



European Union's REKconstructed content in 3D to produce XR experiences

Reuse of 3D in practice: XR scenarios

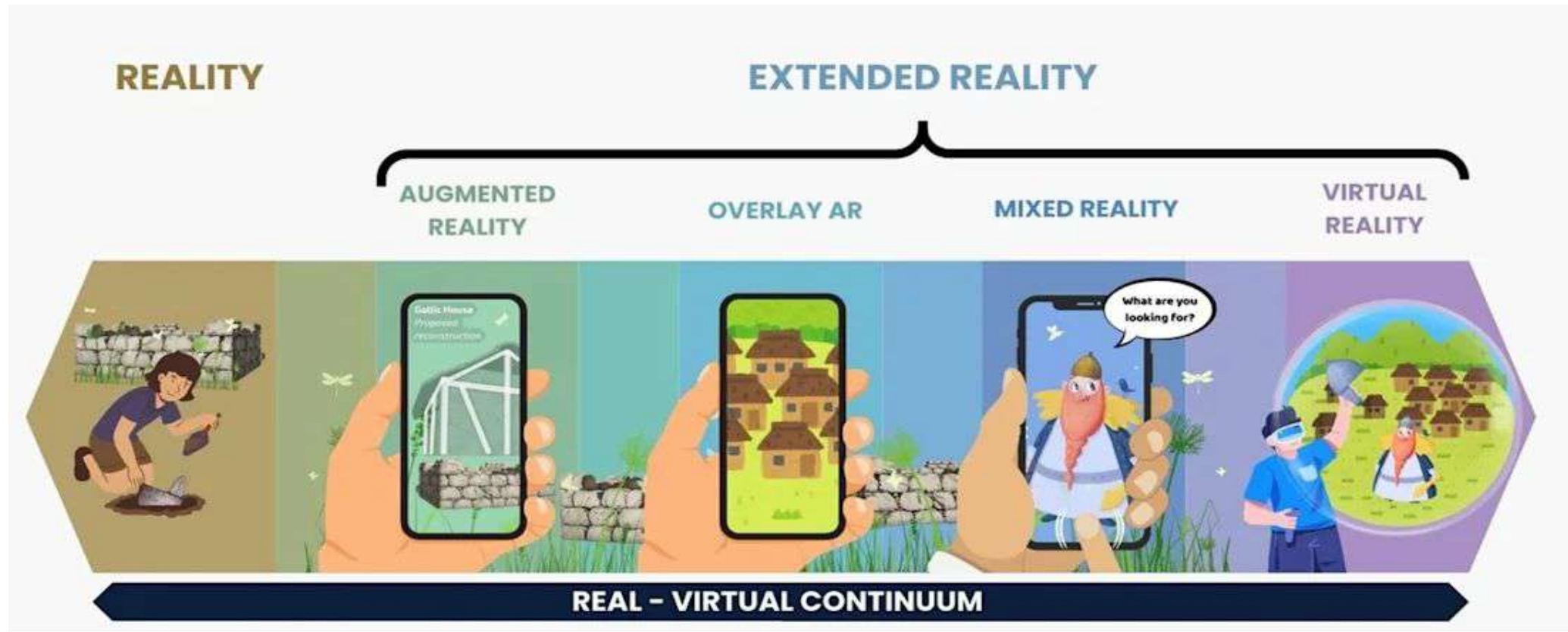


Table of contents

1. The value of XR for cultural heritage professionals
2. EUreka3D-XR scenarios and tools

Reuse of 3D in practice: XR scenarios

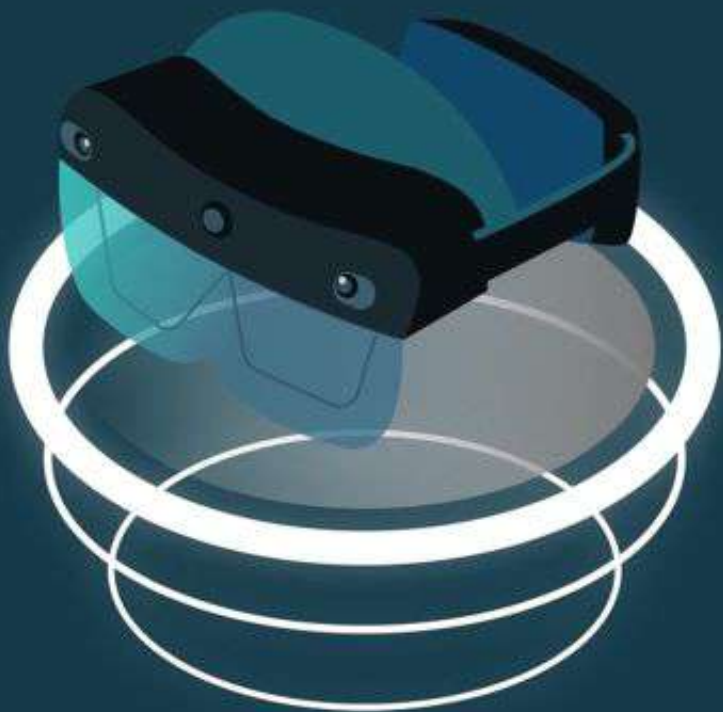
Why invest in XR as a cultural heritage professional?



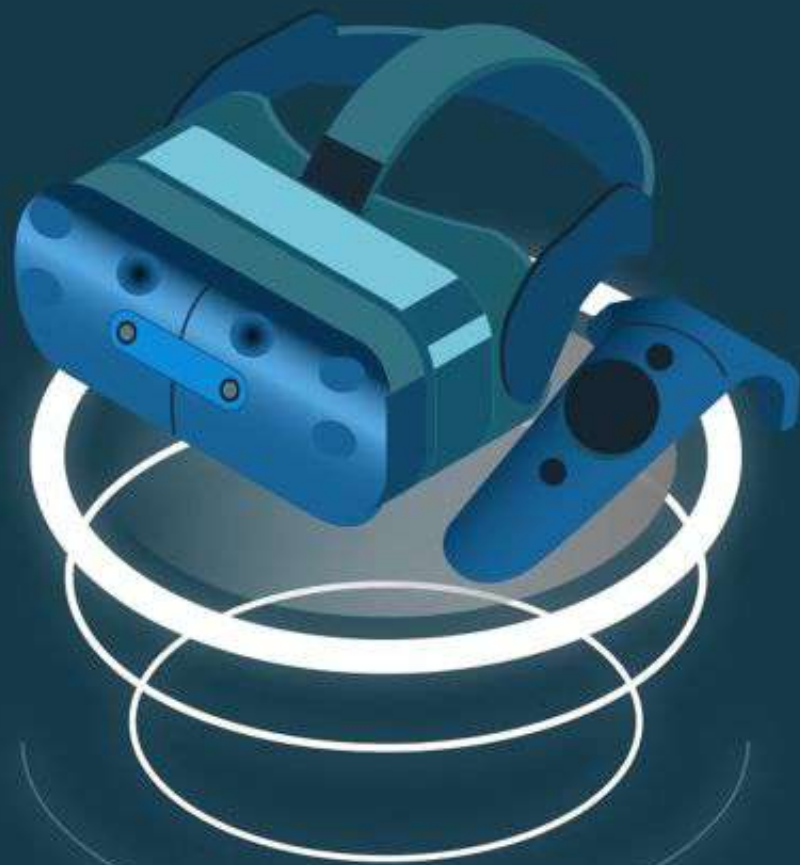
X R



AUGMENTED



MIXED



VIRTUAL

Reuse of 3D in practice: XR scenarios

Why invest in XR as a cultural heritage professional?



1. Preservation



2. Accessibility



3. Re-contextualisation



4. Reconstruction



5. Scientific Research



6. Education



7. Active Engagement



8. Social Connection



9. Creative Reuse

Reuse of 3D in practice: XR scenarios

Why invest in XR as a cultural heritage professional?

EC RECOMMENDATION on a common European data space for cultural heritage (11/2021)

In its recommendation, the Commission asks Member States to

- set targets for digital strategies, digitisation and the preservation of more cultural heritage
- and to contribute more to Europeana and the Data Space,
- with a particular focus on 3D, AI and XR

Opportunities to generate monetary value

Reuse of 3D in practice: XR scenarios

Challenges for cultural heritage professionals

- Access to high-quality 3D assets
- Lack of (technical) skills → need for practical guidelines
- Insecurity about technical quality standards and frameworks
- Complex production processes → the need for low barrier tools to start experimenting with XR
- Lack of resources
- Unaware of the opportunities of 3D and XR
- Etc.

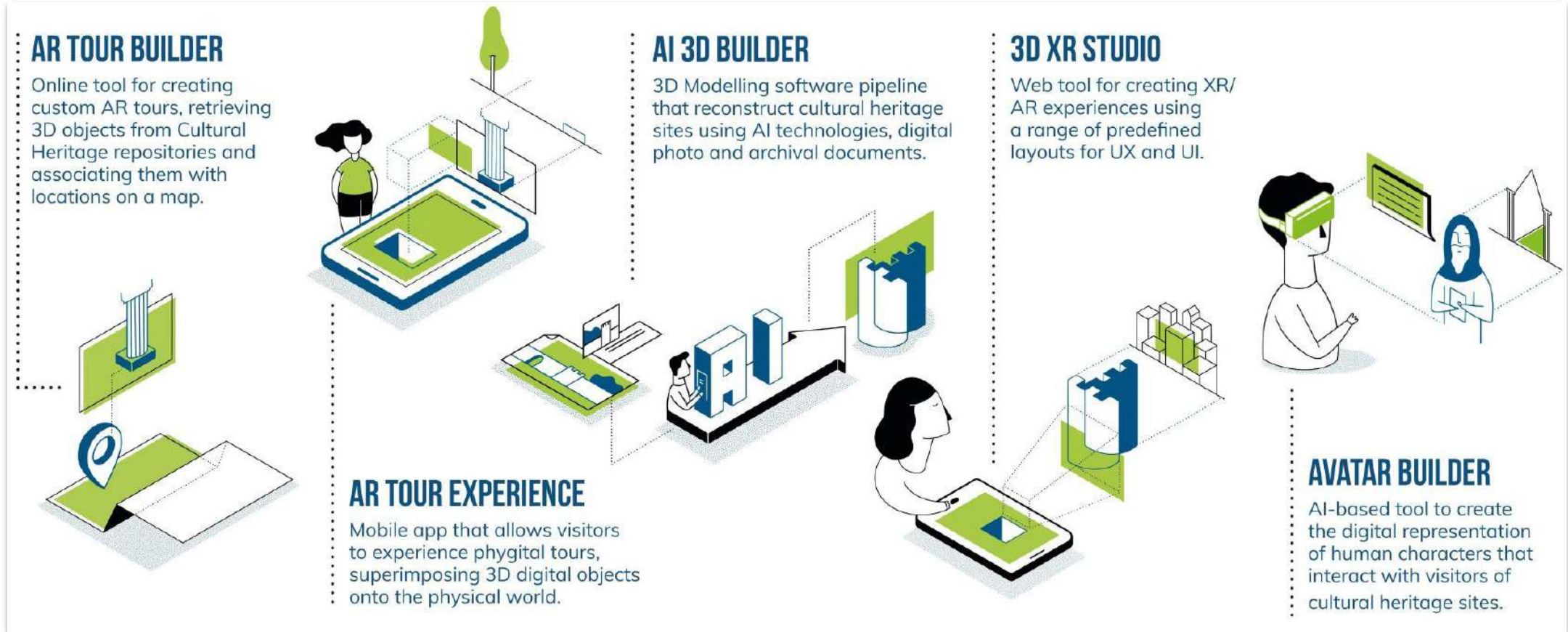
⇒ EUreka3D-XR aims to strengthen the knowledge, skills and behaviors of CH professionals (and others working with 3D!) by providing 3D digitisation guidelines, the EUreka3D Data Hub, XR tools and capacity building activities and resources to support the reuse of heritage in 3D.

Table of contents

1. The value of XR for cultural heritage professionals
2. **EUreka3D-XR scenarios and tools**

Reuse of 3D in practice: XR scenarios

The EUreka3D-XR tools



Reuse of 3D in practice: XR scenarios

The EUreka3D-XR pilot scenarios

GIRONA (CAT)

The virtual visualisation of the middle-ages walls of the city of Girona.



BIBRACTE (FR)

The AR narrative of the hidden side of the Bibracte archaeological site.



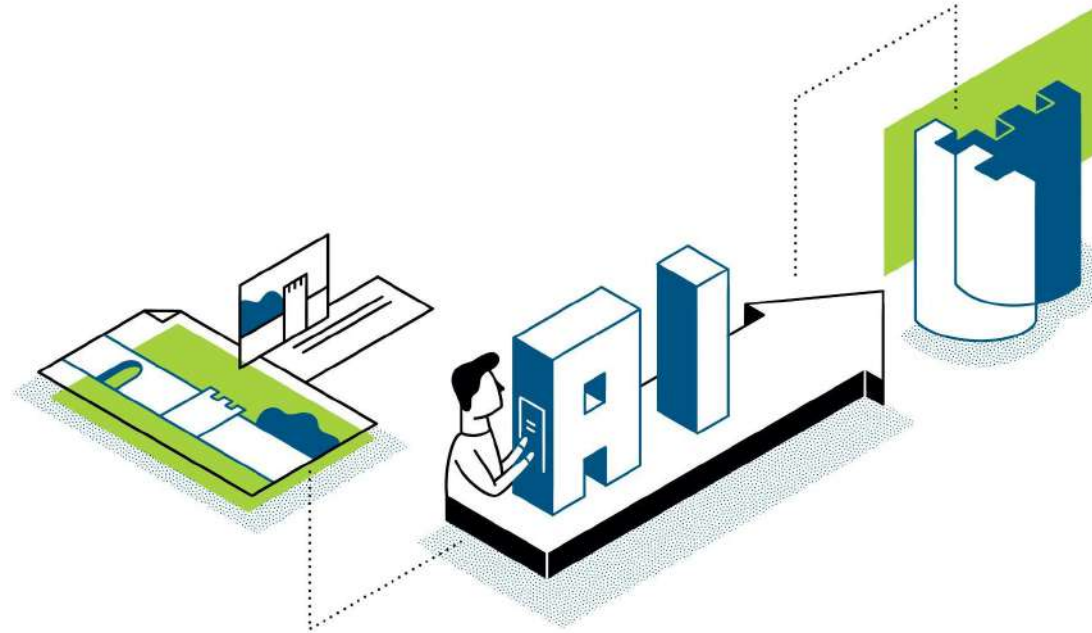
PAPHOS (CY)

The creation of a new life of Saint Neophytos Englystra in Cyprus in the virtual space.



Reuse of 3D in practice: XR scenarios

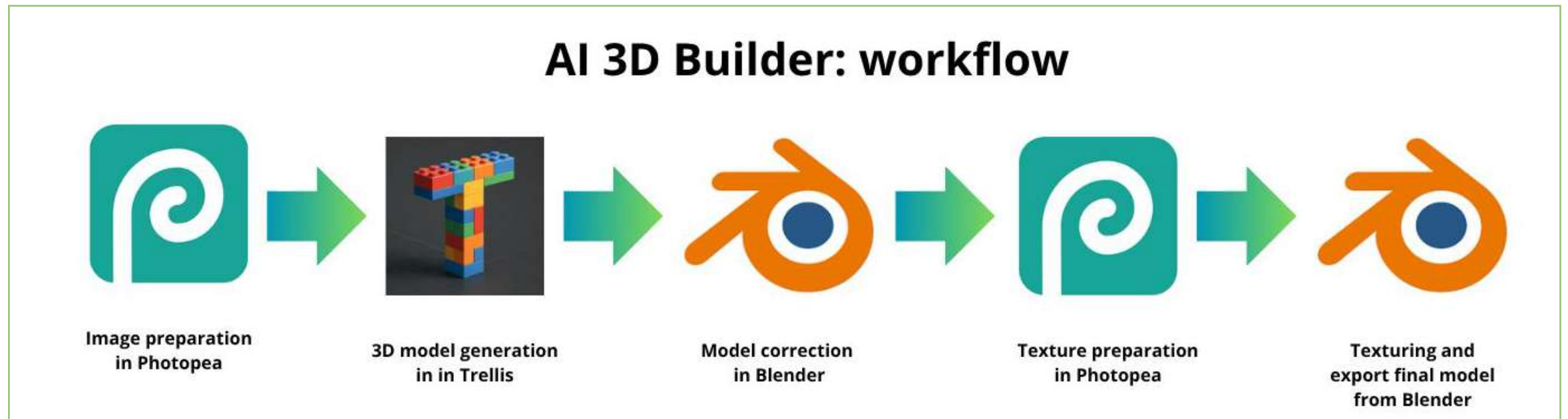
The EUreka3D-XR tool: AI 3D Builder



Reuse of 3D in practice: XR scenarios

The EUreka3D-XR tool: AI 3D Builder

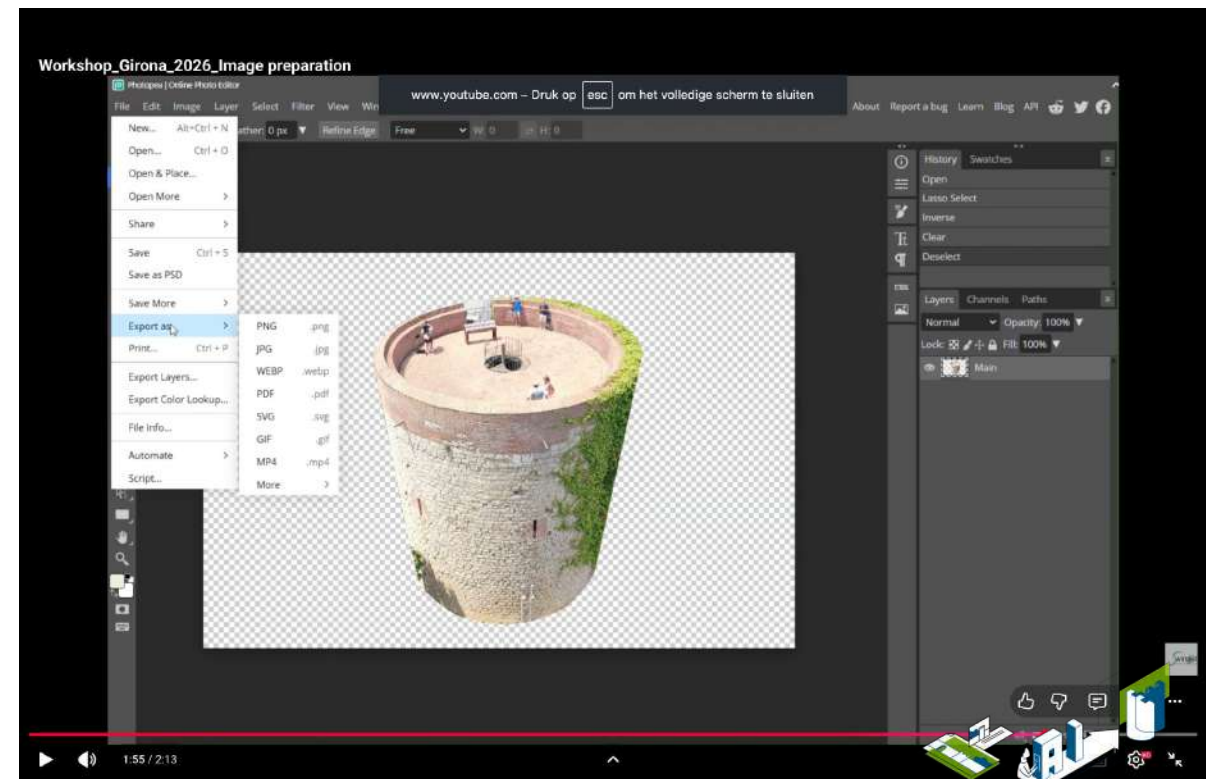
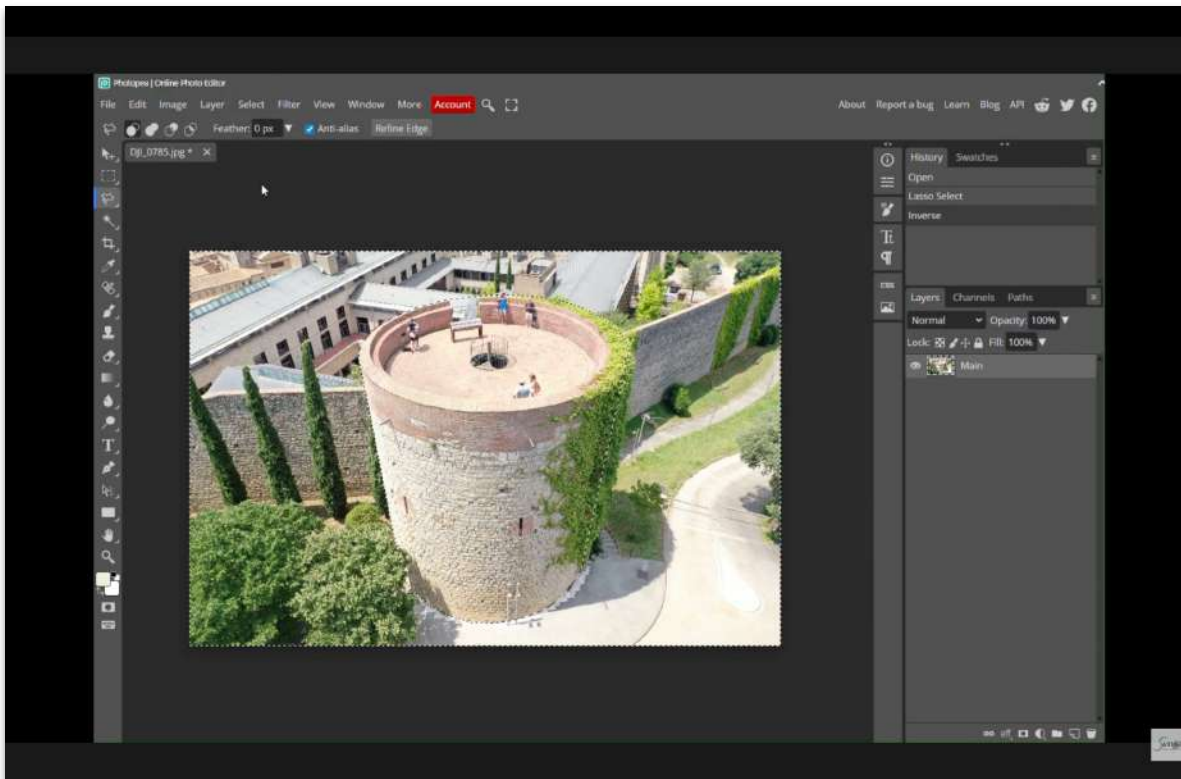
AI 3D Builder is a **workflow** with **guidelines** to transform 2D objects into reusable 3D models



Reuse of 3D in practice: XR scenarios

The EUreka3D-XR tool: AI 3D Builder

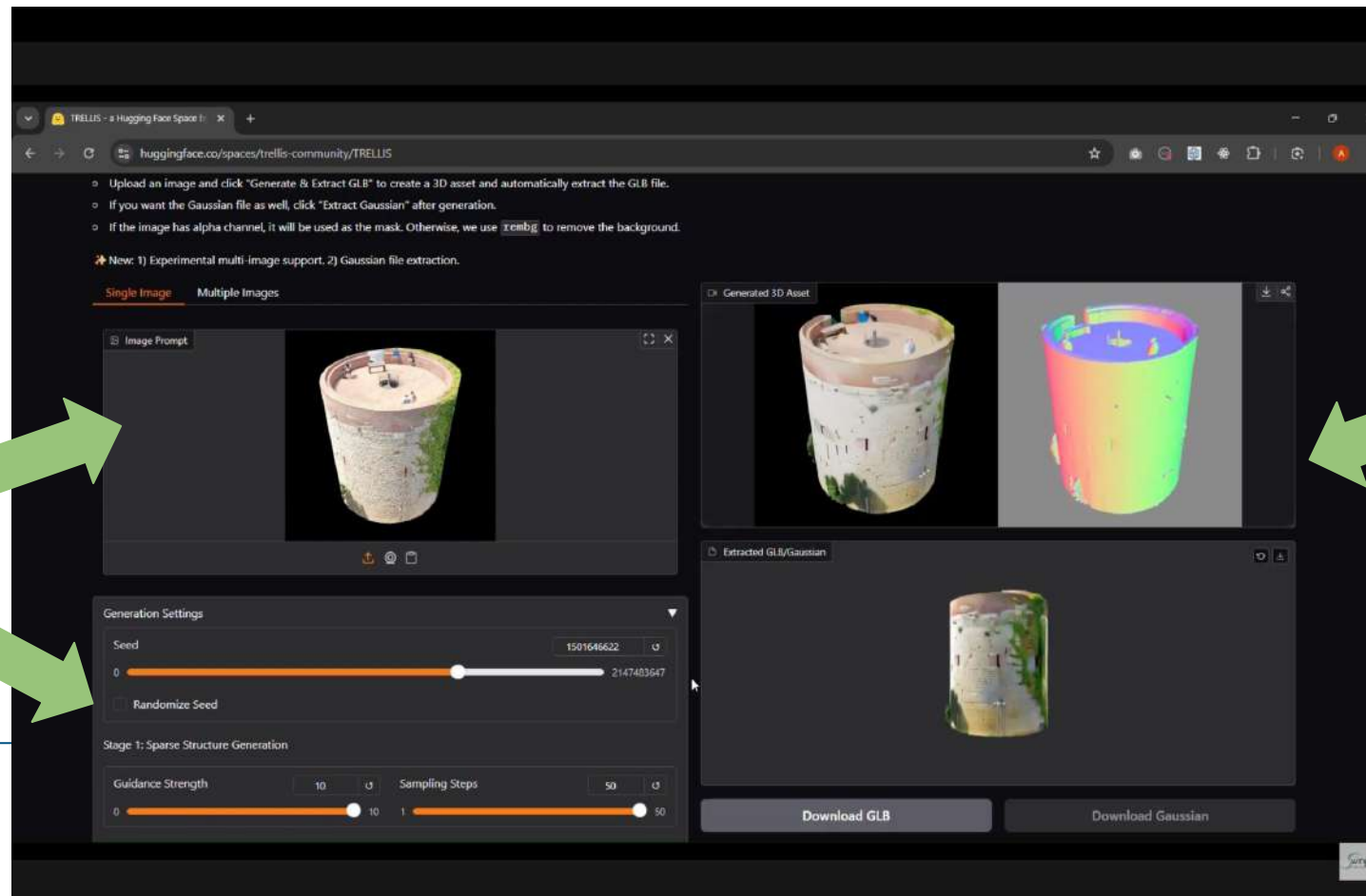
Step 1: image preparation in Photopea



Reuse of 3D in practice: XR scenarios

The EUreka3D-XR tool: AI 3D Builder

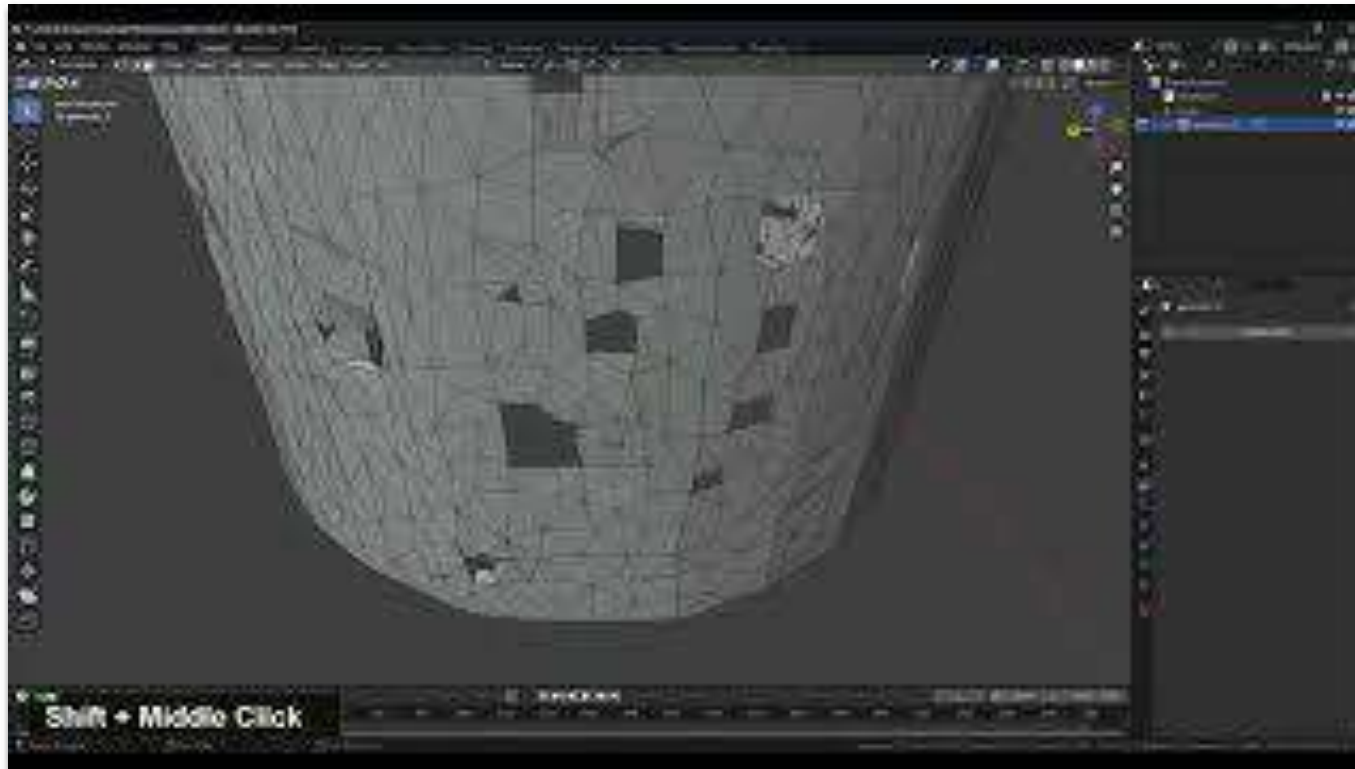
Step 2: model generation in AI-tool Trelis



Reuse of 3D in practice: XR scenarios

The EUreka3D-XR tool: AI 3D Builder

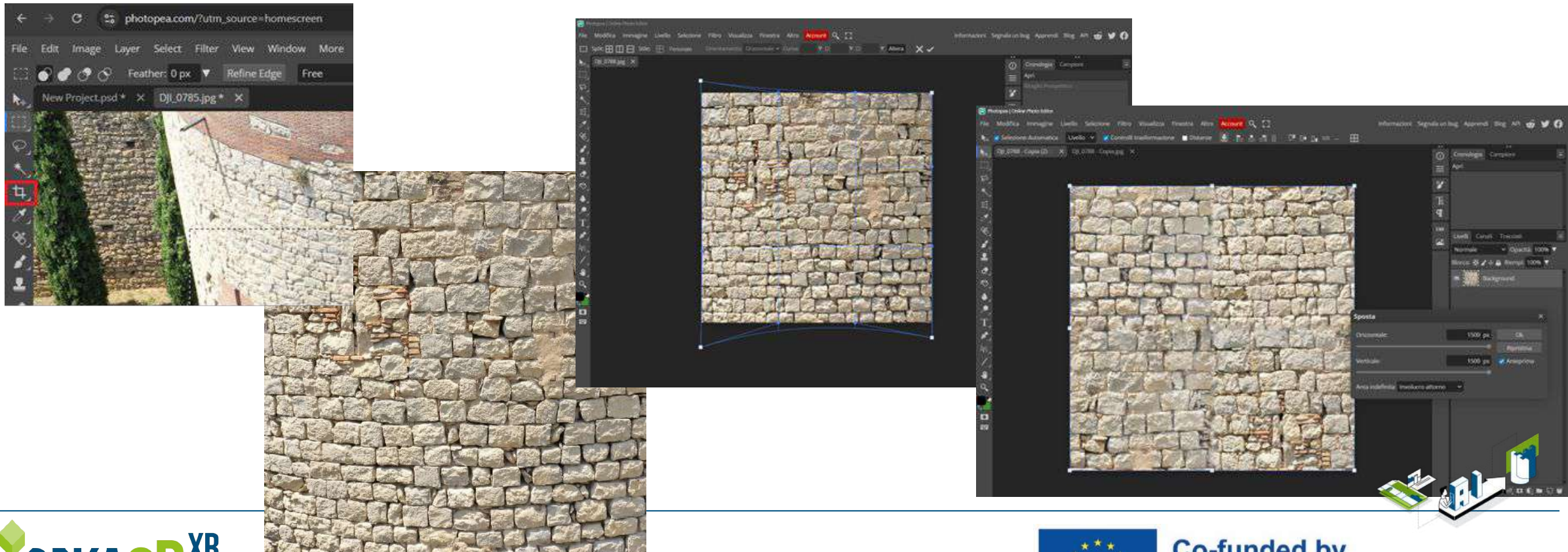
Step 3: model correction in Blender



Reuse of 3D in practice: XR scenarios

The EUreka3D-XR tool: AI 3D Builder

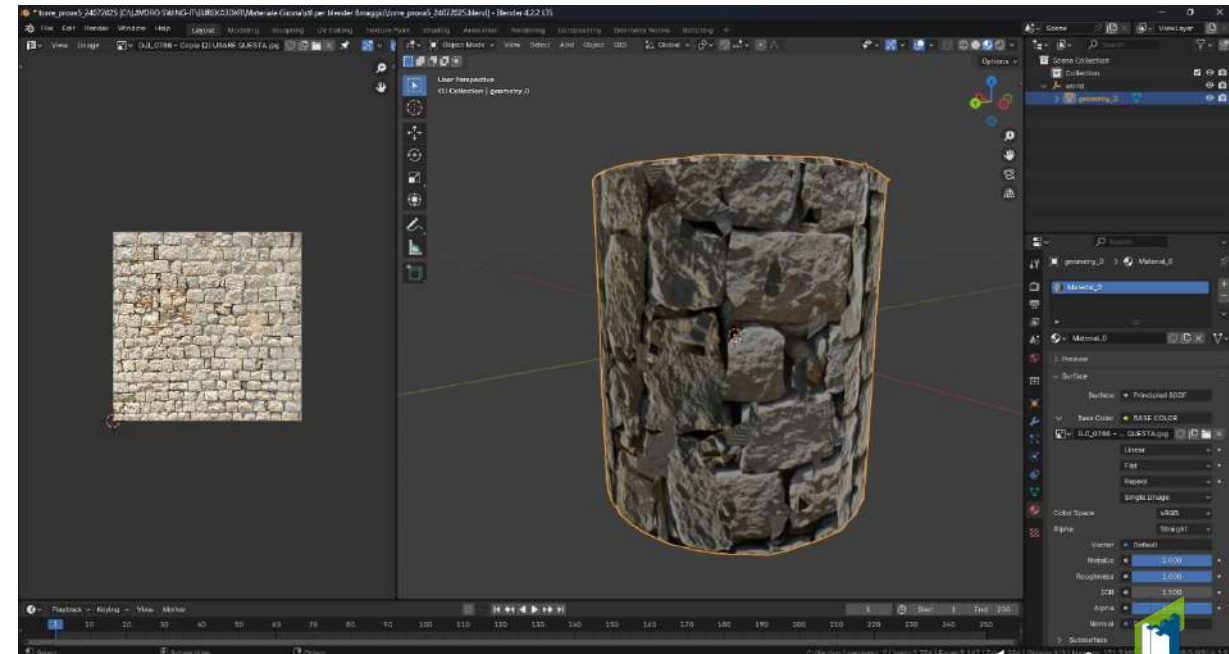
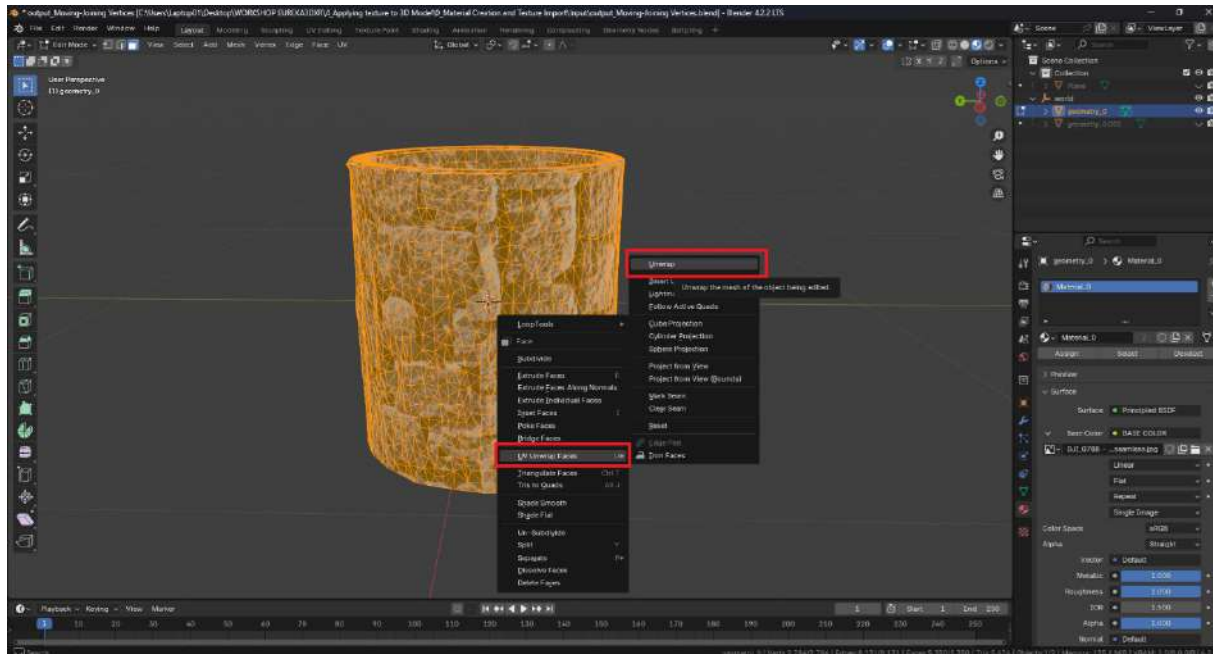
Step 4: texture preparation in Photopea



Reuse of 3D in practice: XR scenarios

The EUreka3D-XR tool: AI 3D Builder

Step 5: applying the texture to the 3D model in Blender



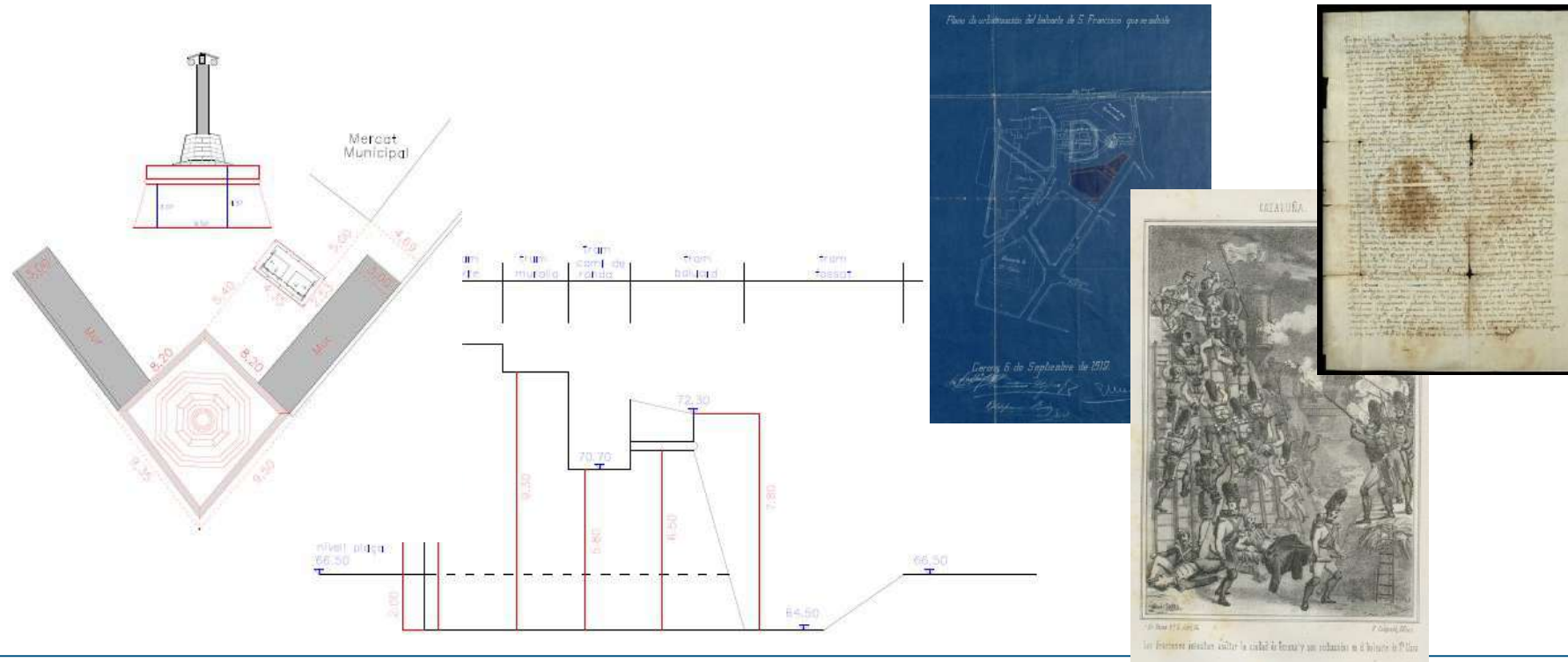
Reuse of 3D in practice: XR scenarios

The EUreka3D-XR pilot scenarios: Girona (CAT)



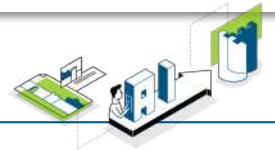
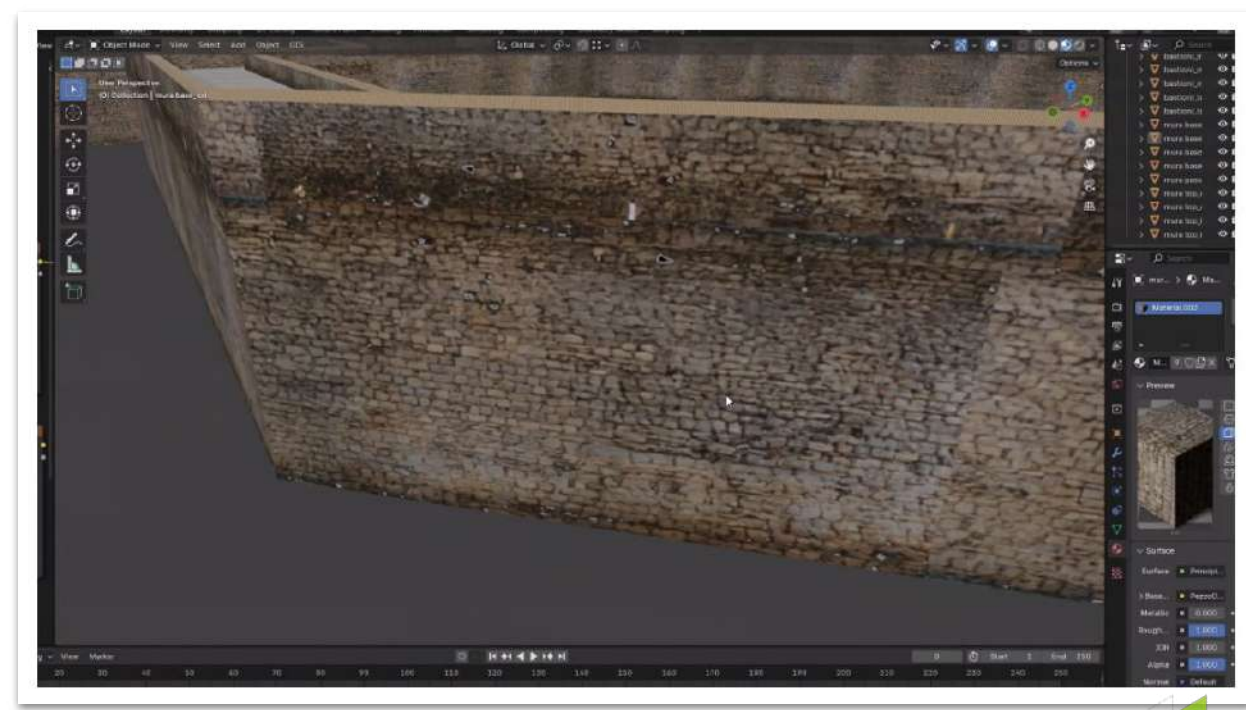
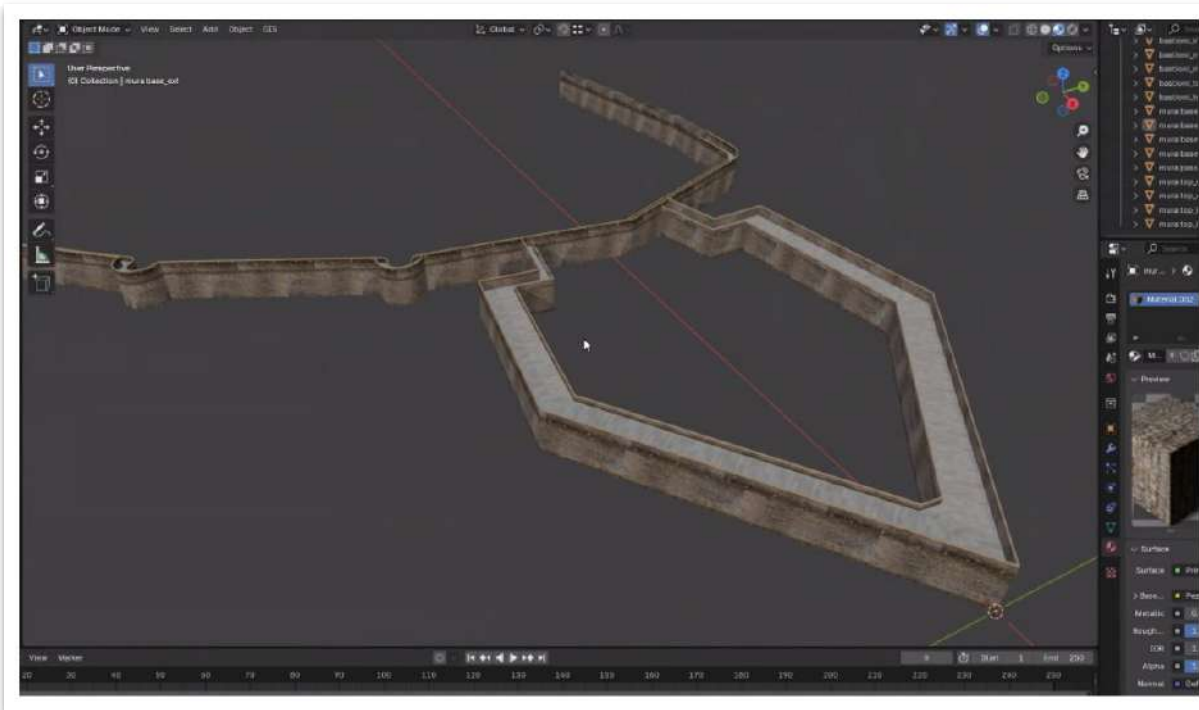
Reuse of 3D in practice: XR scenarios

The EUreka3D-XR pilot scenarios: Girona (CAT)



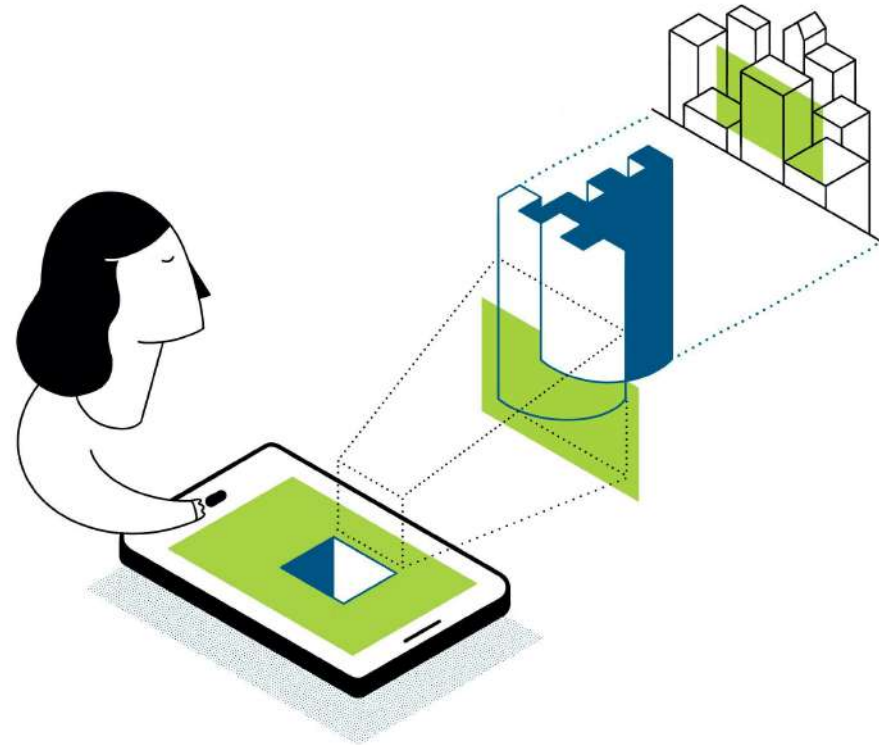
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The EUreka3D-XR pilot scenarios: Girona (CAT)



Reuse of 3D in practice: XR scenarios

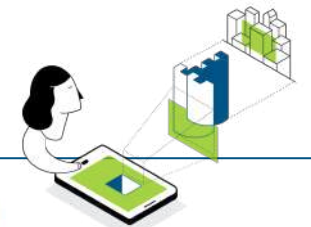
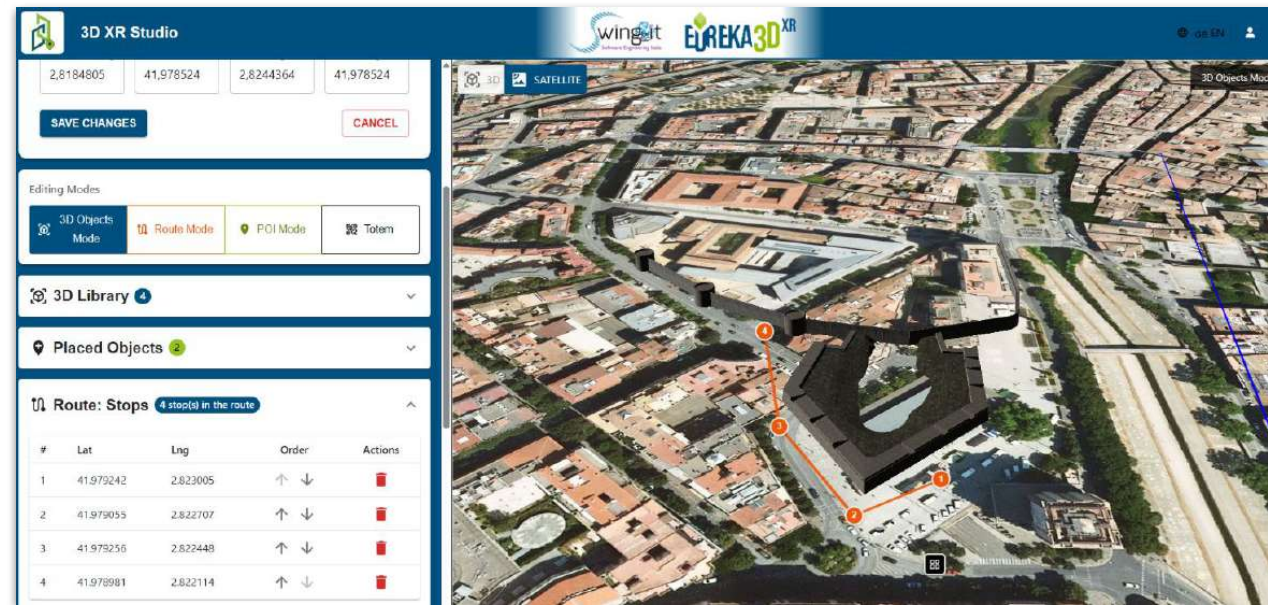
The EUreka3D-XR tool: 3D XR Studio



Reuse of 3D in practice: XR scenarios

The EUreka3D-XR tool: 3D XR Studio

3D XR Studio is a lightweight webapp to create and manage XR experiences, with a mobile version for curators and to offer AR paths to end users.



Reuse of 3D in practice: XR scenarios

The EUreka3D-XR tool: 3D XR Studio

Step 1: Define the environment area

The screenshot displays the 3D XR Studio interface. On the left, the 'Edit Environment' panel is active, showing the following details:

- Environment Name:** GironaMeeting
- Longitude:** 2,822694
- Latitude:** 41,979131
- Surface (4 coordinates):**

Top Left Long	Top Left Lat	Top Right Long	Top Right Lat
2,8182634	41,982730	2,8245753	41,982785
Bottom Left Long	Bottom Left Lat	Bottom Right Long	Bottom Right Lat
2,8184805	41,978524	2,8244364	41,978524
- Editing Modes:** 3D Objects Mode (selected), Route Mode, POI Mode, Totem.
- 3D Library:** 4 items.
- Placed Objects:** (empty list).

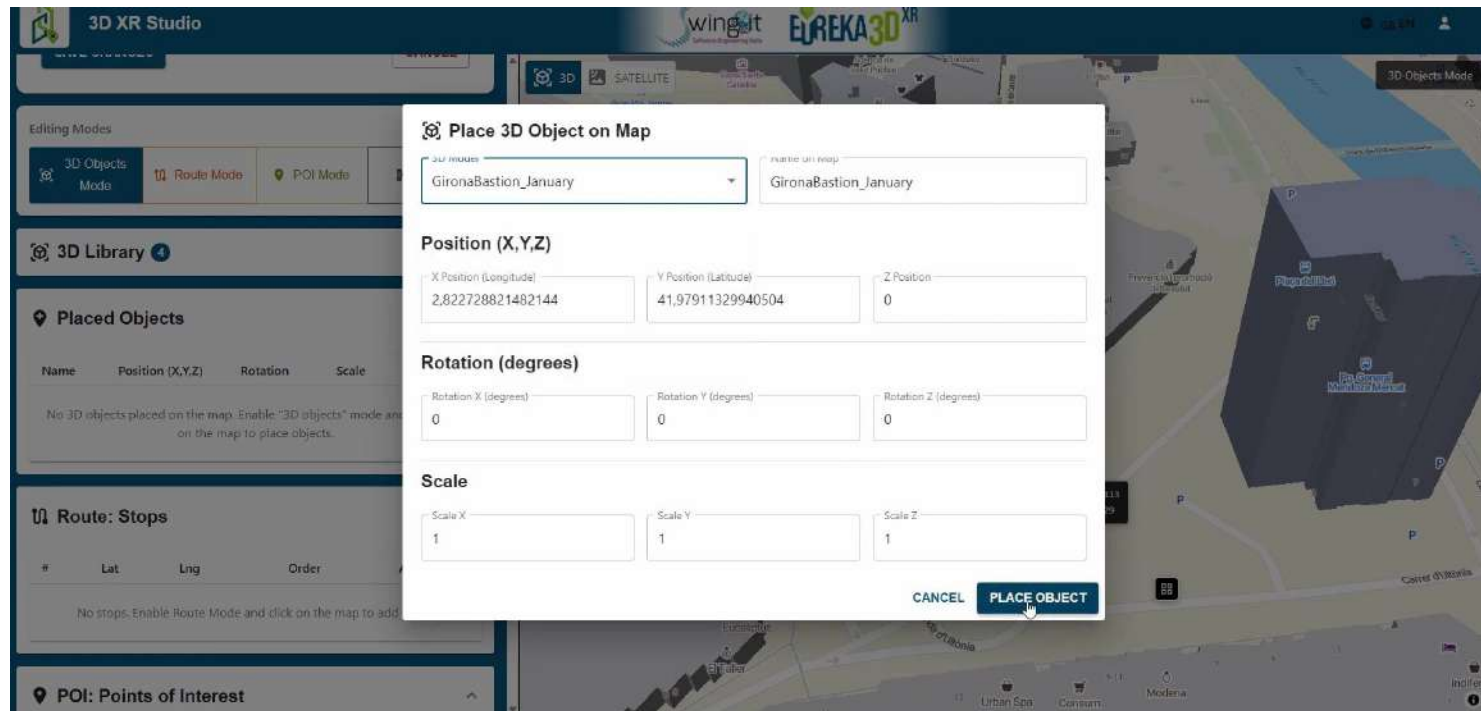
The main 3D map view shows a city street grid with a blue rectangular area defined on the ground plane, indicating the selected environment area. The map includes labels for various locations and landmarks.



Reuse of 3D in practice: XR scenarios

The EUreka3D-XR tool: 3D XR Studio

Step 2: Import and position 3D models



Reuse of 3D in practice: XR scenarios

The EUreka3D-XR tool: 3D XR Studio

Step 3: Create a guided tour

The screenshot displays the 3D XR Studio interface. On the left, there is a control panel with the following sections:

- Coordinates:** Four input fields containing the values 2,8184805, 41,978524, 2,8244364, and 41,978524. Below them are 'SAVE CHANGES' and 'CANCEL' buttons.
- Editing Modes:** Four buttons: '3D Objects Mode' (selected), 'Route Mode', 'POI Mode', and 'Totem'.
- 3D Library:** A dropdown menu showing 4 items.
- Placed Objects:** A dropdown menu showing 2 items.
- Route: Stops:** A section with a sub-header '4 stop(s) in the route' and a table of stops.

#	Lat	Lng	Order	Actions
1	41.979242	2.823005	↑ ↓	🗑️
2	41.979055	2.822707	↑ ↓	🗑️
3	41.979256	2.822448	↑ ↓	🗑️
4	41.978981	2.822114	↑ ↓	🗑️

The main view shows a 3D satellite map of a city with a large, dark, angular 3D object placed in the center. An orange line with four numbered stops (1, 2, 3, 4) indicates a guided tour path around the object. A blue line indicates a path leading away from the object. The interface includes a '3D' and 'SATELLITE' view selector and a '3D Objects Mode' indicator in the top right corner.

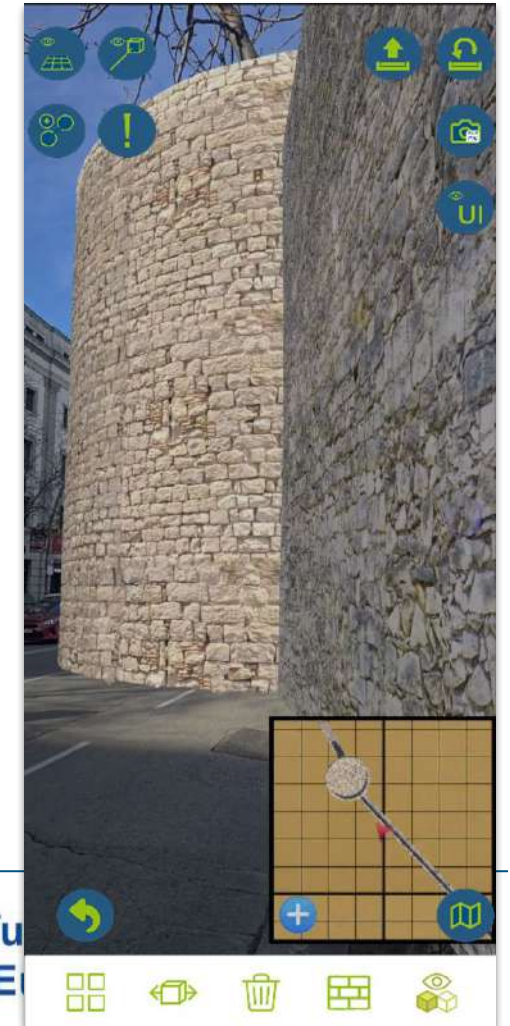
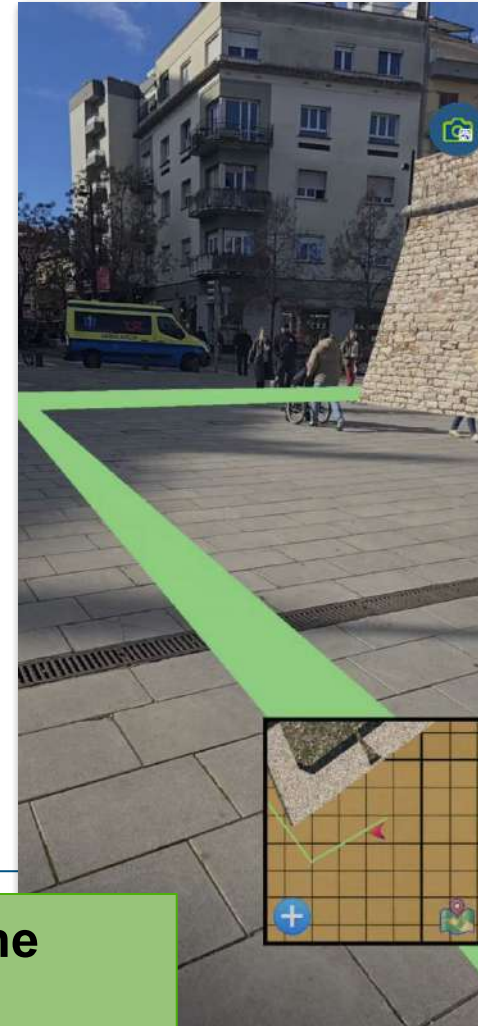


Reuse of 3D in practice: XR scenarios

The EUreka3D-XR pilot scenarios: Girona (CAT)

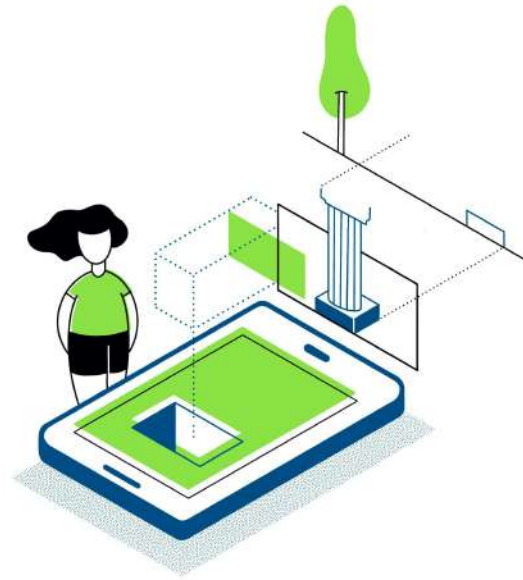
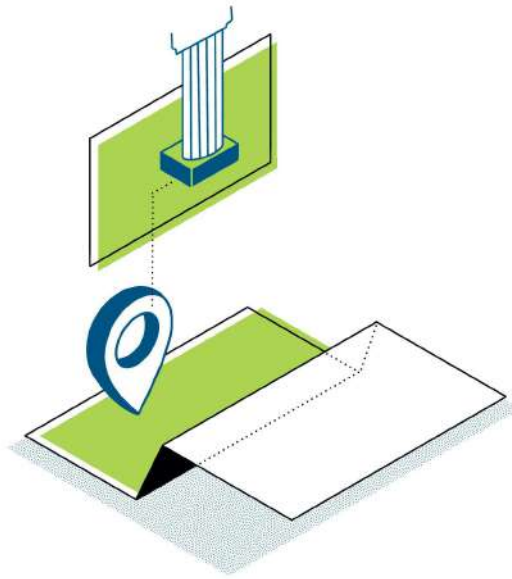
The visitor ...

1. locates a physical totem at the site, following on-site signage.
2. scans QR code on the totem to download the mobile version
3. The AR experience starts: 3D models appear overlaid on the real world, a suggested path is displayed, and audio/text/video media is accessible at each POI.
4. follows the path, discovering each point of interest.



Reuse of 3D in practice: XR scenarios

The EUreka3D-XR tool: AR Tour Builder & AR Tour Experience

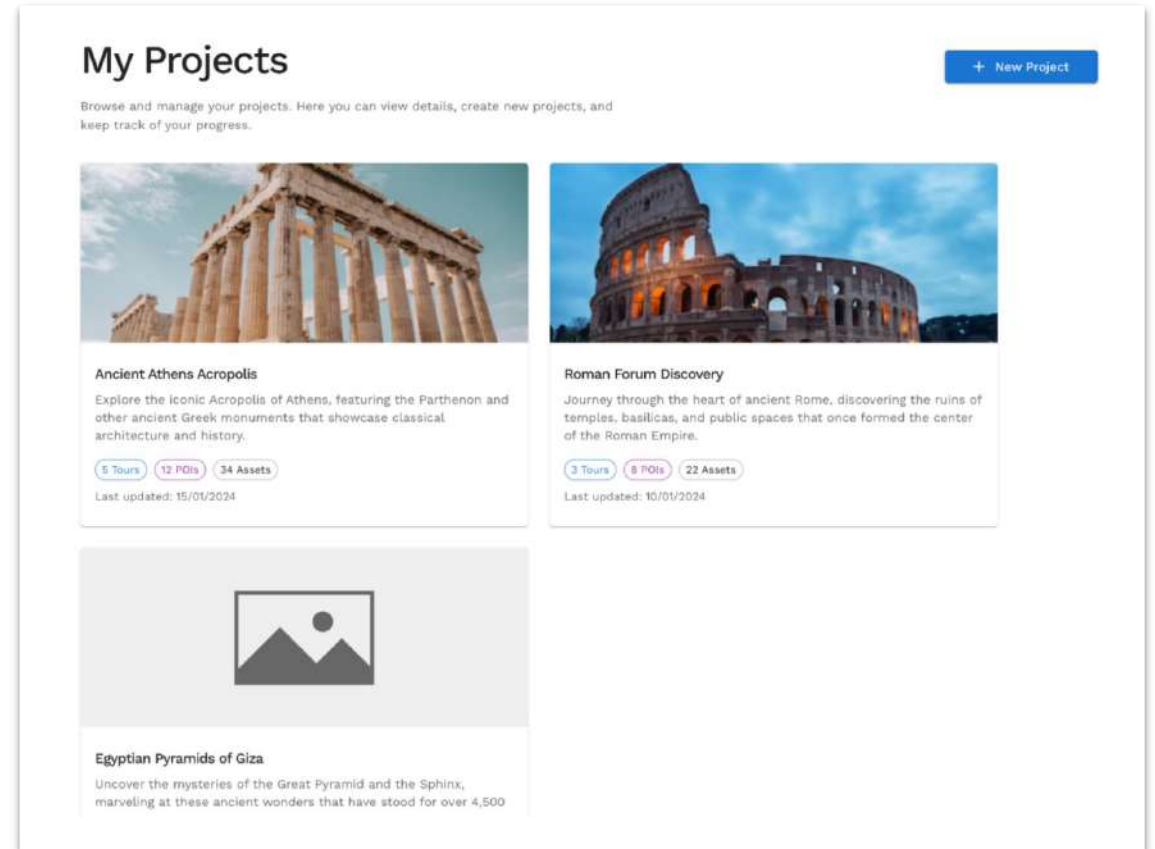


Reuse of 3D in practice: XR scenarios

The EUreka3D-XR tool: AR Tour Builder & AR Tour Experience

The workflow

1. The curator creates a new project in **AR Tour Builder**.
2. They add Points of Interest (POIs) on a map.
3. A set of items of various formats, including 3D models, images, textual documents, and links can be added to each POI.
4. Short textual and audio explanations can be added as metadata in the desired language(s).
5. The tour can be offered to on-site visitors via the accompanying **AR Tour Experience mobile app**.



Reuse of 3D in practice: XR scenarios

The EUreka3D-XR tool: AR Tour Builder

← Back to projects

Create New Project

Start a new project by providing the required details below. Fill out the form to set up your project and begin collaborating.

✓ Supported Languages — Basic Information — 3 Branding

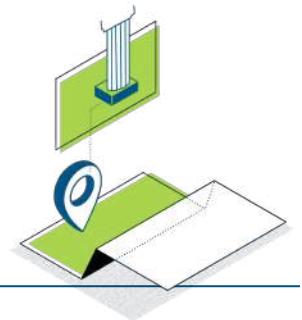
Project Logo
Upload your project logo. This will be displayed on the project homepage and tour listings.

Click to upload Logo
PNG, JPG up to 2MB

Cover Photo
A hero image for your project. This appears at the top of your project page and inside the tour cards.

Click to upload a cover photo
PNG, JPG up to 5MB

Back Save



Reuse of 3D in practice: XR scenarios

The EUreka3D-XR tool: AR Tour Builder

← Creating new tour

📄 Tour information 📍 Points of Interest

🌐 Input Language 🇬🇧 English ▾

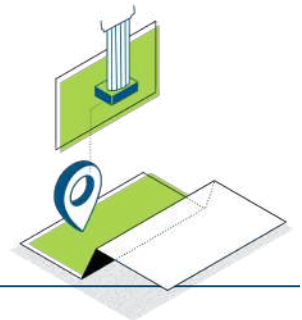
🌐 Tour Title

🌐 Description

🕒 Estimated Time (minutes)

📏 Estimated Distance (meters)

[Create tour and start editing](#)




Reuse of 3D in practice: XR scenarios

The EUreka3D-XR tool: AR Tour Builder

Create a Point of Interest

Location Details External Links Media

Place a point of interest on the map or add its coordinates in the Latitude and Longitude fields below.



Latitude: 37.8100637 Longitude: 23.7877607

Cancel Next Step

Create a Point of Interest

Location Details External Links Media

Input Language: English

Quiz Links

Quiz Name (Optional)

URL: ex. <https://quiz-platform.com/quiz/123> +

Insert the URL and title of the link and click the + button to add it to the list.

External Links

Name (Optional)

URL: ex. <https://some-blog.com/page> +

Insert the URL and title of the link and click the + button to add it to the list.

Cancel Previous Create and add media

Editing Point of Interest

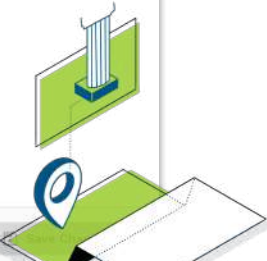
Location Details External Links Media

Media and Files Associated

+ Add

+ Create New

Browse Library



Cancel No changes made

Reuse of 3D in practice: XR scenarios

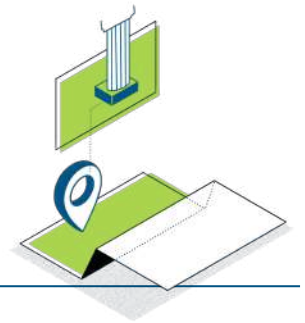
The EUreka3D-XR tool: AR Tour Builder

Asset Library
Manage and organize your project assets

Search... All Types: + Add New Asset

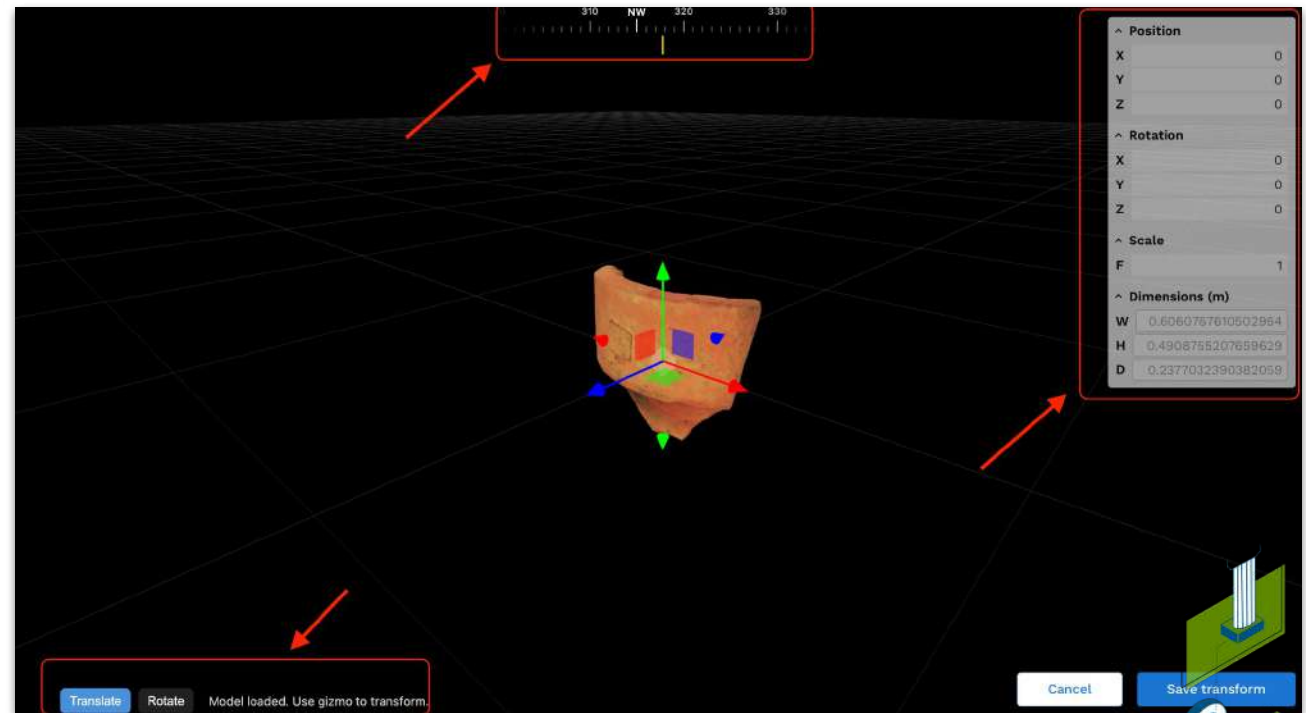
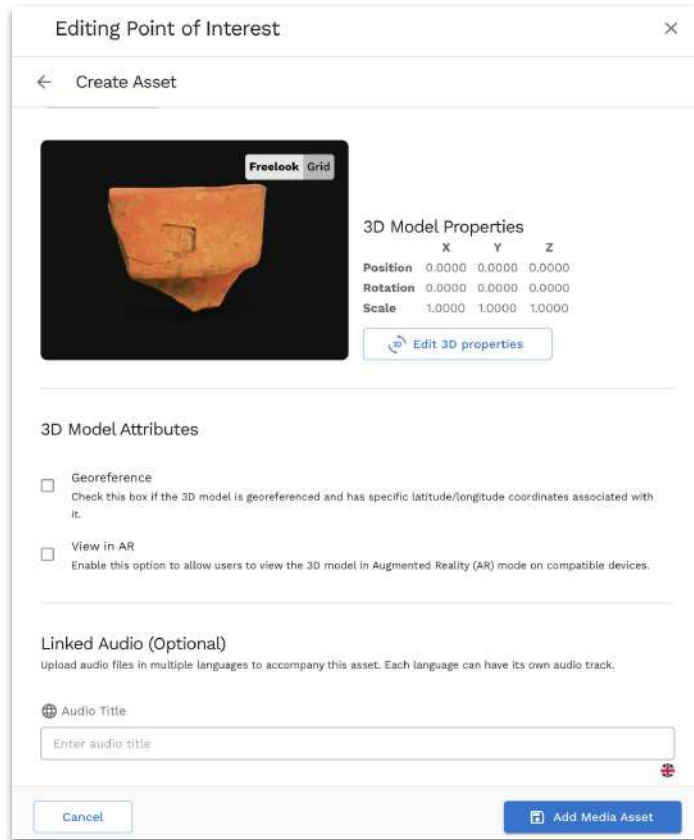
Title	Type	URL	Filename
Test new model	3D Model	https://leomav.github.io/demo...	
Test model georeferenced free	3D Model	https://leomav.github.io/demo...	
Test model on surface	3D Model	https://leomav.github.io/demo...	
Test model free	3D Model	https://leomav.github.io/demo...	
Test model 2	3D Model	https://leomav.github.io/demo...	
Test 3d	3D Model	https://leomav.github.io/demo...	
Temple of poseidon	Video	https://www.youtube.com/wat...	
test 5	Image	https://placeholder.co/600x400/...	
test 4	Image	https://placeholder.co/600x400/...	
test asset 3	Image	https://placeholder.co/600x400/...	

Rows per page: 10 1-10 of 20



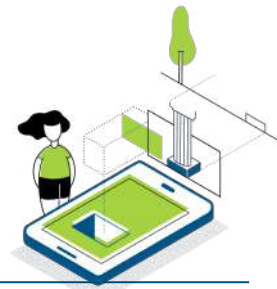
Reuse of 3D in practice: XR scenarios

The EUreka3D-XR tool: AR Tour Builder



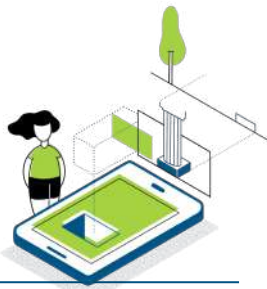
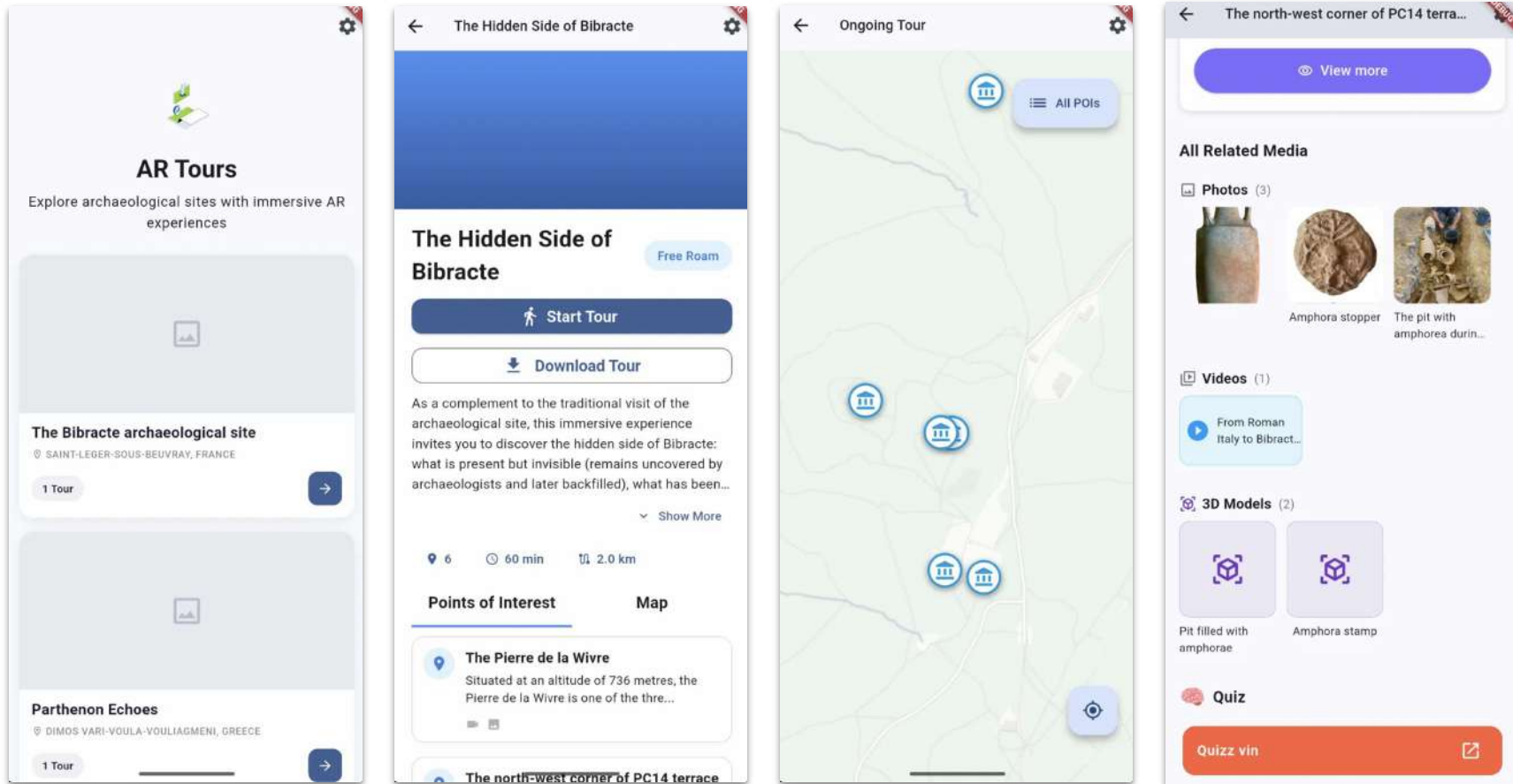
Reuse of 3D in practice: XR scenarios

The EUreka3D-XR tool: AR Tour Experience



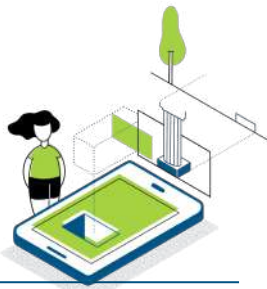
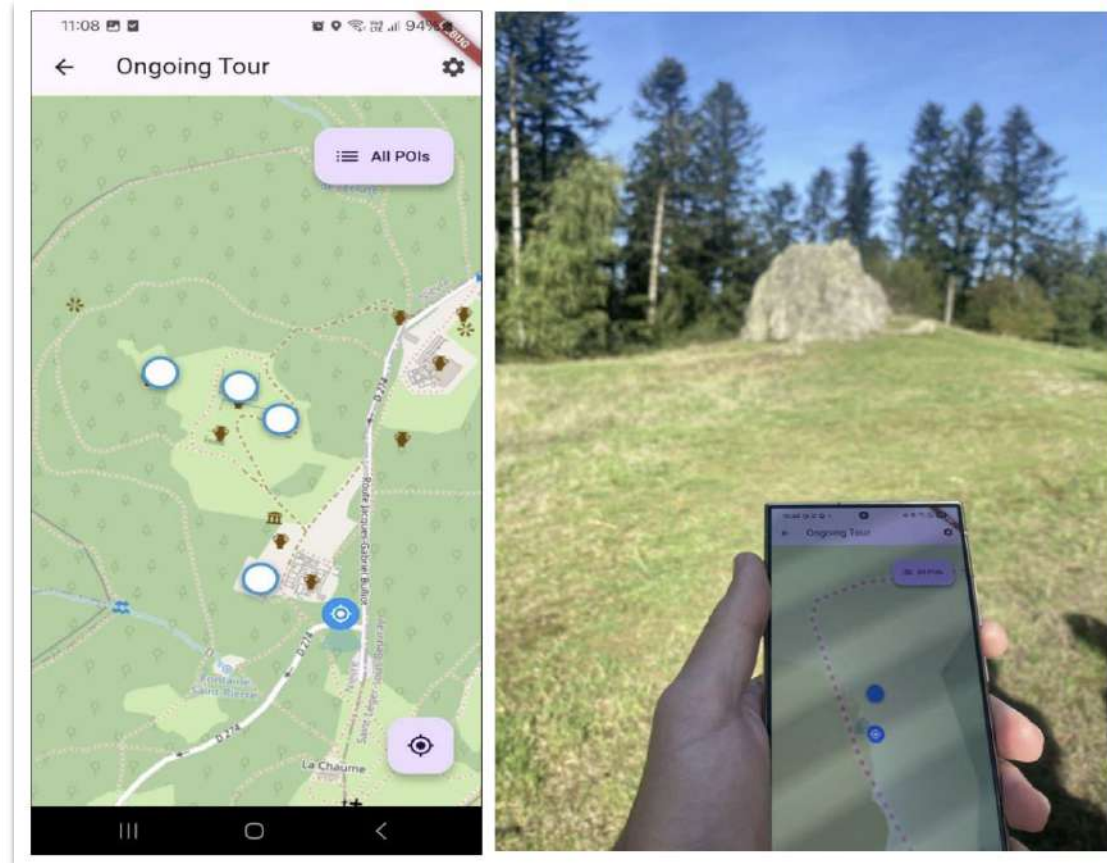
Reuse of 3D in practice: XR scenarios

The EUreka3D-XR tool: AR Tour Experience



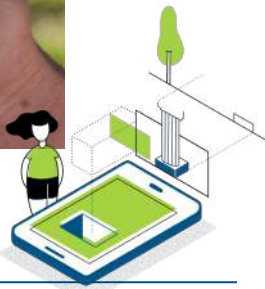
Reuse of 3D in practice: XR scenarios

The EUreka3D-XR tool: AR Tour Experience



Reuse of 3D in practice: XR scenarios

The EUreka3D-XR pilot scenarios: Bibracte (FR)



Reuse of 3D in practice: XR scenarios

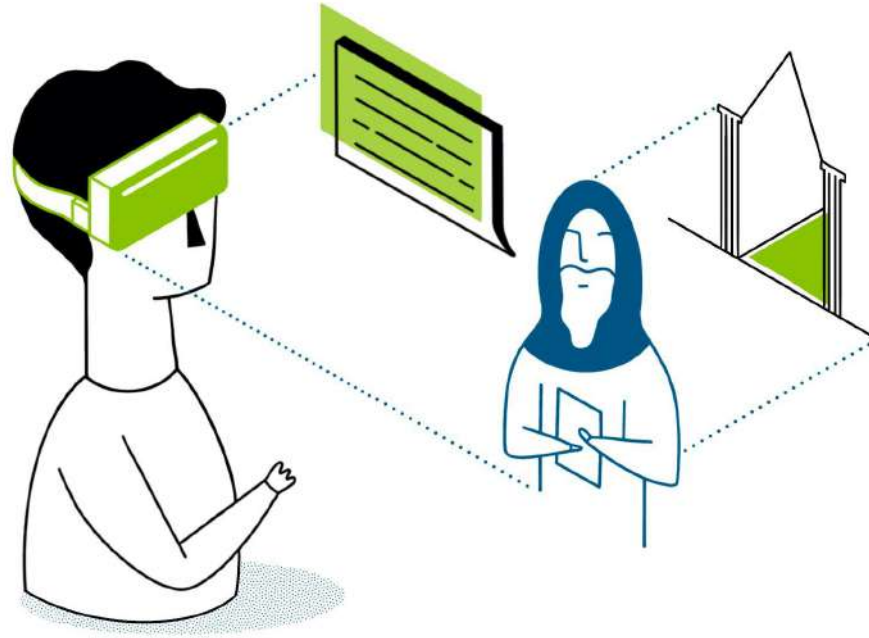
The EUreka3D-XR pilot scenarios

The difference between AR Tour Experience and 3D XR Studio

	AR Tour Builder & AR Tour Experience	3D XR Studio
Format	2 connected tools: 1 for building, 1 for experiencing	1 tool with a web interface and mobile version Mobile version is used by both curators and end users
Connectivity	Pre-downloadable content for low-connectivity environments	Accessible offline after initial download
Location	Outdoor, location based tours	Both indoor (f.ex. museums) and outdoor tours
Navigation	<ul style="list-style-type: none"> ● GPS based: real time navigation ● Both guided tours and free roaming the site 	<ul style="list-style-type: none"> ● Navigation is route based using physical synchronisation points (starting point with QR code) and mobile camera input ● The user follows a fixed path

Reuse of 3D in practice: XR scenarios

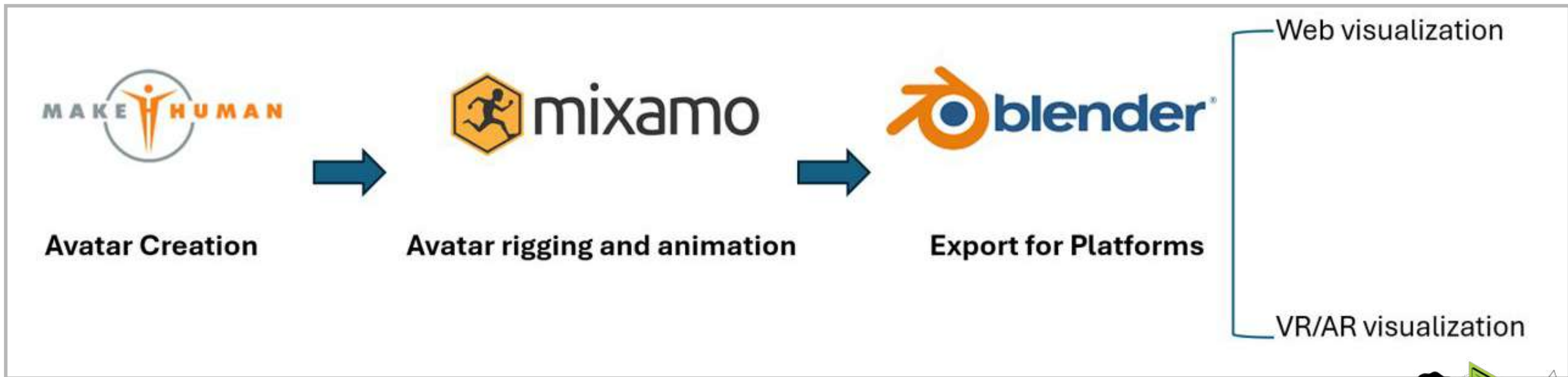
The EUreka3D-XR tool: Avatar Builder



Reuse of 3D in practice: XR scenarios

The EUreka3D-XR tools: Avatar Builder

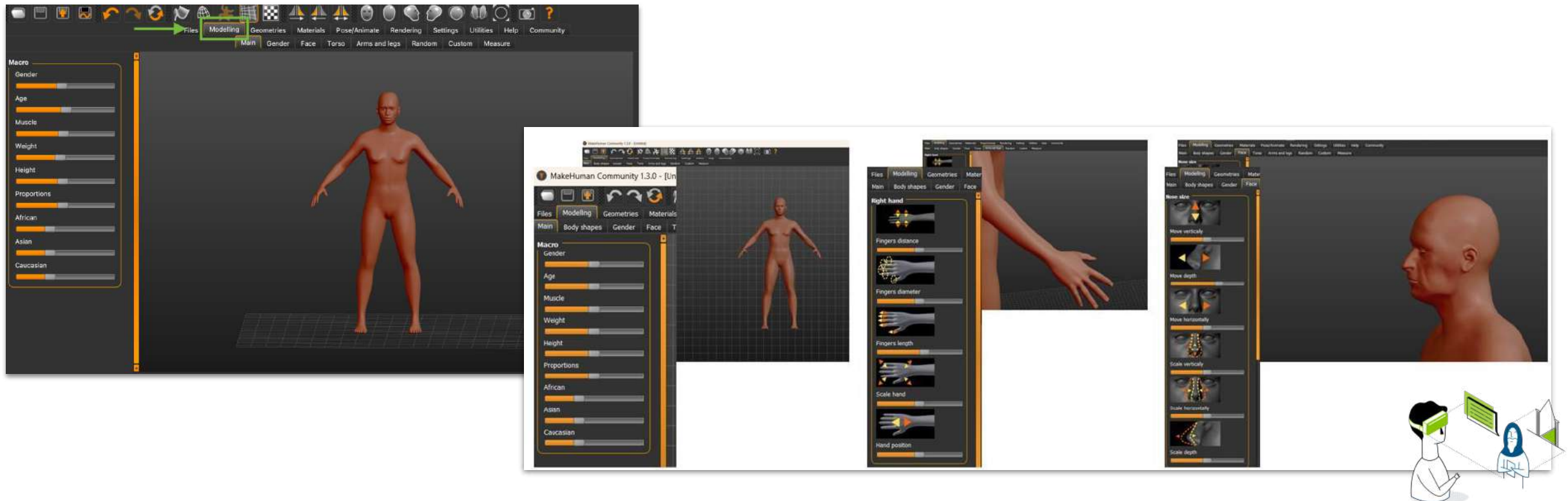
Avatar Builder is a **workflow** with **guidelines** to create animated avatars



Reuse of 3D in practice: XR scenarios

The EUreka3D-XR tool: Avatar Builder

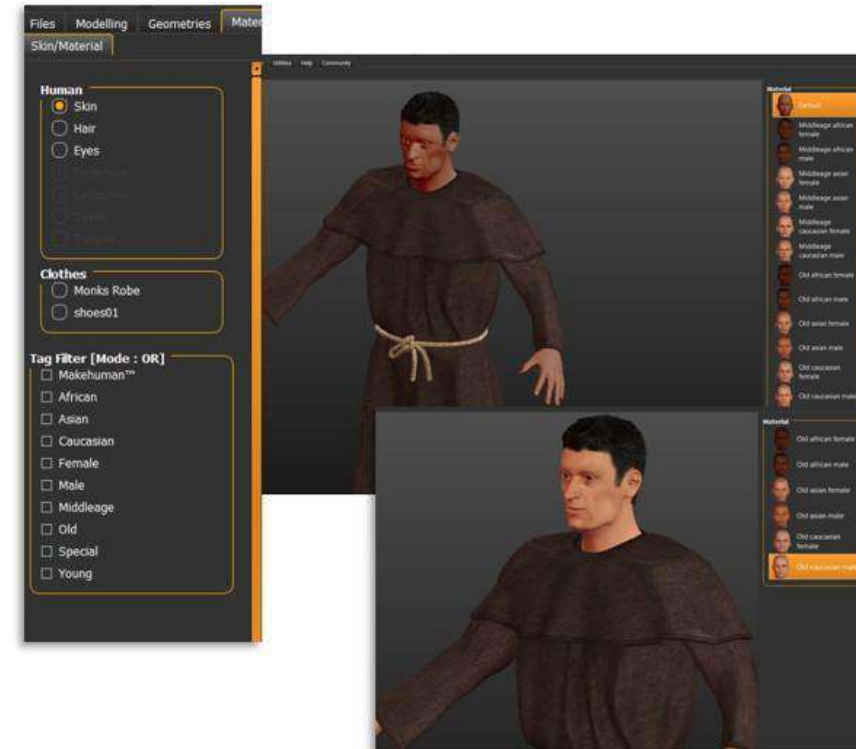
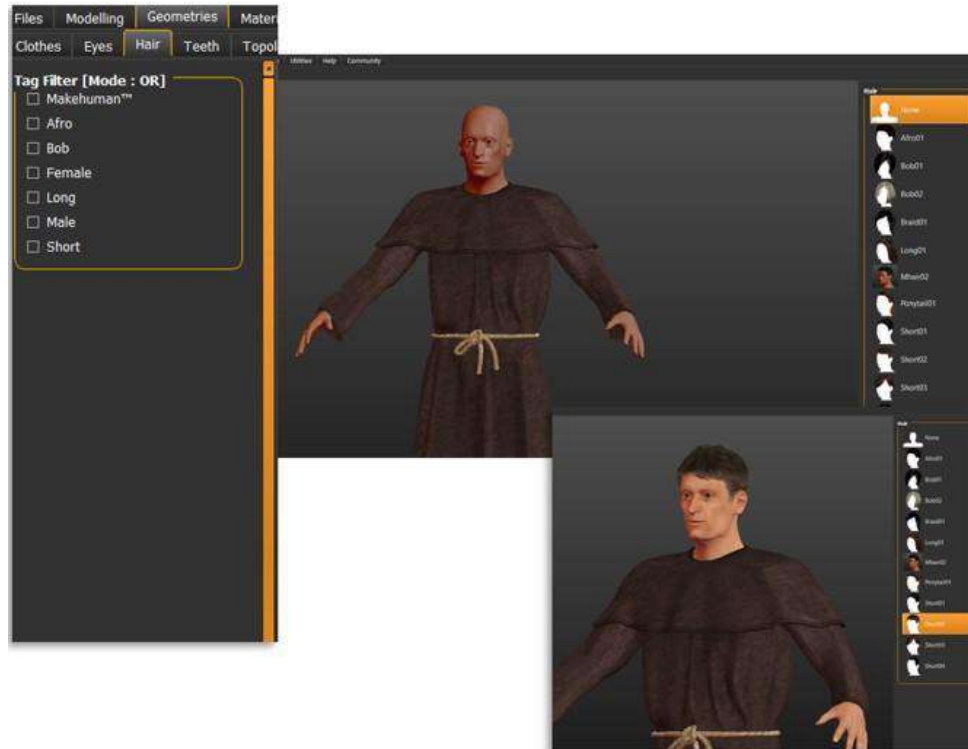
Step 1: Avatar Creation in MakeHuman



Reuse of 3D in practice: XR scenarios

The EUreka3D-XR tool: Avatar Builder

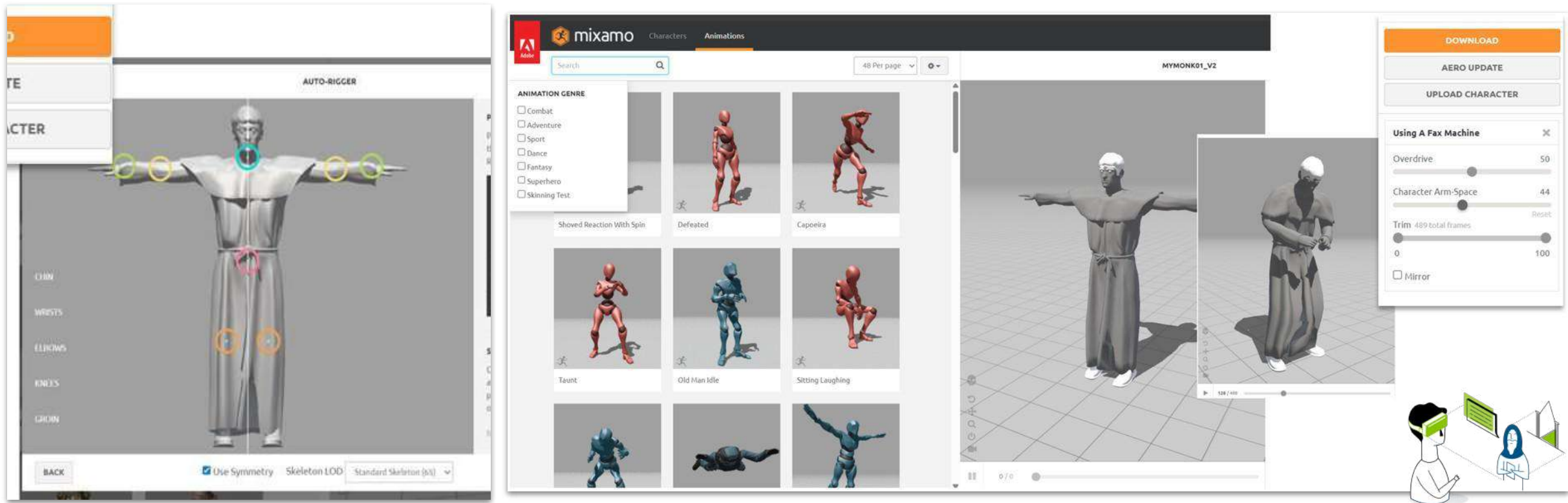
Step 1: Avatar Creation in MakeHuman



Reuse of 3D in practice: XR scenarios

The EUreka3D-XR tool: Avatar Builder

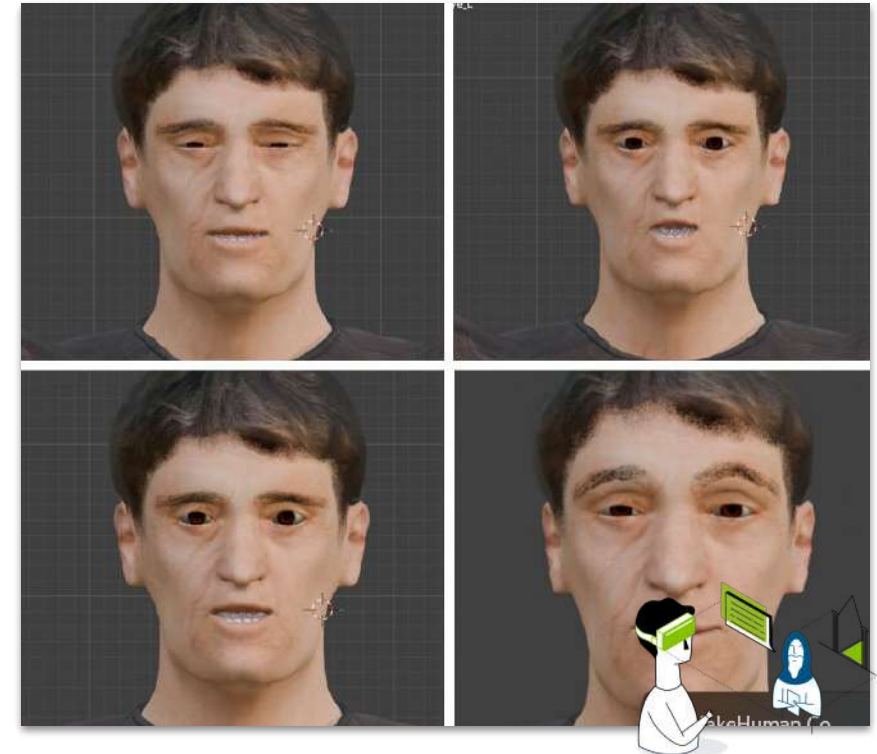
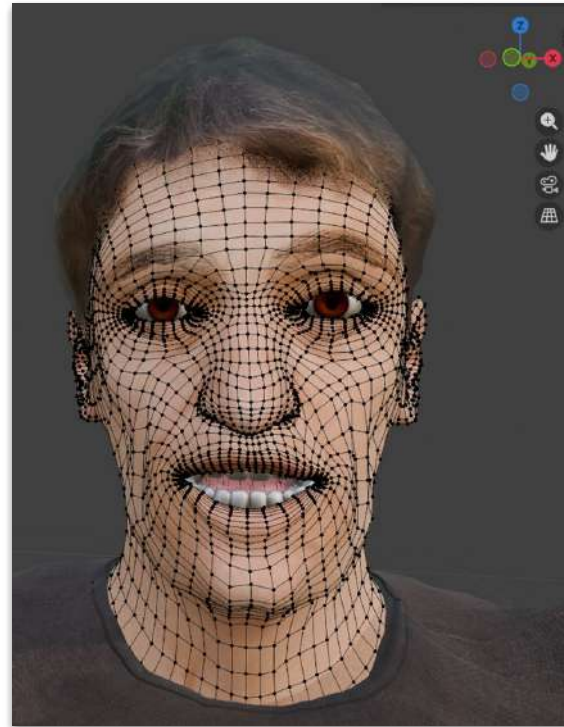
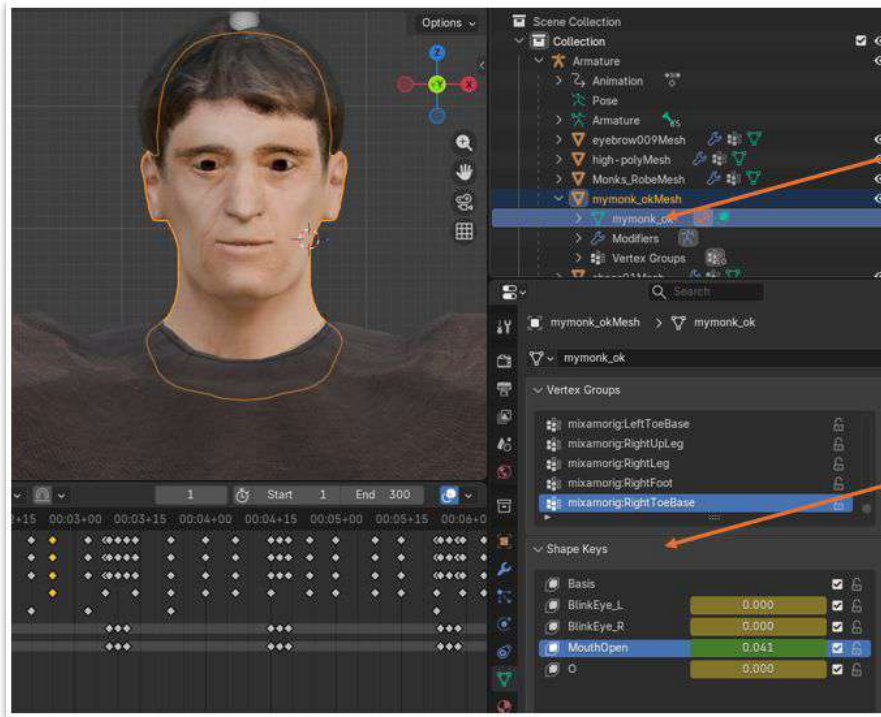
Step 2: Avatar animation in Mixamo



Reuse of 3D in practice: XR scenarios

The EUreka3D-XR tool: Avatar Builder

Step 4: Facial animation in Blender



Reuse of 3D in practice: XR scenarios

The EUreka3D-XR tool: Avatar Builder

Step 5: Upload files in the EUreka3D Data Hub & visualise the animated avatar in the MIRALab 3D Animation Viewer



Demonstration Event & Workshop
29 January 2026, in Girona and online

09:30 - 13:00 CET
Hybrid session
Demonstration Event of EUreka3D-XR tools and pilots

14:00 - 18:00 CET
On-site workshop
Archives in 3D. From Records to Objects

EUreka3D^{XR} European Union's REconstructed content
in 3D to produce XR experiences

Co-funded by
the European Union



Reuse of 3D in practice: XR scenarios

The EUreka3D-XR tool: Avatar Builder

Now you are ready for mobile display or to add the character in a VR/MR experience!

- To create a VR/MR experience, a ready-to-use Unity template is provided
- This template already includes all the necessary technical setup (VR camera, scene, and configuration)
- The Unity template is designed to hide technical complexity. Users only need to import their avatar and launch the application.



Reuse of 3D in practice: XR scenarios

The EUreka3D-XR pilot scenarios: Paphos (CY)





**Many thanks
for your attention!**

**EUreka3D – European Union’s REKconstructed
content in 3D to produce XR experiences**



www.eureka3d-xr.eu



LinkedIn: [EUreka3D-XR](#)
Instagram: [@EUreka3D_XR](#)
YouTube: [@Eureka_3DXR](#)
X: [@EUreka_3D](#)



contact@contact.com

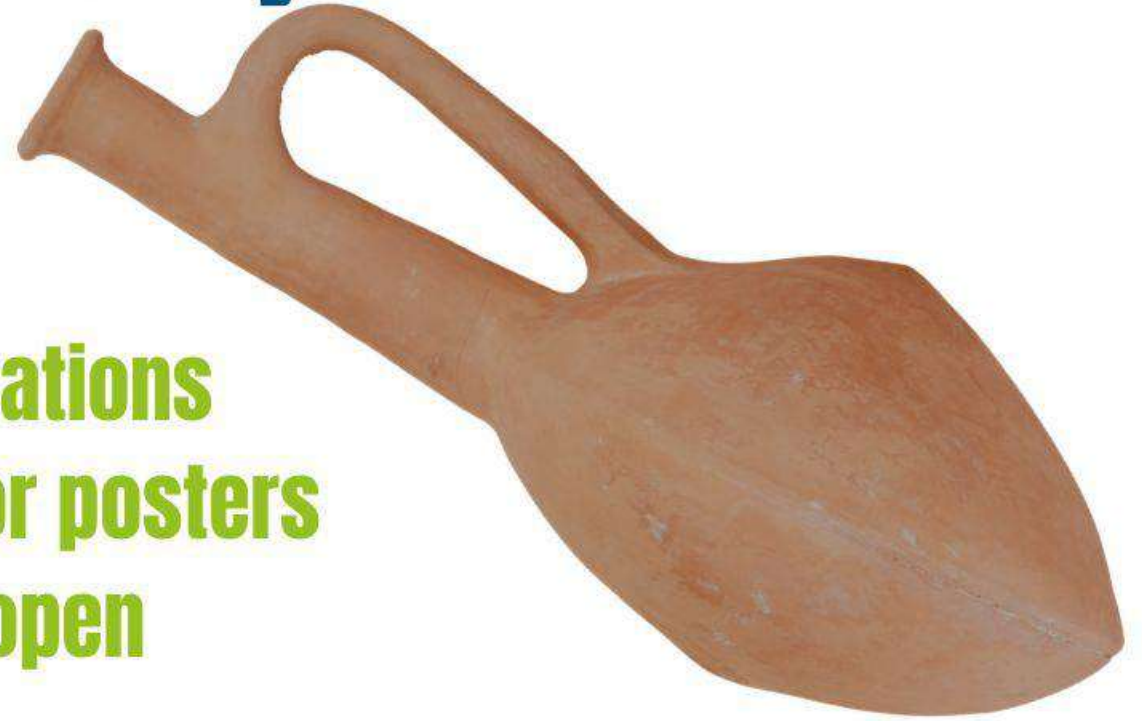


Digital Cultural Heritage in the Era of AI and Extended Reality

26 May 2026 in Cyprus



Registrations
and call for posters
are open



EUREKA3D^{XR} European Union's REKconstructed content
in 3D to produce XR experiences

