



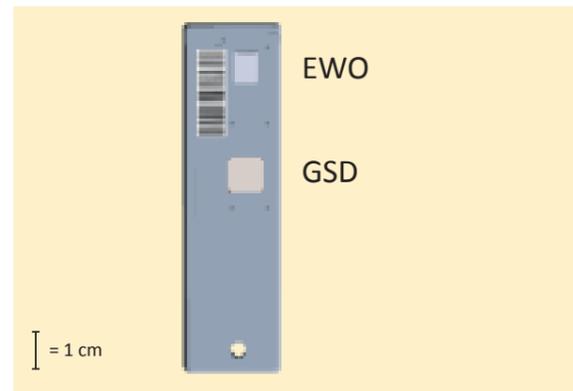
# MEMORI

The MEMORI technology  
*start preventing, stop spending*

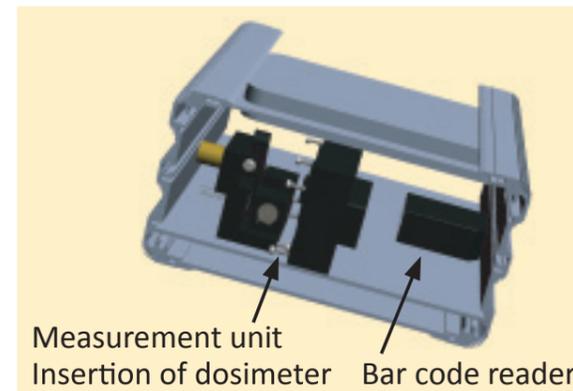


*Do you recognise this? Deteriorating parchments, cracking varnishes, degraded textiles: airborne pollutants cause severe problems in collections all over the world, in exhibitions, and in storage rooms. They are invisible, mostly odourless, destructive and endanger cultural heritage objects; no matter whether paper, wood, textiles, paintings or metal objects.*





MEMORI  
dosimeter



MEMORI  
reader



MEMORI  
web pages

## **Damaging environments threaten heritage objects**

Museums, art collections, conservation enterprises, insurance companies and art transport companies have to face the same problem: Heritage objects on exhibition, in storage or in transit may come into contact with a degrading environment. Indoor climate (temperature, humidity and air flow conditions) and light (visible and UV) are often measured in heritage institutions, however, air pollution is seldom measured.

## **MEMORI – the early warning system**

The MEMORI solution is a new early warning system sensitive to the main degradation factors of indoor environments, which behave in a synergistic manner. It integrates the latest knowledge on the impact of pollutants on cultural assets with technology that can identify the environments which will create a negative impact BEFORE any effect can be seen on the artefacts. The MEMORI dosimeter is sensitive to indoor climate and light, photo-oxidizing gases and organic acidic gases. Subtle changes on the dosimeter are used to indicate and forecast the impact on sensitive cultural assets. The MEMORI reader is designed for on-site measurements

Air pollution can be aggressive trace gases such as sulfur dioxide and nitrogen dioxide, ozone and organic acids, or particles of various sizes and chemical composition. These environmental factors can vary greatly and combine to degrade our most sensitive historical objects. Having a technology which mimics the total impact is vital if we want to safeguard these artefacts.

and web based solutions provide evaluation of the dosimeter readings. The handheld reader improves the functionality of the dosimeter, reduces the time needed for evaluation of results and makes the system flexible and convenient. It allows the end user to collect and analyze data on-site simplifying and streamlining the process of identifying problem areas. The MEMORI dosimeter and reader can be connected to a web based system designed to visualize and interpret the results from the reader. This MEMORI web site will provide info on air quality risks, related preventive conservation measures and guidelines on how to improve air quality indoors.



Microclimate frame  
(SIT Grupo Empresarial , S.L)



Mounting a microclimate frame  
(SIT Grupo Empresarial , S.L)



Storage of organic objects  
(Museum of Cultural History, Oslo, Norway)

## **MEMORI – European knowledge for heritage institutions and the conservation market**

MEMORI involves scientists, conservators and cultural heritage specialists from various institutions in ten European countries collaborating to develop new knowledge and technology in order to protect our historic artefacts. The team wants to provide the conservation market with an innovative measurement technology. The goal is to take the current state of affairs one step further. MEMORI focuses on the impact that gaseous pollutants have on

cultural assets and how various assets respond to this impact when placed in different locations such as storage, protective enclosures, transportation and on public display.

### **Benefits for cultural heritage institutions**

The MEMORI project will offer instruments for preventive conservation with the aim of reducing costs for restoration, to provide long term benefits for cultural heritage collections and to give a head start in coping with airborne pollutants. The MEMORI approach offers clear benefits for preventive conservation and a market advantage for conservation companies, for art transportation services and insurance companies. The key aspect of the MEMORI solution is that it will provide conservators with a tool which allows them to make more informed decisions.

- Designed for use by both new and experienced conservators
- Easy to understand and detailed information
- Full inventory of air quality as it pertains to organic materials
- Better management of artefact care
- Reduce restoration costs
- Ensure best quality environment for visiting pieces



### Further information

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### Experts' opinion



Ana Tabuenca,  
 Managing Director of  
 SIT, Madrid  
 (Spain)

*“We assume that the MEMORI technology will help us to monitor environmental conditions during exhibitions, storage and transport more effectively and help us to take quick precautions in case of pollution.”*



Stephen Hackney  
 TATE, London  
 (United Kingdom)

*“The MEMORI dosimeter will allow us to check the conditions in our stores and displays. The method promises to be a quicker and more convenient way of collecting reliable data.”*

### About MEMORI

The MEMORI project,  
 “Measurement, Effect Assessment and Mitigation of Pollutant Impact on Movable Cultural Assets. Innovative Research for Market Transfer”,  
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Photos are provided by partners of the project.



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