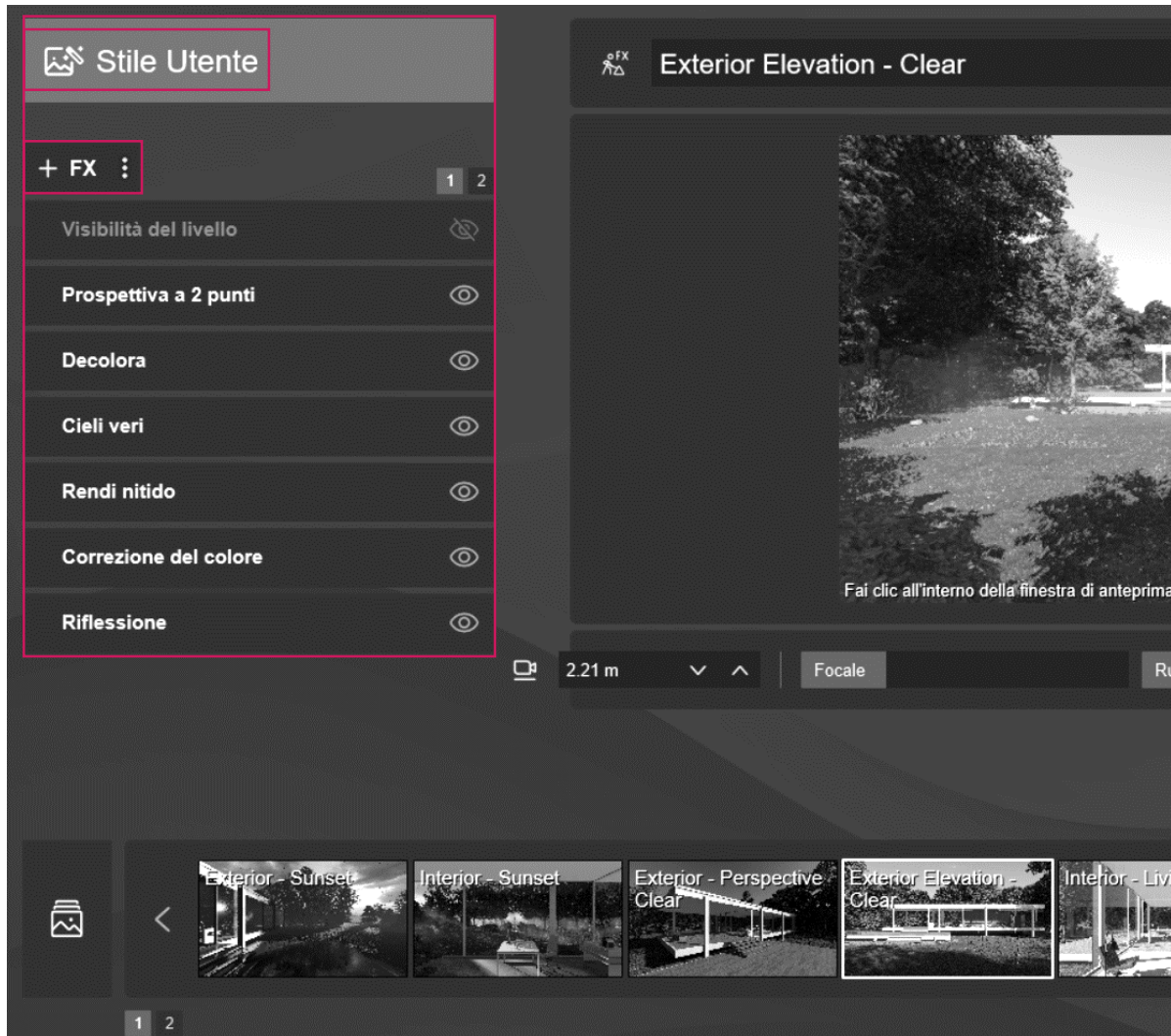
EYE LEVEL

FOCAL LENGHT

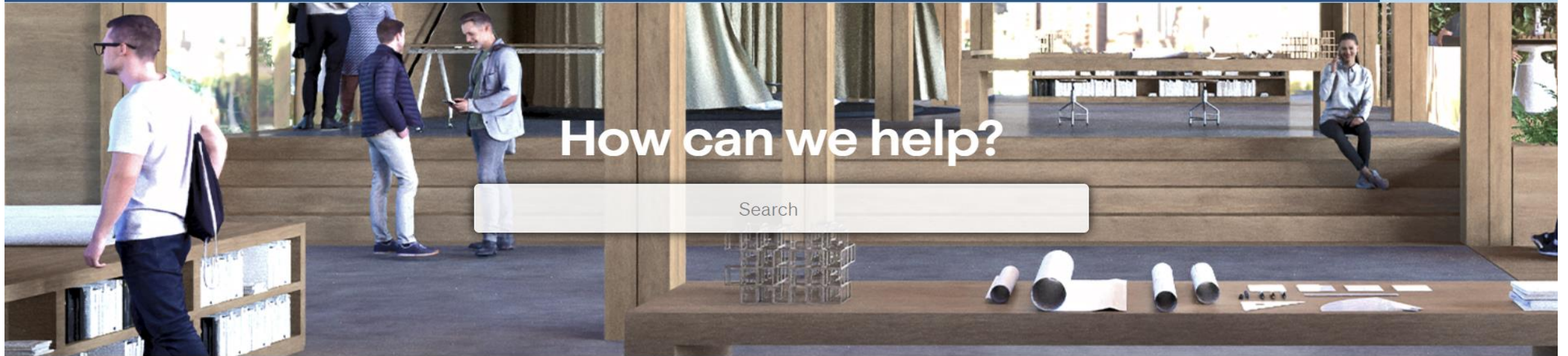
ASPECT RATIO



# LUMION: STATIC RENDER – CUSTOM STYLE AND EFFECTS [REAL SKIES]





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- [Lumion 2023: Welcome to Lumion 2023](#)
- [Lumion 2023: Create Ultra Realistic Materials in Lumion](#)
- [Lumion 2023: Interior lighting tips ft. Architecture](#)



### Lumion 12 - Tutorials

- [Lumion 12.5: Variations Tutorial](#)
- [Lumion 12.5 Tutorial: Using the Layer Visibility effect for animations](#)



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IF YOU HAVE A CLEAR IDEA OF THE RENDERING PROCESS AND THE RESULT YOU WANT TO ACHIEVE, YOU CAN OPTIMIZE THE PROCESS.

YOU CAN LEARN MANY TOOLS AND SOFTWARE, BUT REMEMBER THAT YOUR **CULTURAL BACKGROUND** AND **PERSONAL GRAPHIC DESIGN SENSIBILITY** MAKE A DIFFERENCE [IN THE PROJECT COMMUNICATION PROCESS].





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*Thank you for your attention.*

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