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## ReInHerit

**Redefining the Future of Cultural Heritage, through a disruptive model of sustainability**



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



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## Project

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## Deliverable

<b>Work Package</b>	WP4
<b>Task</b>	<b>T7.4: Immersive performances</b> (Leader: RISE, Participants: All partners, M24-M36) This task offers a big opportunity for active citizenship and co-creation, since immersive performances' thematology, will be based on cultural heritage, but the overall approach will be based on topics such as music and theatre. This will attract new audiences, and it is perceived as a highly disruptive way to attract people to the museums, who would otherwise never have approached them. Thus, immersive approaches are an innovative method of disseminating the ReInHerit project to its targeted audiences and beyond.
<b>Deliverable</b>	<b>D7.11 Immersive Performances Report</b> 'The Immersive Performances Report will include an analysis on different immersive approaches and innovative methods to facilitate the dissemination of ReInHerit objectives at an international level.'
<b>Dissemination Level</b>	
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## **Acronyms and abbreviations**

Field of View	<b>FOV</b>
Bank of Cyprus Cultural Foundation	<b>BoCCF</b>
Cyprus Symphony Orchestra	<b>CYSO</b>
Cyprus Youth Symphony Orchestra	<b>CyYSO</b>
Augmented Reality	<b>AR</b>

## **Disclaimer**

This document reflects only the author's view, and the Research Executive Agency is not responsible for any use that may be made of the information it contains. The current deliverable is a report on the creation of two immersive performances, using them as case studies to provide guidelines on how to develop similar performances in cultural heritage sites.



Bank of Cyprus  
Cultural Foundation

Arte  
Sostenibile



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DEGLI STUDI  
FIRENZE



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MUSEUM  
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ART  
NICHOLAS AND DOLLY  
GOULANDRIS FOUNDATION



CYENS  
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ARCADA



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## 1 Introduction

The ReInHerit project, funded under Horizon 2020, seeks to revolutionize the way cultural heritage sites are experienced and managed. It envisions a sustainable model for cultural heritage preservation that connects museums and heritage sites, offering a comprehensive view of Europe's tangible and intangible heritage to local communities and tourists. The project assembles a dynamic network of collaborators, including cultural heritage professionals, tech experts, researchers, museums, and heritage site managers.

At the core of ReInHerit is a digital ecosystem that equips stakeholders with the tools to communicate, innovate, and disseminate European cultural heritage in real time. This ecosystem includes apps and educational resources, hosted and shared through a Digital Hub. This Hub serves as a platform for sharing knowledge in areas like training, tourism, conservation, and illicit trafficking prevention. ReInHerit also fosters entrepreneurial initiatives and co-creation, enriching visitor experiences.

CYENS Centre of Excellence created two immersive performances at cultural heritage sites, *ReInHerit in Performance: The Hadjigeorgakis Kornesios Mansion* and *ReInHerit a Museum: Immersive Performance at the BoCCF*, to serve as case studies for the Digital Hub. These performances combined fine arts, computer science and emerging technologies such as Augmented Reality. The project aimed to engage audiences, encourage creativity, raise awareness about ReInHerit, and promote the sharing of content.

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## **2 The Immersive Performances**

### **2.1 ReInHerit In Performance: The Hadjigeorgakis Kornesios Mansion**

"ReInHerit In Performance: The Hadjigeorgakis Kornesios Mansion" was realised on October 29th, 2022, featuring a collaboration between artists, museologists, and computer scientists to create an interdisciplinary performance at the Ethnological Museum of Cyprus in Nicosia, locally known as the Hadjigeorgakis Kornesios Mansion. This unique event aimed to transform the visitor's experience of the cultural heritage site, fostering interaction and engagement with the space and exhibits in a multi-sensory and personalized way.

The performance combined various elements, including live music, sound art, video art, lighting design, programming, 3D printing, and exhibition curation. Visitors were given text-based prompts, similar to a treasure hunt, which encouraged them to explore the mansion freely and discover specific objects while interacting with an interactive audio installation. At the same time, musicians moved throughout the performance space, triggering sonic events in response to the audience's proximity to sensors, adding an element of live performance to the event.

The design of the performance aimed to merge with the heritage site, enhancing the overall visitor experience. It provided an alternative approach to experiencing heritage beyond traditional museum visits, engaging multiple senses, and encouraging personal connections to the site's history and previous inhabitants.

### **2.2 ReInHerit a Museum: Immersive Performance at the BoCCF**

"ReInHerit a Museum: Immersive Performance at the BoCCF" was realised on May 19, 2023, as part of International Museum Day and European Museum Night at the Bank of Cyprus Cultural Foundation (BoCCF) in Nicosia. The project involved an interdisciplinary performance merging the digital and physical exhibits of the museum space to enhance the visitor experience. The BoCCF, situated in the historic centre of Nicosia, includes ethnographic collections and two museum spaces, making it an ideal venue for the immersive performance. The goal was to create an environment that allowed visitors to explore exhibits while adding layers of sound, augmented reality exhibits, coloured light, and video art.

The performance combined live electronic sound with a group of live music performers, theatrical lighting, generative video art, a digital exhibition, and an augmented reality smartphone app. Visitors could interact with digital AR exhibits, triggering sounds in real-time. The aim was to offer an alternative way of experiencing museum spaces, allowing audiences to engage with them holistically and receive a personalized multimedia experience. The visual component incorporated generative video and video art, combining historical artifacts and AI-generated images of dancers. The visuals evolved based on audience interactions, creating a dynamic composition. Projection mapping was used to immerse the audience in visuals and music. The composition for the performance was created for 20 musicians. Performers

encouraged audience movement and exploration, responding to the sound installation and video art with movement and the sounds they produced on their instruments. The sound installation featured 14 sound stations placed throughout the museum, each producing abstract sounds triggered by audience interactions.

### **3 Aspects of performance**

#### **3.1 Interdisciplinarity & Accessibility**

To make the experience accessible to all, a temporary multisensory exhibition was created in the first performance, at the Hadjigeorgakis Kornesios Mansion, for people with visual impairments, including 3D-printed replicas and haptic installations.

Both performances were intentionally non-linear, allowing visitors to spend more time in areas of personal interest. Sound and music played a crucial role in the performances, with an interactive audio installation that responded to the movements of both performers and the audience in the first performance and one that responded to their use of a smartphone app in the second performance (see 3.2). Lighting and video art added visual elements to the experience, setting the mood and guiding the musicians' movements.

The performances successfully combined live music, sound installation, and video art to create a dynamic and engaging experience within the cultural heritage sites. They encouraged visitors to explore the spaces in a unique and immersive way, promoting a deeper connection to the heritage sites and their rich history.

#### **3.2 The Smartphone App**

Overall, the project aimed to transform the museum experience by integrating digital elements, creating a dynamic and immersive experience for visitors. An AR application was designed for the second performance, to bring ethnographic objects from the museum's hidden collections to the public, creating a virtual exhibition alongside the existing exhibits on permanent display. The app allowed users to view 12 3D-scanned objects, each with accompanying texts that provided context about their use in 19th-century Cyprus.

In contrast to the app developed for the first immersive performance (Station & Remote app, described in D3.5 and D3.7 Demonstrator Mobile Applications, specifically in sections on Application 1: Immersive and Interactive Music Performance), which was used to automatically trigger sounds in hidden devices, based on changes in visitor numbers in specific spots in the performance space, the "ReInHerit a Museum" app, which was developed for the second performance, was operated directly by visitors on their personal devices.

The "ReInHerit a Museum" smartphone app, available in Greek and English, allowed visitors to interact with digital exhibits, triggering sounds and enhancing the performance at the

BoCCF. Data from users' interactions was used to trigger wireless sound stations throughout the venue. The app was available to download in advance or during the performance using QR codes displayed on site.

### **3.3 Audience Engagement**

The success of this project depended on engaging the target audience effectively. The aim was to attract a younger demographic of teenagers and young adults who might not typically visit cultural heritage sites and museums. Given that many of these visitors might be exploring such sites for the first time, especially in a post-pandemic world, the project sought to encourage active engagement with the cultural heritage space. This was achieved through interactive technology and gamification techniques.

The immersive performances combined interactive audio installations, live performers, captivating visuals, and used social media and blog posts to enhance pre-show and post-show engagement. A treasure hunt-style mission was incorporated into the project through cards or a bespoke smartphone application, prompting audience members to explore specific points of interest where sonic activity would occur. The project provided a multisensory experience, allowing visitors with diverse backgrounds and interests to focus on different aspects of the cultural heritage site, from treasure hunts to augmented reality activities, live performers, video art projections, and the soundscape created by the audio installation. This variety of options in the audience's experience transformed them from passive observers to participants who could influence the performance.

Live performers played a crucial role in bridging the gap between the digital elements and the audience, providing a necessary human dimension to the experience. Although they might not directly engage with the audience, they acted as intermediaries between visitors and the cultural heritage space.

To generate interest before the performances, a series of social media posts shared historical information and details about the project, targeting younger audiences. Some of these posts were used to create a treasure hunt activity during the performance. After the performances, a selection of event photos was shared online, and audience feedback was collected through QR codes and online questionnaires. Performance highlights and documentation are available on YouTube and social media platforms to openly share insights and encourage stakeholders interested in similar immersive performances.

### **3.4 Challenges**

Creating these performances in cultural heritage spaces presented challenges such as a lack of sound amplification and lighting equipment in the performance venues, absence of a designated stage or seating area, and highly compartmentalized spaces. Performers had

limited visibility and difficulty hearing each other when separated, which made coordination between them challenging. To address this, stopwatches were used to synchronize actions and maintain timing. The music compositions included text-based instructions for guided improvisation, providing flexibility for the performers.

Additionally, there were limitations on the number of people who could experience the performance simultaneously, and the first case study was limited to 300 attendees due to the architectural attributes of the venue. The most intriguing limitation was the need to create a performance that engaged creatively with the hosting space. This type of event was challenging to define and categorize, being a non-representational, non-mimetic activity that required the time-limited co-presence of performers and spectators, engaging multiple senses in the same world of the performance, as they navigated variable combinations of spaces, sounds, visuals, and exhibits.

#### **4 Conclusion**

The ReInHerit case studies aimed to immerse the audience in a multisensory experience of cultural heritage spaces, encouraging them to explore the museum environment with curiosity and participation similar to playing a game. Attracting a younger audience unfamiliar with cultural heritage sites was a key goal. The immersive performances combined interactive audio, live performers, captivating visuals, and interactive technology to engage the audience. Immersion required the audience to use their bodies as avatars within the performance space, involving all their senses in navigating and experiencing the cultural heritage sites.

#### **5 Annex**

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