

# SYDDARTA

## OBJECTIVE

The purpose of SYDDARTA is to develop a prototype instrument for monitoring the deterioration of works of art and other heritage artefacts. This will be achieved by using "3D Hyperspectral imaging"; where hyperspectral images are acquired whilst simultaneously scanning the 3D profile of the object. Being optical, the technique will be non-invasive and therefore non-destructive. The instrument will be portable and is intended for the monitoring and conservation of movable cultural assets. Furthermore, the instrument will reference databases of material (such as pigments) characteristics, enhancing the use of the system.

The merging of the two techniques will enable the fast in-situ scanning of cultural assets. The results will be digitised simplifying their transfer between cultural organisations across Europe, and thereby improving conservation. The projected instrument may also be used as an additional tool for other applications such as authentication.

[www.syddarta.eu](http://www.syddarta.eu)

## IMPACT

SYDDARTA addresses some of the environmental challenges of the 21st century as described in the European Commission's 7th Framework Programme. It will increase the knowledge, experience and technologies of European companies especially in the important field of conservation. This will enhance their competitiveness. The project will also increase the knowledge-base by the generation of data, not only of individual artefacts but also the formation of a database of materials that will be required as a background reference.

SYDDARTA will demonstrate a prototype instrument that may be used by conservators, that is a comprehensive tool that is simple to use. It will showcase an integrated solution at a competitive cost, which is effective in terms of ease of use by non-specialist operators, and will be suitable for many applications, including those "in the field".

SYDDARTA will provide a solution to analysing the chemical and physical deterioration in a non-intrusive manner and the process of degradation by providing data on the spectral signature and profile of an object. This data may also be used for authentication purposes. Any changes to these parameters, for example after cleaning or transport may thus be easily identified.

### PROJECT COODINATOR



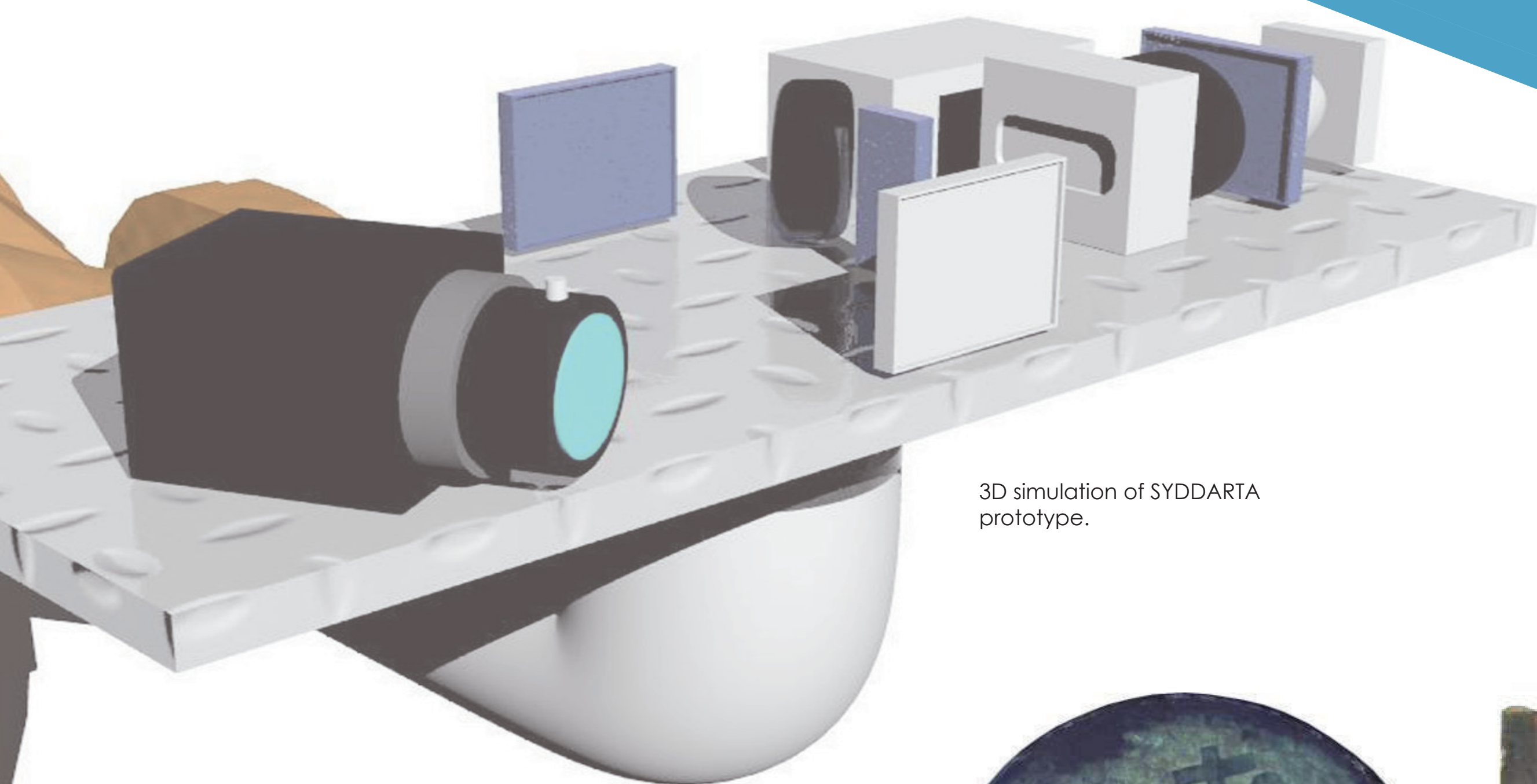
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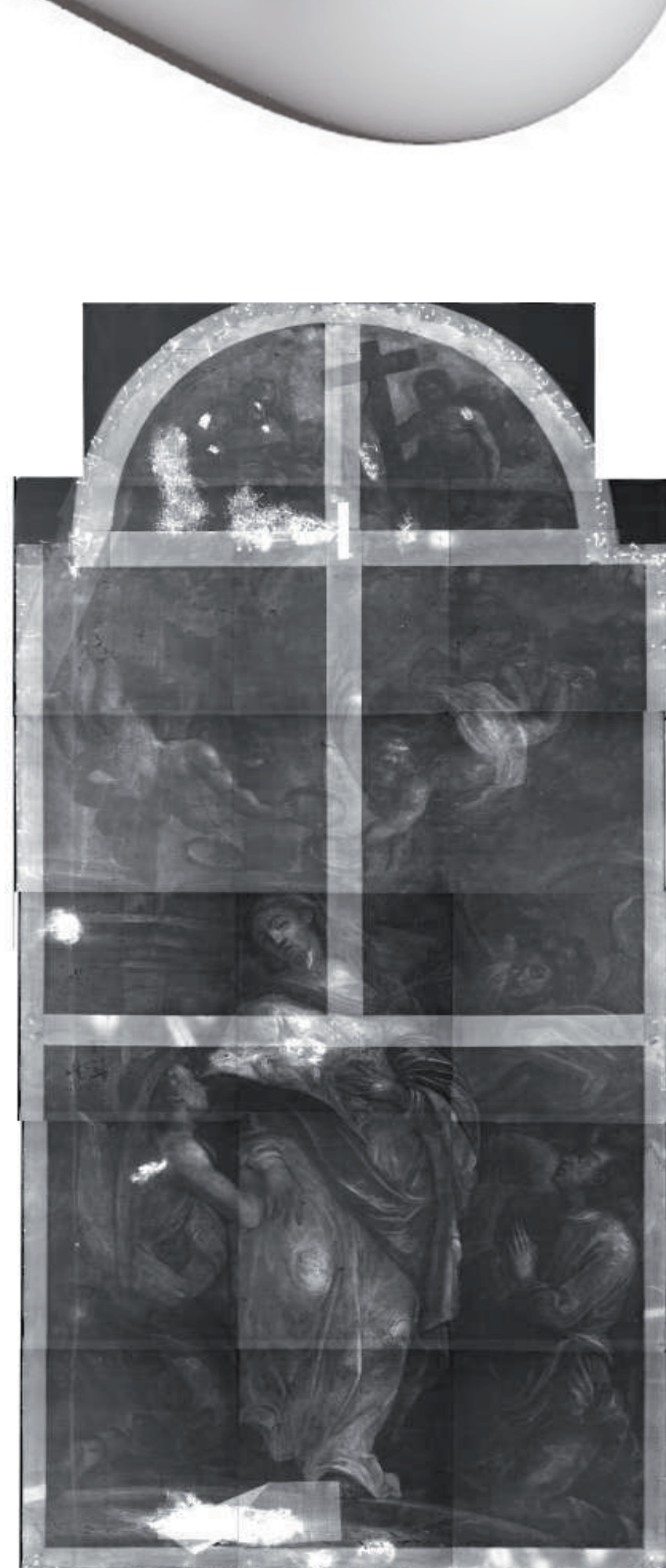
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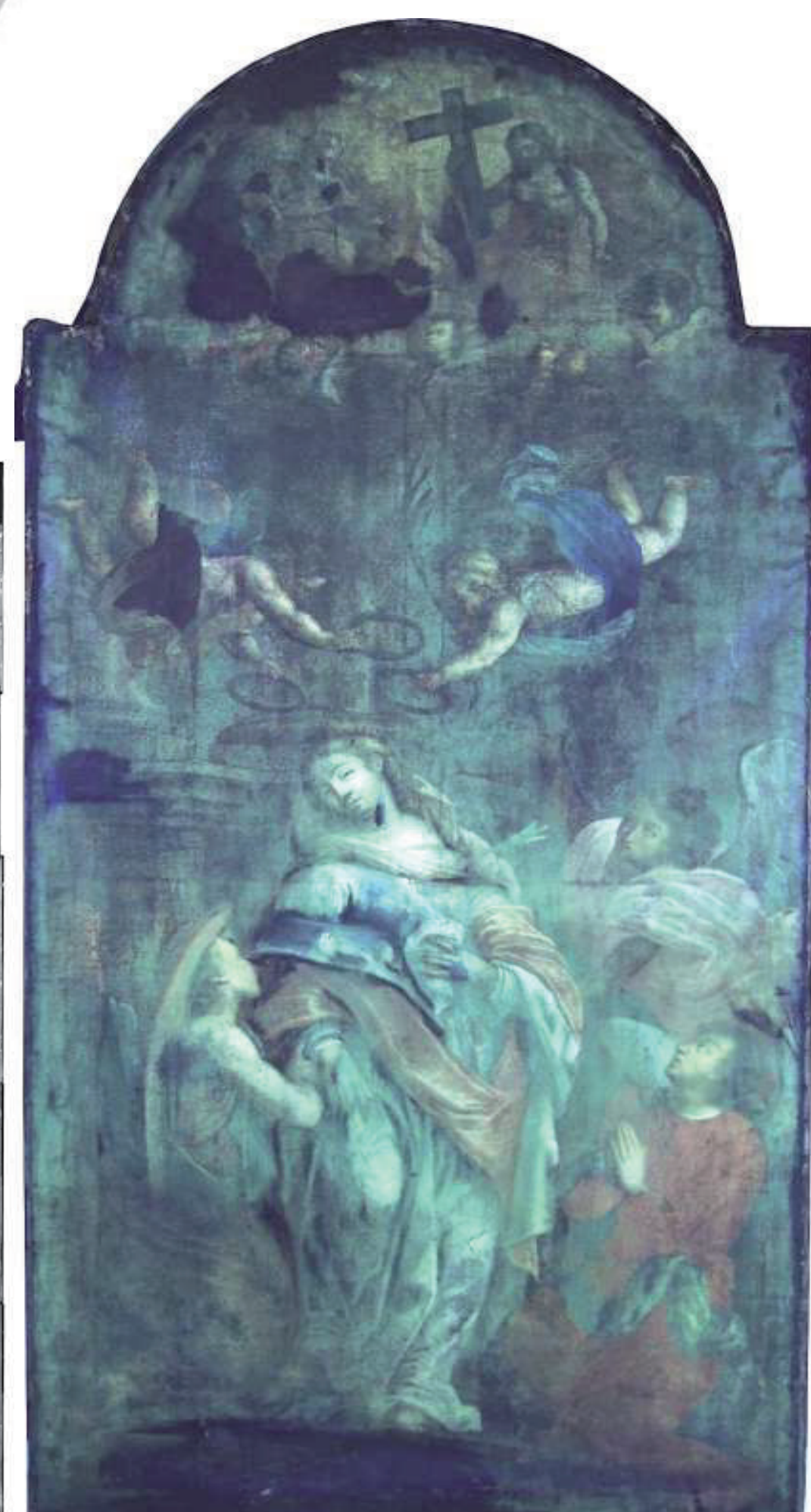
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3D simulation of SYDDARTA prototype.



Visible, ultra-violet, and x-ray radiography image of a baroque painting on canvas "The death of Saint Ursula" by Peter Owerfeg-Werek (1711); archives of IPCHS, Restoration Centre



## CONSORTIUM

