Worksheet IT 17: Conservation of cultural heritage through stereophotogrammetry and 3D reconstruction

Documenting and measuring are fundamental tools for the conservation and enhancement of cultural heritage. New technologies, when paired to these tools, allow us to create in-depth photographic surveys, but also give us the ability to build 3D models of cultural goods, making them available for virtual visits.

What will you learn?

- **Step 1:** Photographic surveys of cultural goods
- **Step 2:** Gathering and analyzing images
- **Step 3:** 3D modeling of cultural goods

Photographic surveys of cultural goods

Which of the following are the most important requirements for an effective photographic survey to get an accurate 3D model through stereophotogrammetry? Choose the correct answer:

- Shoot high resolution images from the same spot, in good lighting conditions
- An expensive mirrorless camera, a photo studio, lots of luck
- High resolution images from different angles, in good lighting conditions

Gathering and analyzing images

Not all images are suitable for an effective photographic survey that's intended to be processed via stereophotogrammetry. Which of these measures are suggested to obtain good images? State if the following statements are true or false (T/F):

- It's better to have three identical images rather than one
- Delete duplicate, blurry and deformed images
- Delete images that are not representative of the depicted object

3D modeling of cultural goods

Which software is used to 3D model cultural goods and what are the steps to model them? Choose the correct answer:

- Meshroom, import images, click "Compute", visualize the 3D object
- Smashedpotato, import images, click "Compute", visualize the 3D object
- Meshroom, import images, choose the best ones, click "Compute", export the object's 3D model