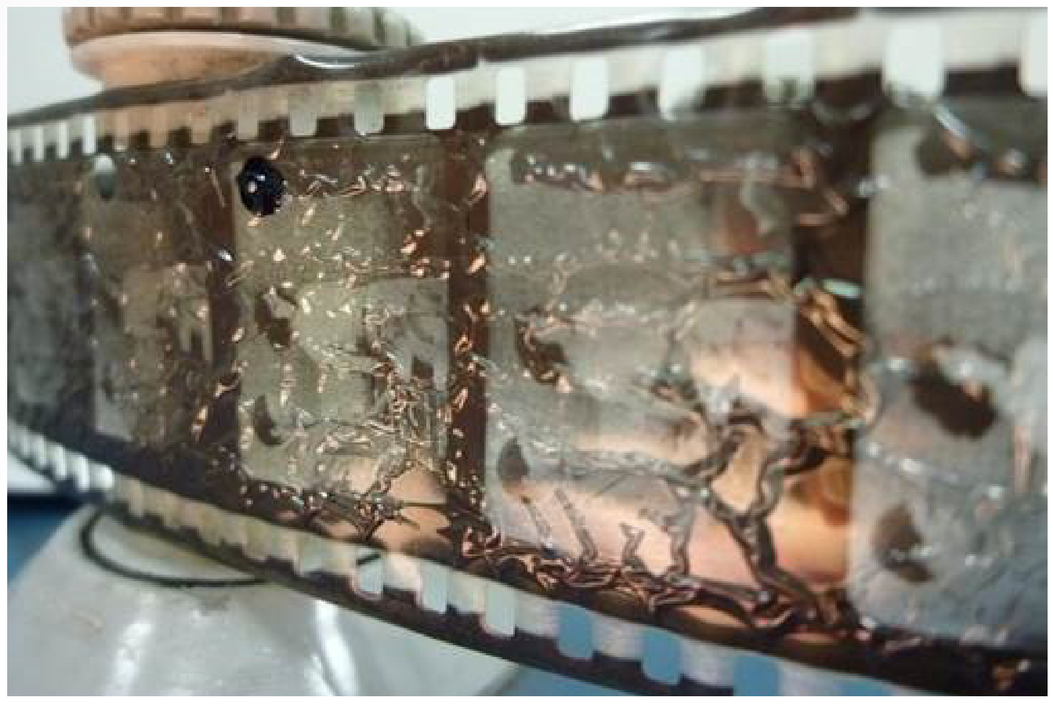
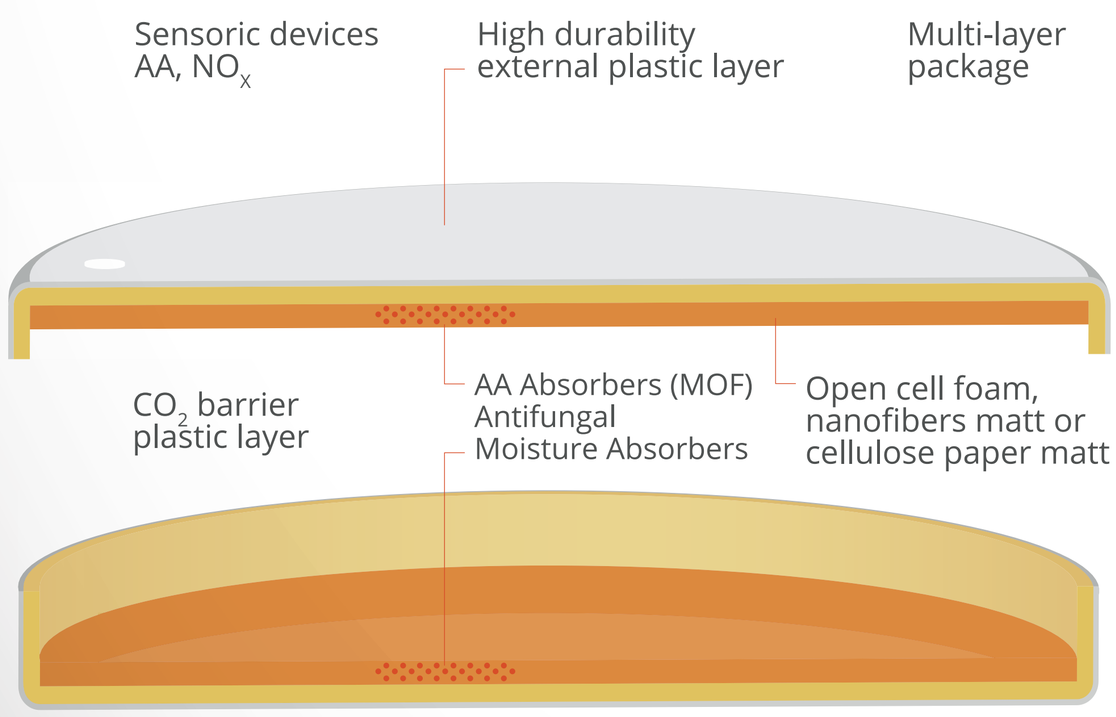
INNOVATIVE PACKAGING SOLUTIONS FOR STORAGE AND CONSERVATION OF 20TH CENTURY CULTURAL HERITAGE OF ARTEFACTS BASED ON CELLULOSE DERIVATIVE



A huge percentage of the recent European cultural heritage (CH) can be found in movies, photos and posters produced between 1895 to nowadays were made using cellulose derivatives. More than 75 years of visual and audio memories are up to now in serious danger to be lost due to the natural instability cellulose acetate (CA) and cellulose nitrate (CN) materials.

NEMOSINE aims to improve the traditional storage solutions, such as the usual freeze storage (below 5ºC) that involves high energy consumption and special facilities, by developing an innovative smart package with the main goal of energy saving and extent conservation time of cultural objects based on cellulose derivatives.

NEMOSINE smart package concept



Beyond the state of the art NEMOSINE plans to develop the following modular and integrated products:

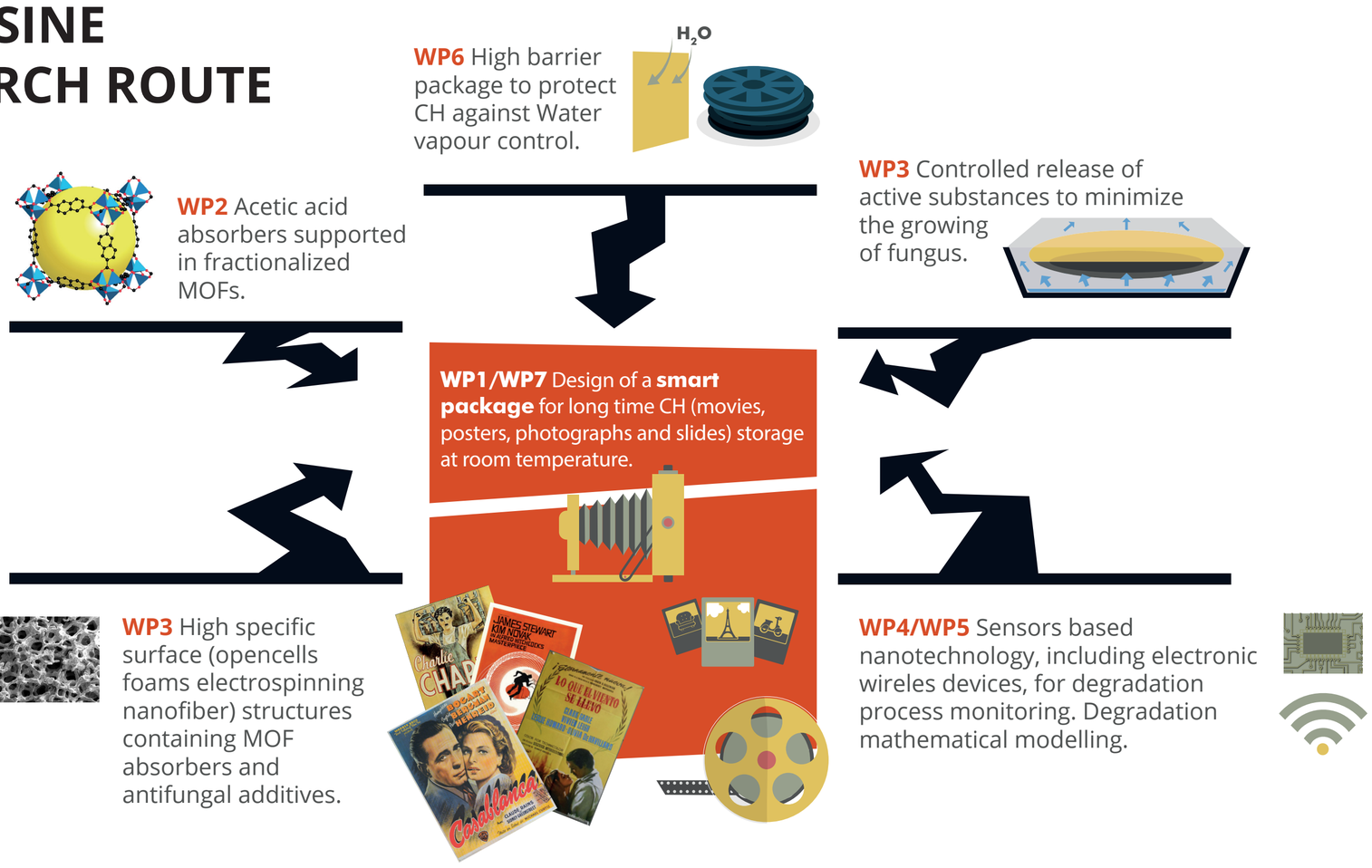
- **i)** Active packaging using non-odour additives.
- **ii)** Active acid adsorbers based on functionalized Metal Organic Framework (MOFs) integrated in low density and porous structures.
- **iii)** Gas detection sensors based on nanotechnology to monitoring AA, water, NO.
- **iv)** Multi-scale modelling to correlate degradation & sensors signals for maintenance prediction.
- **v)** And integrate all these technologies in on smart package with modular design to fulfil the technical & economical requirements of the different CH made by cellulose derivatives.
- **vi)** Curative packages containing controlled release of natural antifungal additives.

The main targets of NEMOSINE project are cellulose derivatives, from photographic, movies and audio substrates.

Funded by the European Union's Horizon 2020 Research and Innovation Programme under grant agreement Nº 760801

The actual trend within the archival community is related to digitisation and digital restoration of audio/film content, which is still very complex, costly and time consuming. As this is on one hand a disadvantage, because related activities are proceeding very slowly, this is on the other hand a big chance for new fully proven innovative packaging solutions. This is the chance to place a highest quality product in the market.

NEMOSINE RESEARCH ROUTE



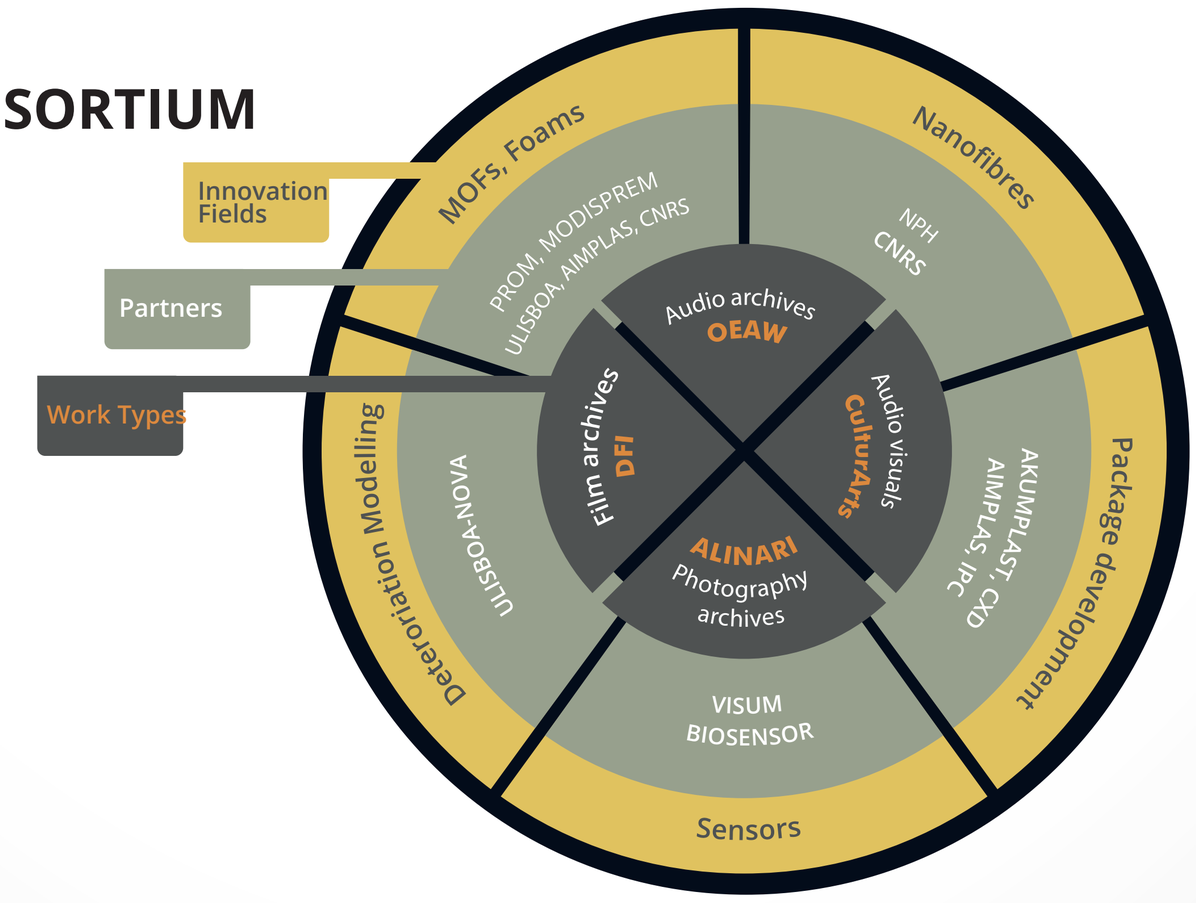
The main beneficiaries are the audio-visual collections can be grouped as follows:

1) (Partly) autonomous audio-visual research archives;memory institutions, such as libraries, big archives and museums; departments of research or cultural institutions, local museums, oral history societies, etc.

2) Materials privately owned by the researchers, collectors or audio-visual buff that created audio and video documents for their research purposes.

3) Private owners that keep own old family photographs (and/or their negatives), movies or audio.

CONSORTIUM



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