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# NAEXUS

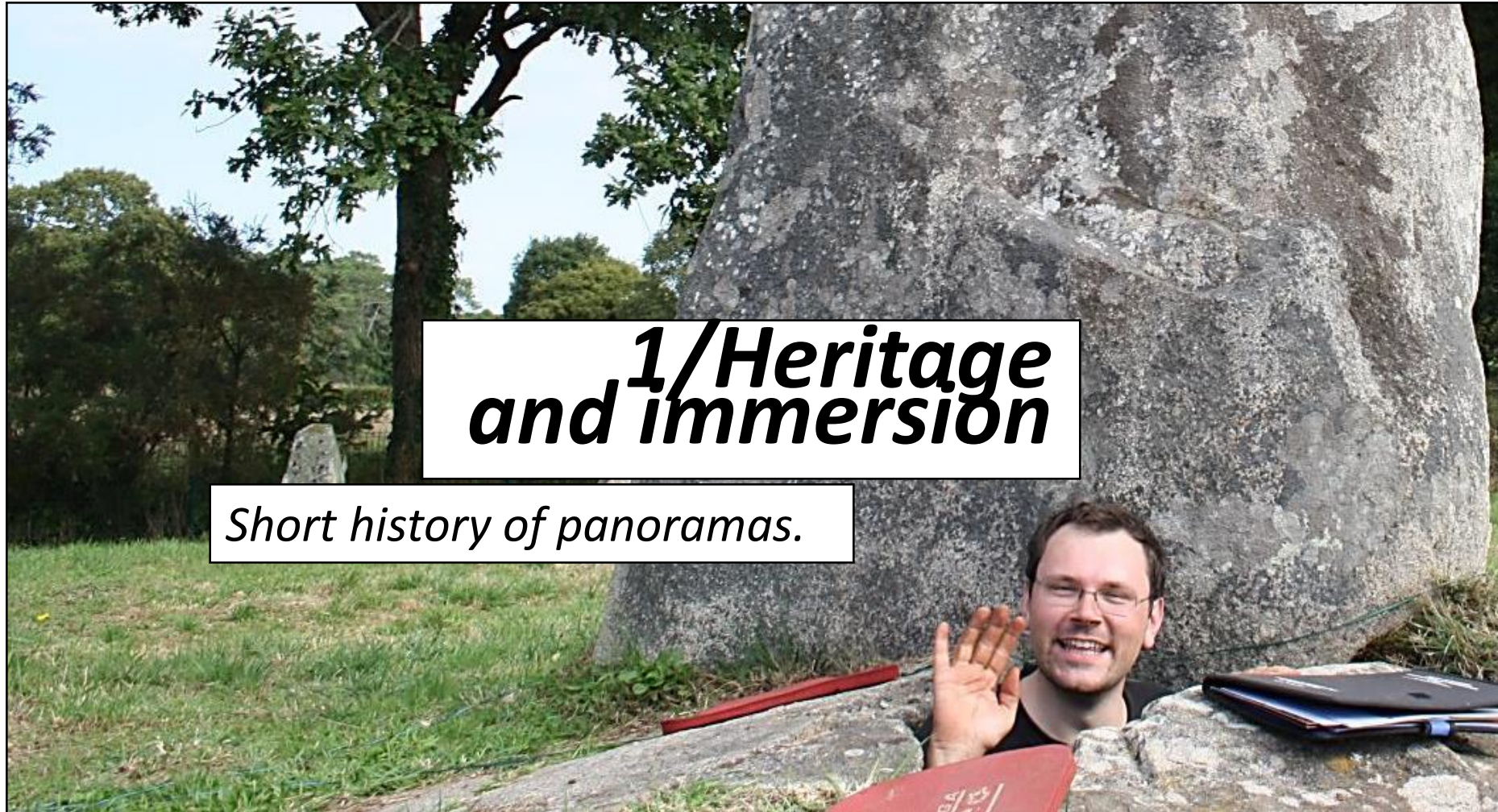
NAEXUS

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# 1/Heritage and immersion

*Short history of panoramas.*

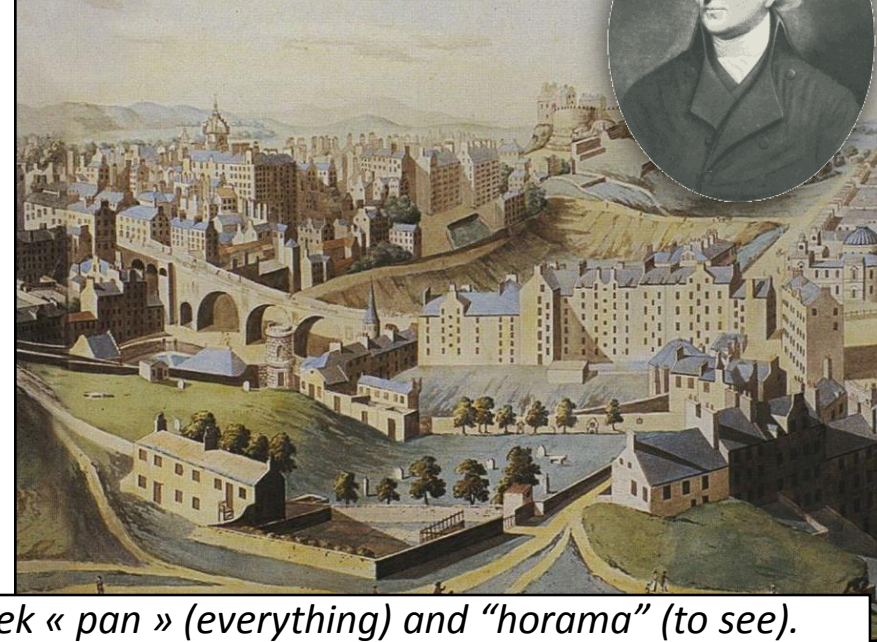
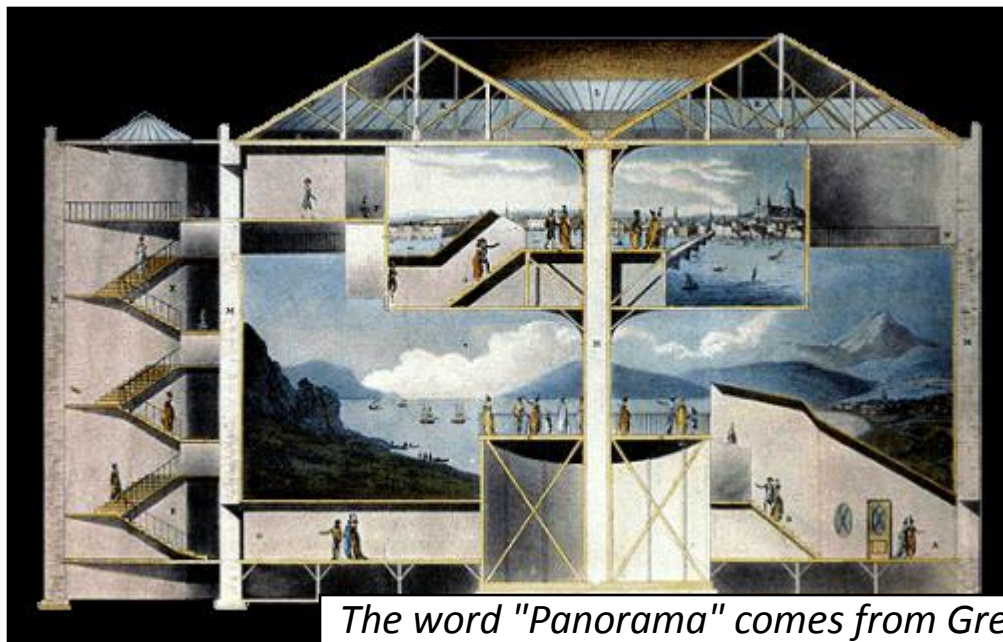




The first diaporama is created by **Robert Barker** in 1787, it's a view from Edinburgh, Scotland...



It's a cylinder with a platform on which stands the audience...

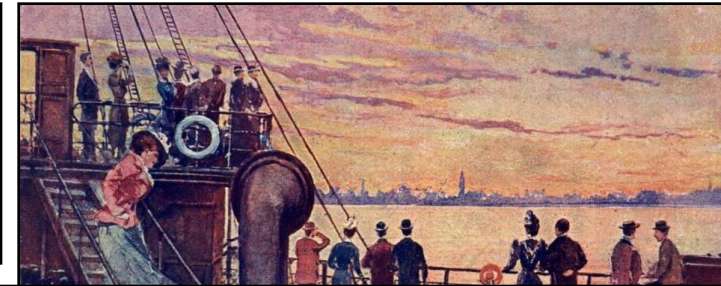


The word "Panorama" comes from Greek « pan » (everything) and "horama" (to see).

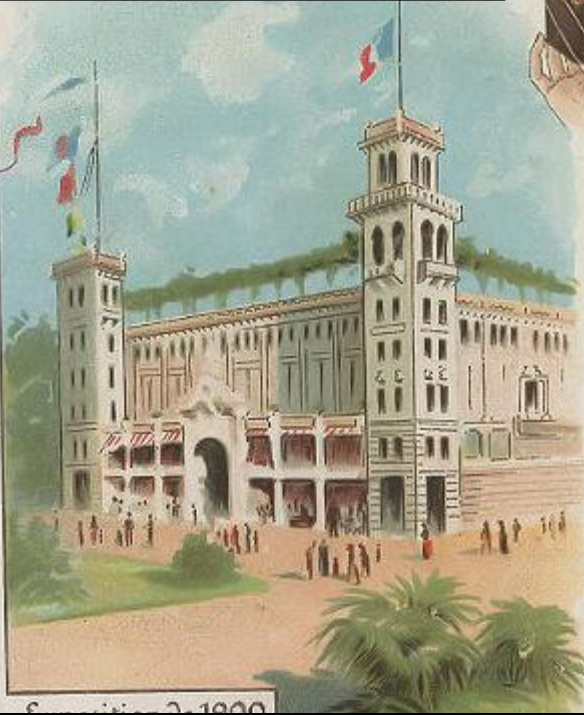




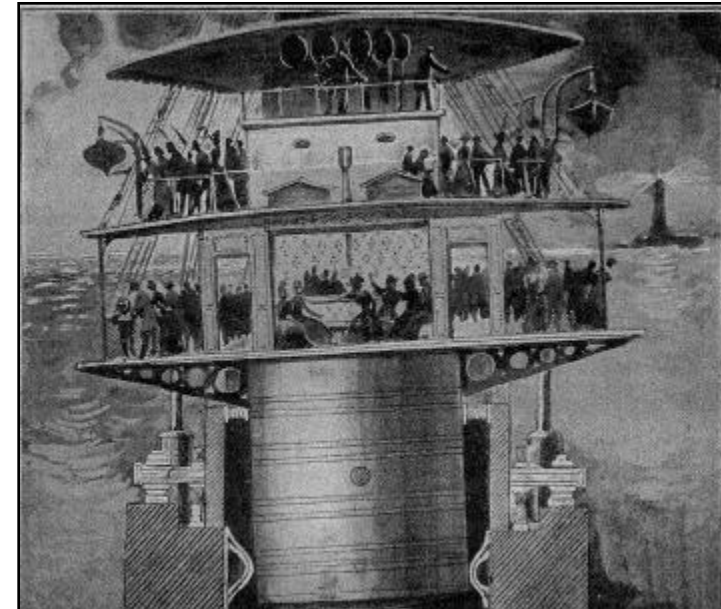
The "Exposition Universelle" of 1900 was a world's fair held in Paris. The **Méréorama** is a device that simulates a boat trip.



The bridge is moving and measures 50m long and 9m wide !



The landscape is rendered on a double painted canvas. Each canvas is 750m long and 15m high !!!

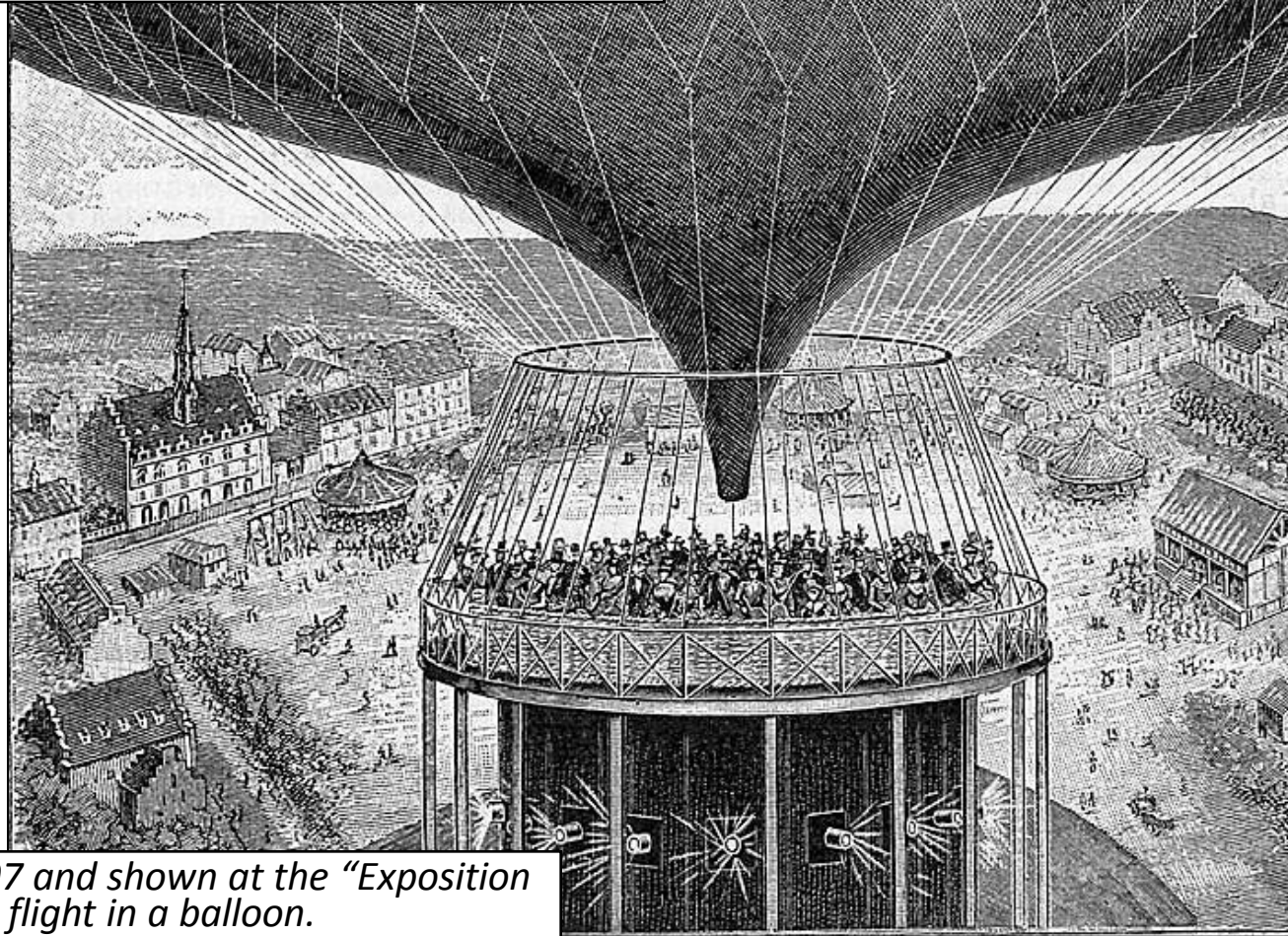
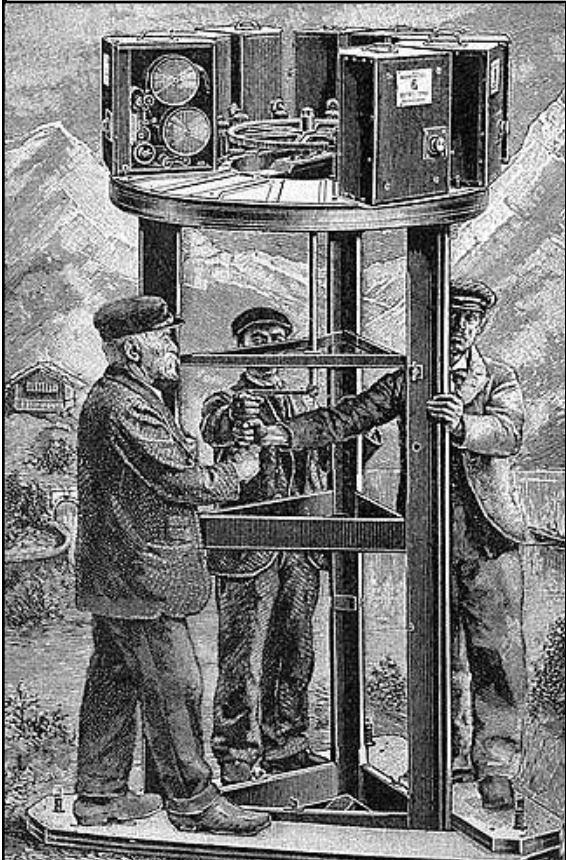


[http://www.worldfairs.info/expopavillondetails.php?expo\\_id=8&pavillon\\_id=2414](http://www.worldfairs.info/expopavillondetails.php?expo_id=8&pavillon_id=2414)





The **Cinéorama** has been invented by **Raoul Grimoin-Sanson**. It's a projection on a circular screen with 10 synchronized projectors.



The process was patented in 1897 and shown at the "Exposition Universelle" of 1900 for a virtual flight in a balloon.





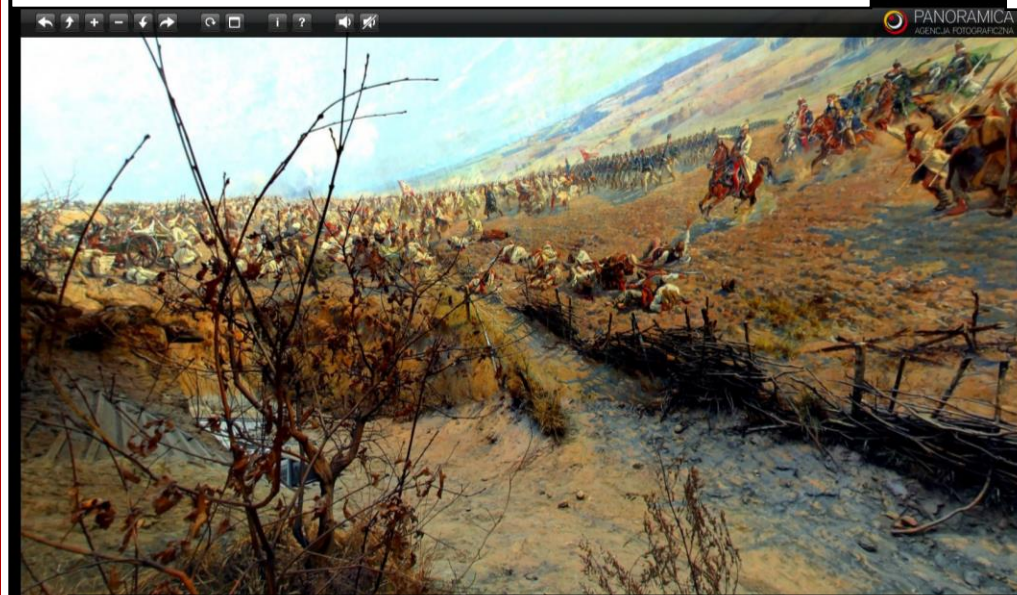
*Panoramas went very popular, and were used to recreate great battles such as ...*



*...the battle of **Waterloo** by Louis Dumoulin...*



*... the battle of **Jinan** (1948) in China...*



*... or the battle of **Raclawice** (Jan Styka and Wojciech Kossak) in Poland.*







*It naturally leads to Abel Gance's epic silent film **Napoléon** directed in 1927.*



*One sequence contains a wide projection with 3 screens, the Polyvision system (Émile Vuillermoz) in a aspect ratio of 4:1.*



*Technical problems (seamless pictures) made this technic difficult to use.*







## ROM 312

DAS ERLEBNIS DER ANTIKEN  
WELTSTADT

BILDERGALERIE

PANORAMAPROJEKT

FOLLOW  
US  
FACEBOOK.COM/  
ASISI.PFORZHEIM

Turkish-german artist **Yadegar Asisi** is one the best specialists of wide painted panoramas.

With a single picture, he can figure moving lights and sounds, creates evocative moods.

[www.asisi.de](http://www.asisi.de)

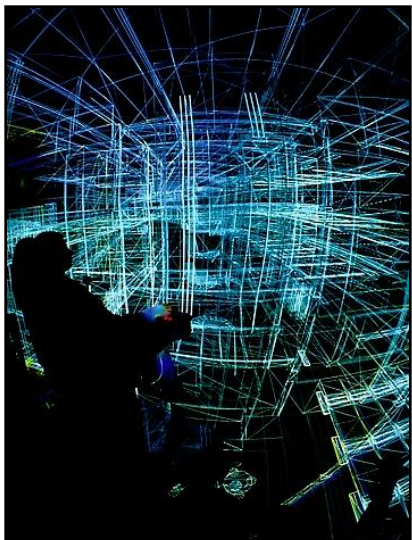
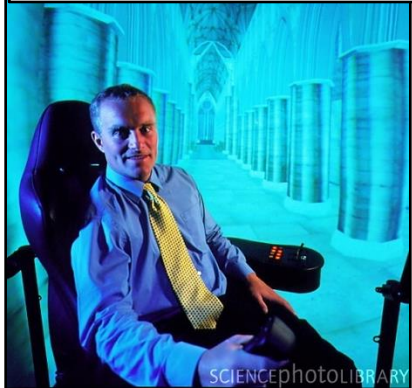




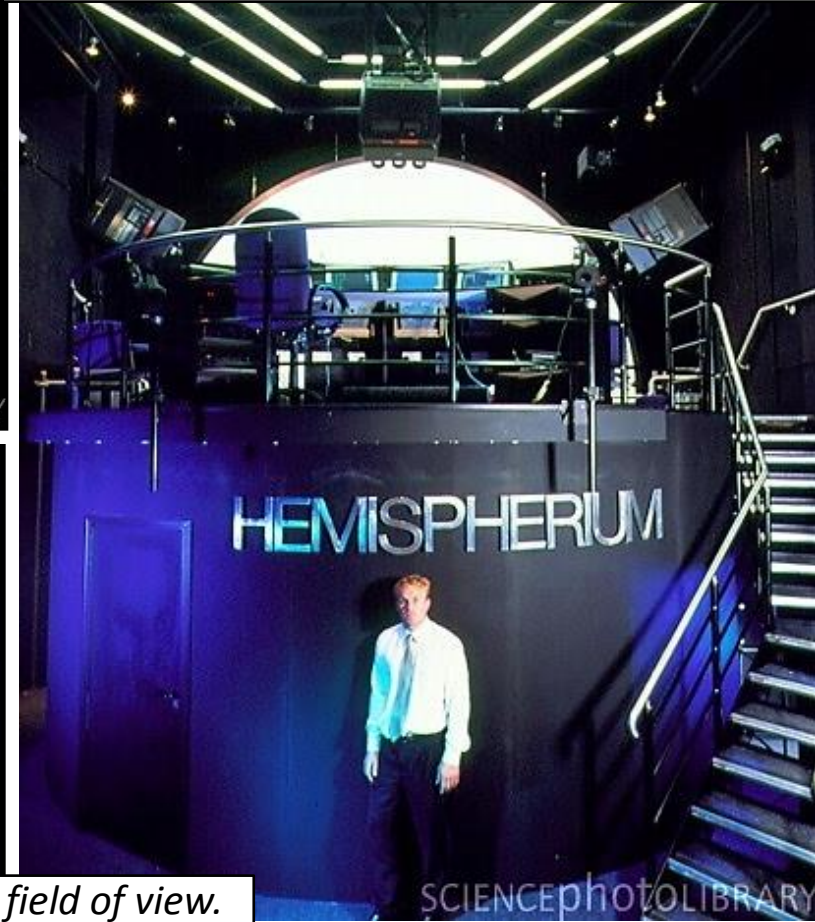


Nigel Rodwell, is sited in the cockpit of the **Hemispherium**.

When built in 1999 it was the most impressive virtual reality center in the world.



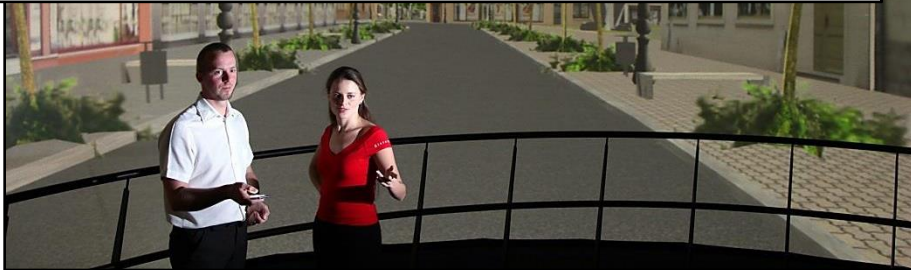
The screen is 6m dome using 7 projectors to give a full 180° field of view.



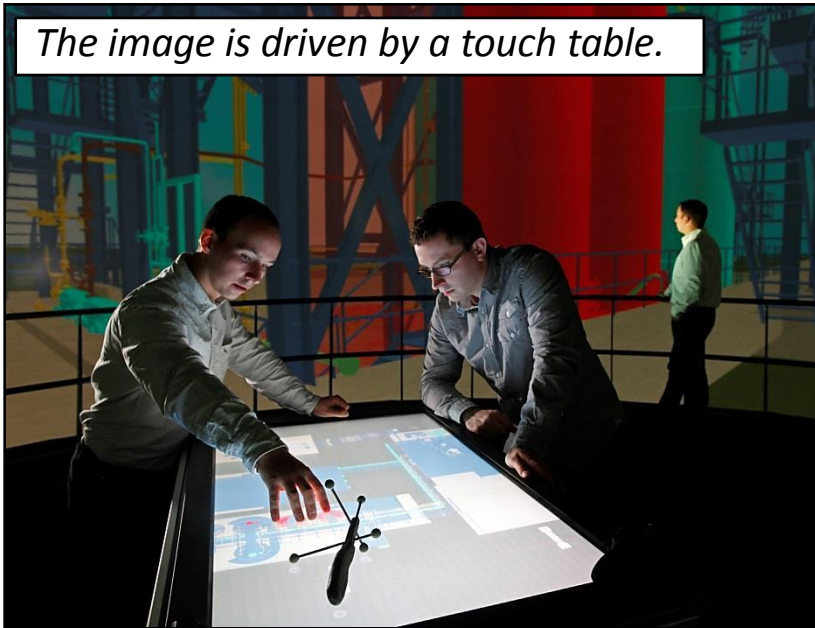




The **Elbe Dom** in Magdeburg, Germany is a large 16m cylinder wide and 6.5m high. It's projection covers 360° on more than 300 m<sup>2</sup>.

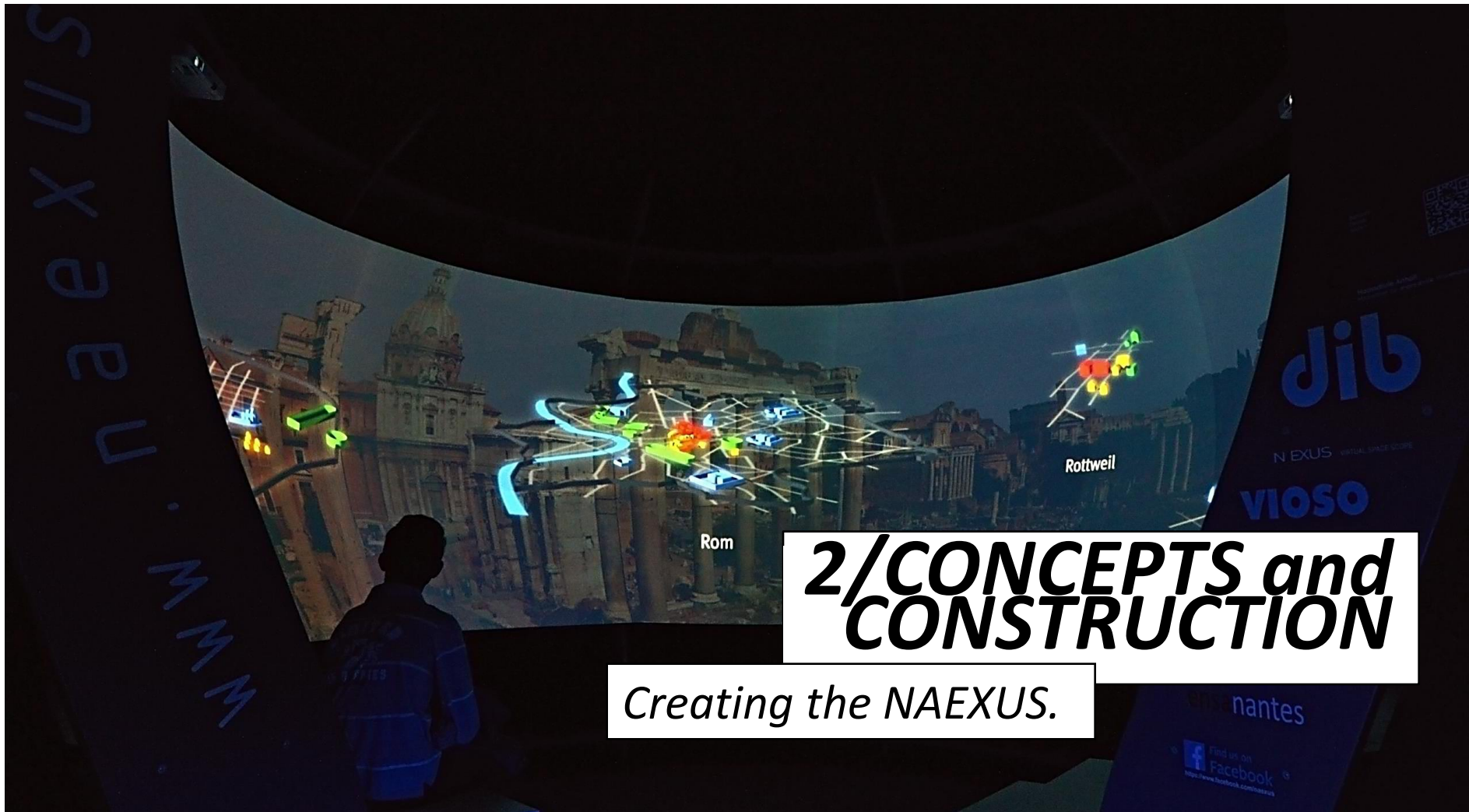


The image is driven by a touch table.



<http://www.iff.fraunhofer.de/en/laboratories/elbe-dom.html>





## 2/CONCEPTS and CONSTRUCTION

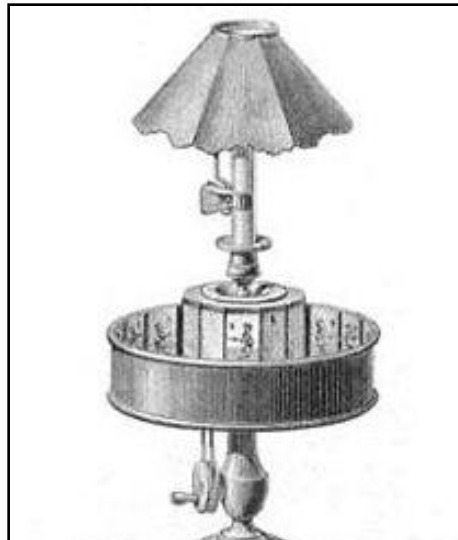
Creating the NAEXUS.



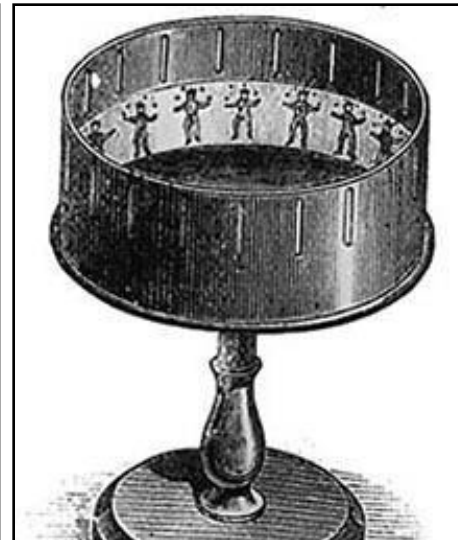




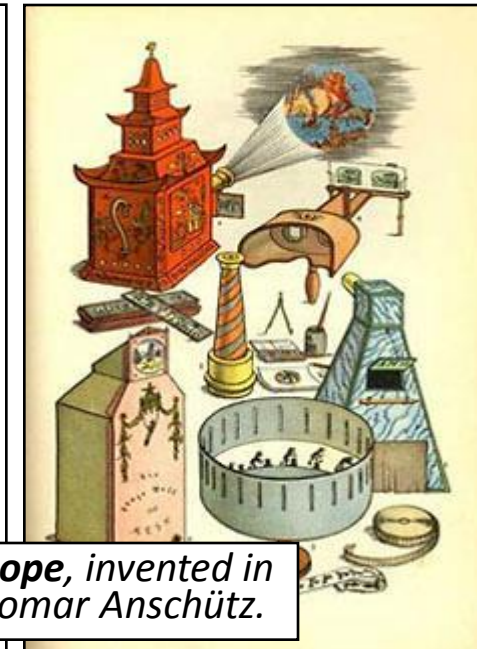
The magic lantern inspired the creation of Naexus with the idea of a picture made of light.



The **praxinoscope**, invention patented in 1877 by Émile Reynaud.



The **tachyscope**, invented in 1887 by Ottomar Anschütz.





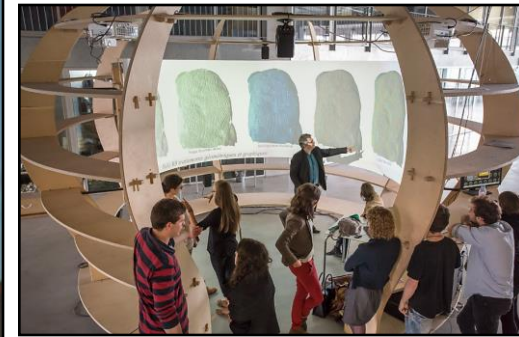


**Naexus** is developed in **Dessau (Germany)** and **Nantes (France)**.  
 The device holds a 220° 15m long 1.5m high screen.



4 projectors create a wide 5:1 image from a single computer !

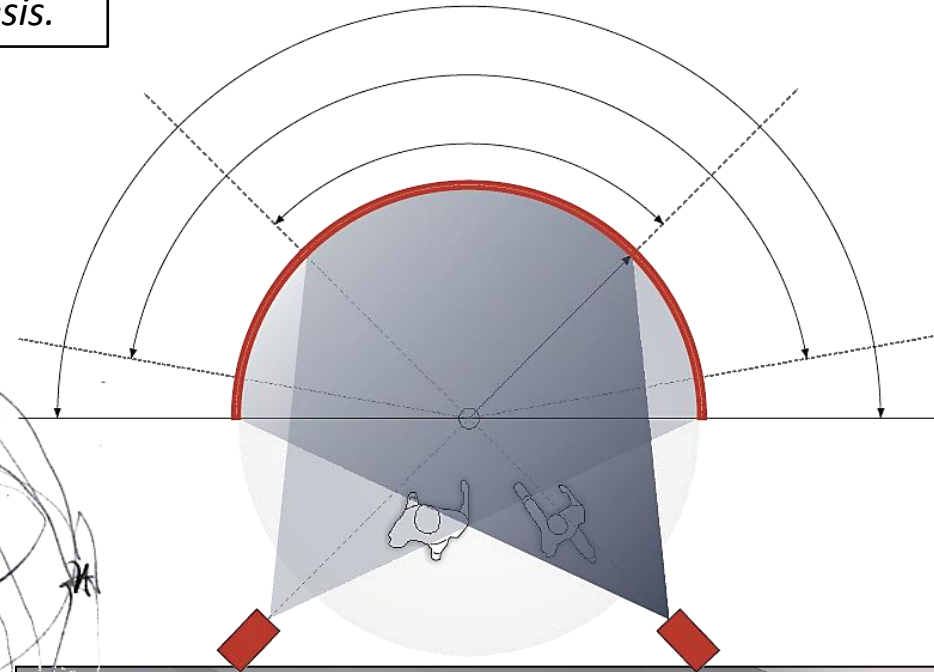
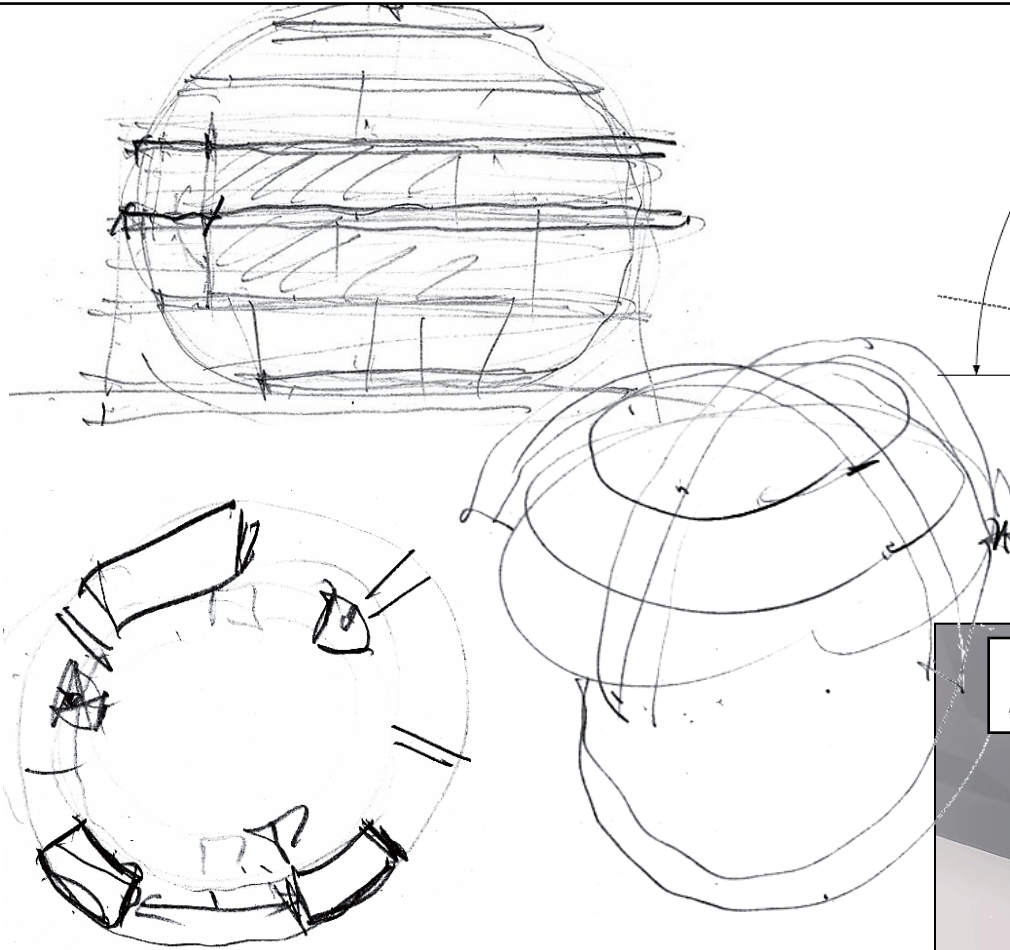
Leipziger Messe GmbH / Uwe Frauendorf



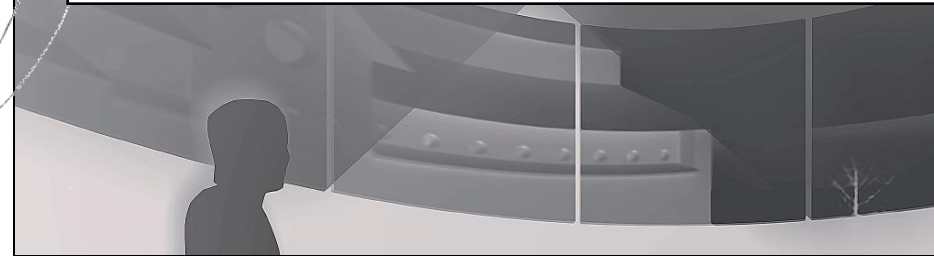




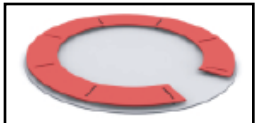
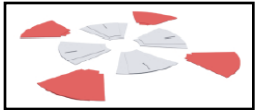
*First sketches from Michael Walter for his master thesis.*



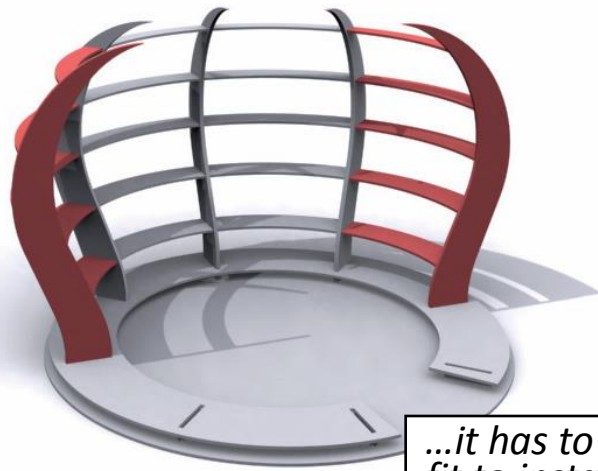
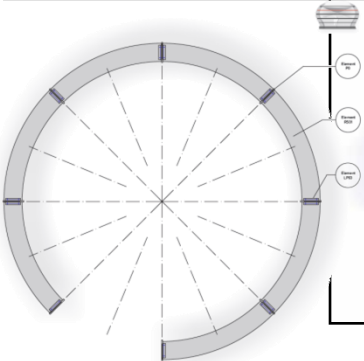
*The initial idea was to bring an affordable immersive device for museography.*



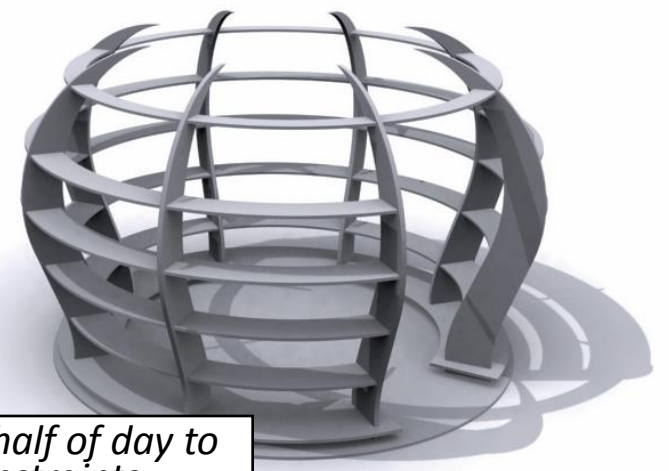




*Naexus is designed with a **modular** system...*



*...it has to be set in half of day to fit to installation constraints.*







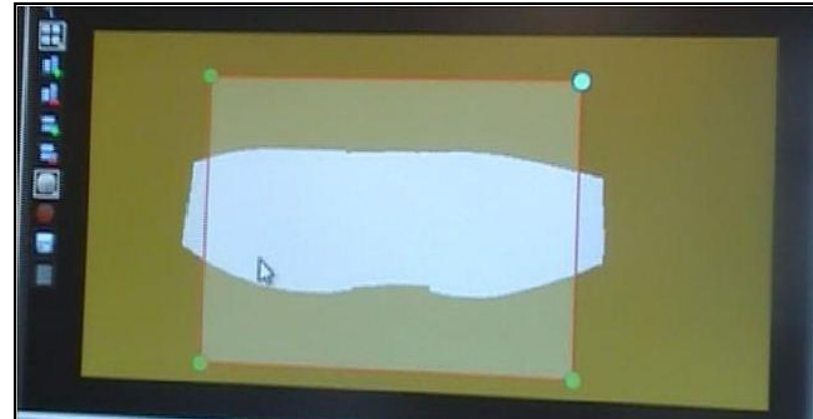
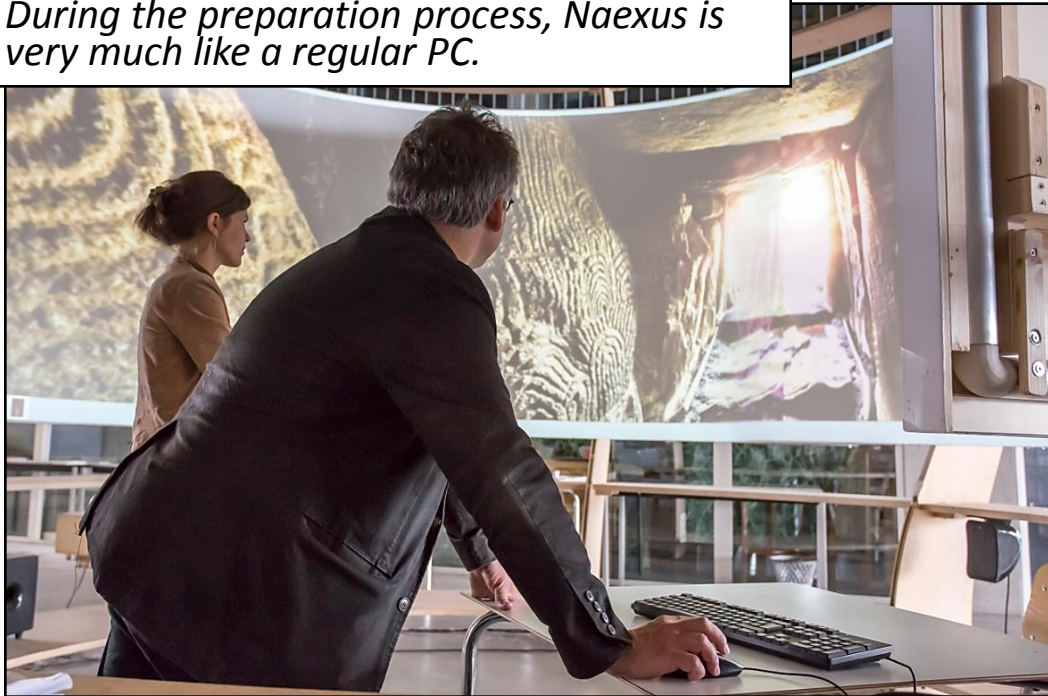
*Wooden plates are cut with a CNC machine.*







*During the preparation process, Naexus is very much like a regular PC.*



*The main challenge is to calibrate the screen. Thanks to Vioso's technology, this is now automatic.*



Ordinateur-Naexus



Ordinateur-Black Box



Projecteur 4



Projecteur 3



Projecteur 2



Projecteur 1







*Unlike many similar devices,  
Naexus allows to...*

*...personalize and share...*

*...and bring a **collective experience.***







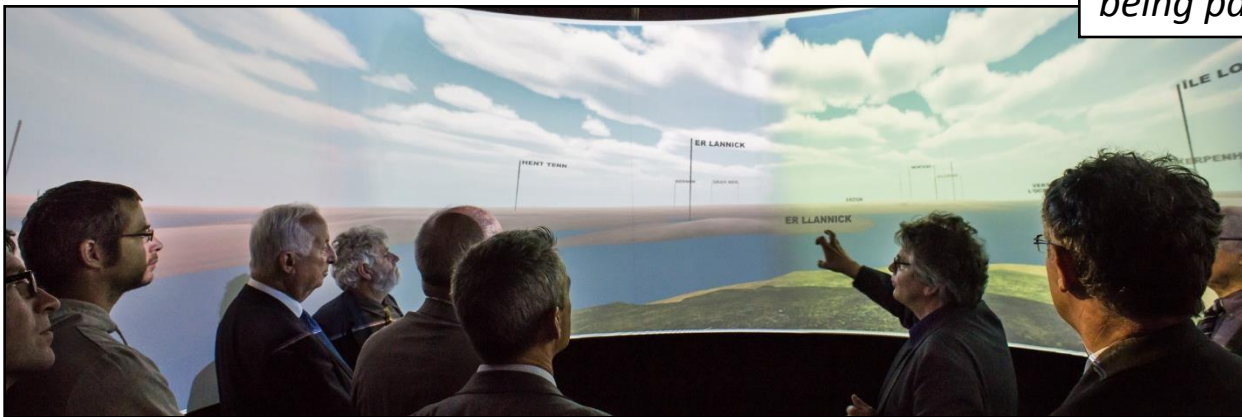
*The distance between the image and the audience is a very important factor in terms of involvement.*



*The screen becomes a board that can be touch, making explanations very efficient.*



*It's not just watching a moving image, it's being part of it. That's what immersion is.*







*It's also possible to use a Kinect or any similar system to interact with the Naexus.*

*Easy moves are enough to explore a 3D scene.*



*This spaceboard is also a way to interact and move.*







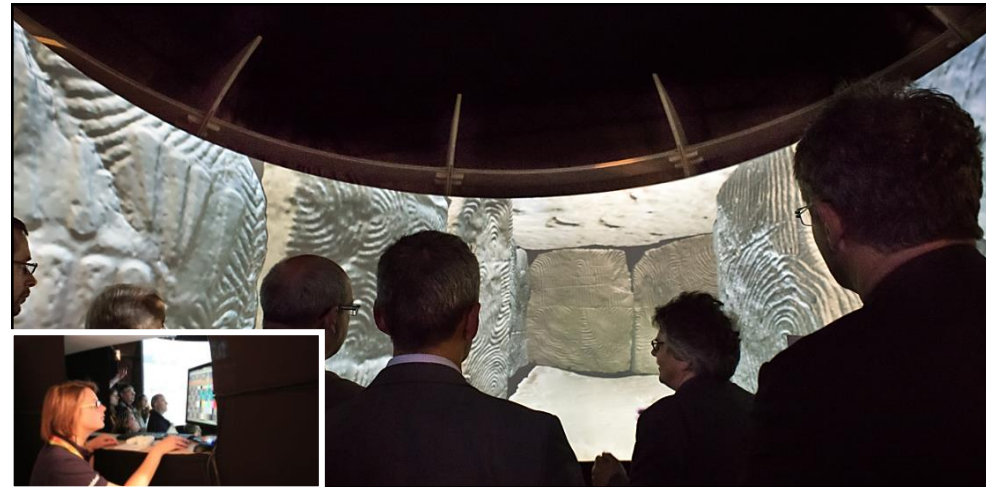
## Emerging tools for Conservation practice



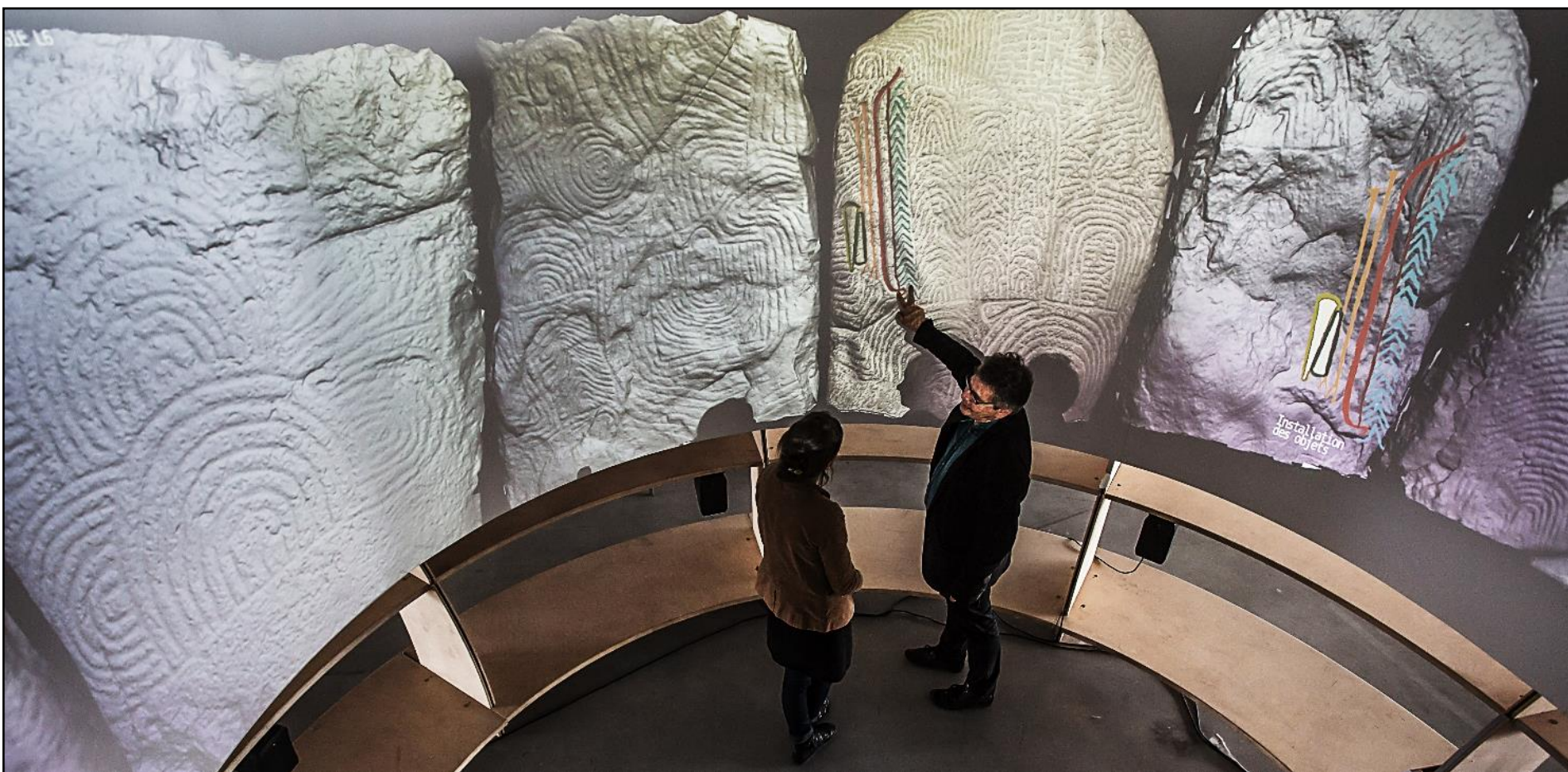
*In Vannes, Naexus was installed in a tent, the device was not designed for outside locations.*



*The entrance was free and all representations were booked in the first hours of the day.*







*In Vannes, Naexus was used with a mediator, to interact with visitors at their pace...*

*...and offer them a visit with impossible views of the Neolithic monument.*







*In Trier, Naexus was inside the museum. Visitors were proposed his virtual visit along with the regular one.*







*The access was beautifully designed...*



*...to lead into an iconic room.*

FOTO: ANDREAS BARTSCH - 800 JAHRE ANHALT FESTAKT / BERNBURG





**3/AMBIANCE  
and NARRATION**

*Looking for the Genius Loci.*

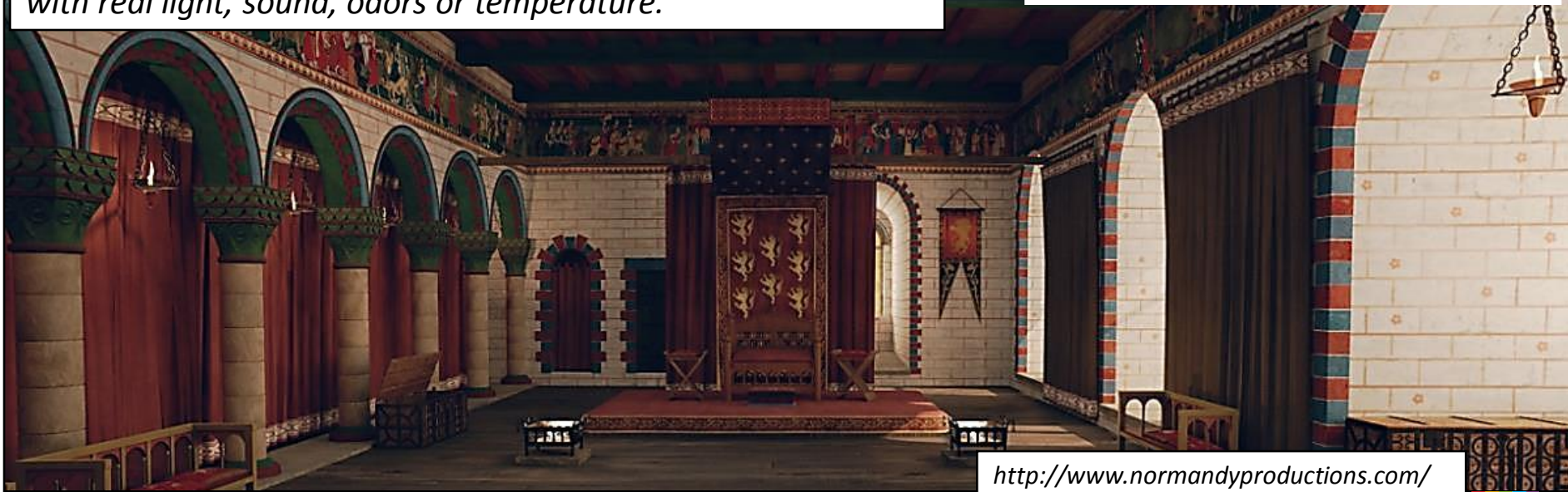




## Emerging tools for Conservation practice



With tools such as **Unity**, restitutions are visually attractive and filled with details, however, a very few of them are dealing with real light, sound, odors or temperature.

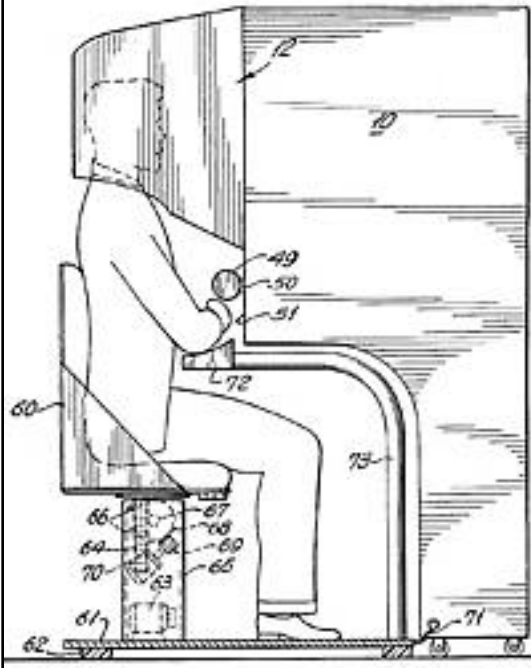


<http://www.normandyproductions.com/>



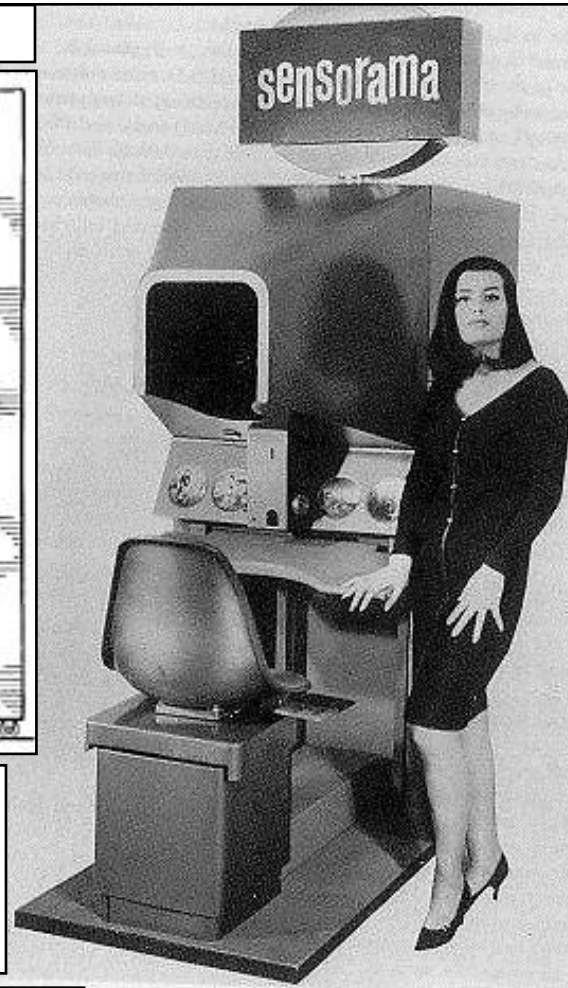


## Sensorama, Morton Heilig.



*Sensorama* is one of the earliest known examples of immersive, multi-sensory (now known as multimodal) technology.

<http://en.wikipedia.org/wiki/Sensorama>



Introducing . . .

## sensorama

The Revolutionary Motion Picture System that takes you into another world with

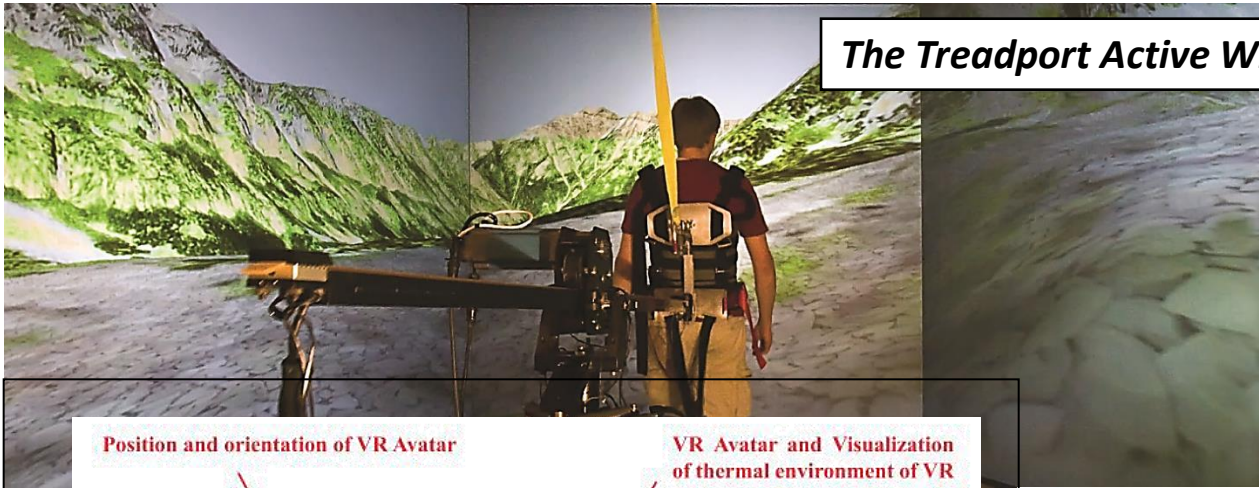
- 3-D
- WIDE VISION
- MOTION
- COLOR
- STEREO-SOUND
- AROMAS
- WIND
- VIBRATIONS



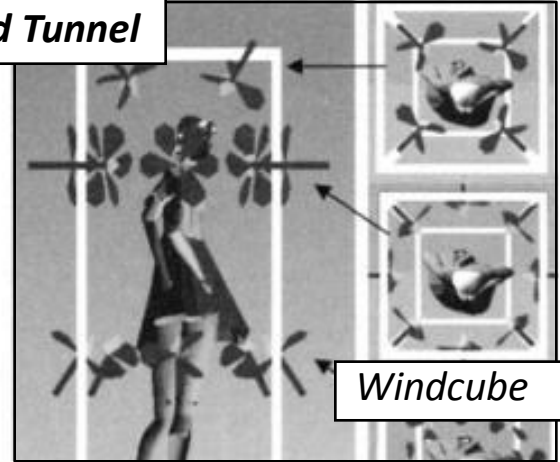
© PATENTED

SENSORAMA, INC., 855 GALLOWAY ST., PACIFIC PALISADES, CALIF. 90272  
 TEL. (213) 459-2162





The Treadport Active Wind Tunnel



Windcube

Position and orientation of VR Avatar

VR Avatar and Visualization of thermal environment of VR

**Information of wind**

**Information of thermal index**

**Analytical date, temperature and humidity**

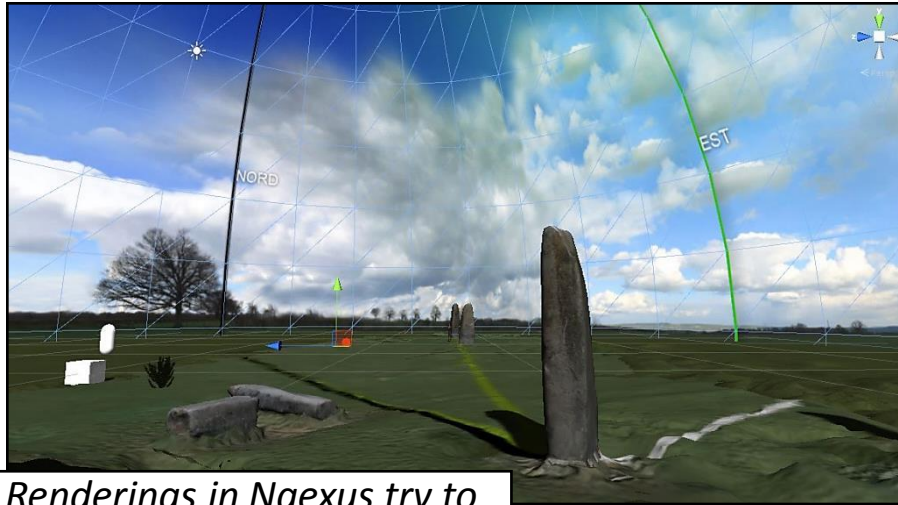
**Menu of Visualization**

**Vrate System**



Winddisplay

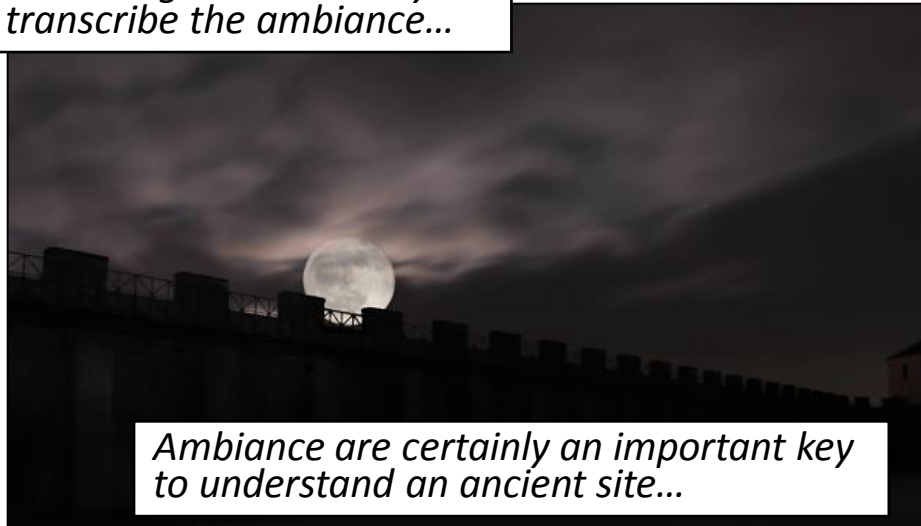




*Renderings in Naexus try to transcribe the ambiance...*



*showing the invisible*



*Ambiance are certainly an important key to understand an ancient site...*







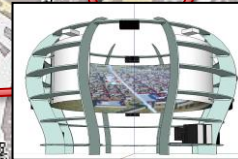
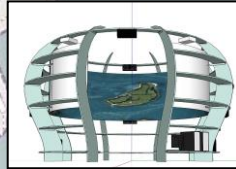
Emerging tools for Conservation practice

**Being close to distancing**

*Naexus meets people on location, on sites...*

*...but also creates a difference between the place where visitors get the knowledge...*

*...and where they experiment things in real.*







*The most important thing is to visit places...*



Porta Nigra



Basilika



Amphitheater



Kaiserthermen



Kaiserthermen



Römerbrücke

**Experimenting for real**

*...be inspired, experience through your senses, feeling the ambiance...*

*...and beauty of the world around you.*





*Thank you for your attention.*

