Educational Digital Innovative CUltural heritage related Learning Alliance

Co-funded by the Erasmus+ Programme of the European Union



EDICULA "Educational Digital Innovative CUltural heritage related Learning Alliance" is a Strategic Partnership for Higher Education in Erasmus+. Strategic Partnerships aim to support the development, transfer and/or implementation of innovative practices at organizational, local, regional, national or European levels. Institutions of Higher Education work with others (other sector fields, enterprises, social partners etc.) to help to improve higher education across Europe and to deliver high quality education which is relevant to national and European labor market needs. A major challenge for Europe and the world is to promote cultural heritage protection as a lever for the enhancement of the

A major challenge for Europe and the world is to promote cultural heritage protection as a lever for the enhancement of the society's identity and the integration of 'culture as an enabler for sustainable development'.

New knowledge must break the boundaries of science and engineering and be integrated in education. In the field of CH protection, this will be achieved through the development of new learning mechanisms and educational material, taking into consideration the experience from existing interdisciplinary postgraduate study programs and actively promoting in situ education. The added value of this approach is the education of the youth towards this new vision.



EDICULA PROJECT STRUCTURE

EDICULA project Management and Implementation



01: EDICULA EDUCATIONAL TOOLKIT





http://edicula.eu/



The objectives of the EDICULA project are:

• to cultivate cooperation between NTUA and UNIROMA1 in the projects of rehabilitation of the Holy Aedicule and the underground interventions in the Church of the Holy Sepulchre in Jerusalem,

• to utilize the interdisciplinary and innovative research in the rehabilitation of the Holy Aedicule, its context and setting, to trans-cut with the history of architecture in Jerusalem, through cooperation with BEZ and IAA, and promote transdisciplinarity as an educational lever in the protection of monuments, through cooperation with HRIAC,

• to create advanced educational material and dissemination by using AR, through cooperation with PerpetilSI, to create (i) an educational toolkit and (ii) digital games, in order to promote social responsibility and awareness,

• to reform the curricula of the three postgraduate programs of the EDICULA partners, in order to exchange good practices and create new courses that in a complimentary approach will lead to the promotion of a Joint Master Degree in the field of protection of monuments,

O2: EDICULA CURRICULA REFORMATION

Postgraduate reformation

Curricula reformation of the following complementary Master Programs to address the needs for emerging professional profiles in the protection of monuments since new roles and responsibilities among diverse disciplines are required for sustainable development:

- National Technical University of Athens MSc Program in "Protection of Monuments"
- Università degli Studi di Roma 'La Sapienza' MSc Program in "Science and Technology for the Conservation of Cultural Heritage"
- Bezalel Academy of Arts and Design MSc MUrbDes Program in "Urban Design"

Doctoral reformation

Three Cotutelle de thèse doctoral theses will function as higher lever evaluation tool to assess the benefits of the reformed curricula and their educational applicability for innovative research.

Dissemination activities of the curricula reformation

The impact and transferability of the curricula reformation will be improved through **interaction with other similar Master Programs**.



• to develop the EDICULA Teachers' Course, in order to train higher education teachers to promote the transdisciplinary scientific synthesis as a key element for innovative education,

• to proceed with the organization of multiplier events, such as (i) hands-on events in Jerusalem and Alexandria, (ii) special conference sessions in Athens,

• to promote students to a professional and entrepreneurship mentality, by advancing education in collaboration with enterprises concerning technical works and digital applications, and thus enhance learning outcomes to ensure professional qualifications.

The EDICULA project will result in:

• innovative changes of the educational curricula for Cultural Heritage related Master Programmes in general and specifically the National Technical University of Athens Interdisciplinary Post Graduate Programme on 'Protection of Monuments', the La Sapienza Post Graduate Master Program 'Science and Technology for the Conservation of Cultural Heritage' and the Bezalel Academy of Arts and Design Post Graduate Program in 'Urban Design'

• the development of educational modules that will be attended by students among the Universities of the project, with equivalent ECTS accreditation, towards the creation of a new Erasmus Joint Masters Degree,

• the development of a digital educational toolkit with innovative interdisciplinary content using Augmented Reality (AR)and Artificial Intelligence (AI) technologies, enhancing in-situ and ex-situ application scenarios.

• the creation of digital games that will be used in a blended learning scheme,

• in-situ education, at the Holy Sepulchre in Jerusalem, its setting and context, including religious routes and ceremonies functioning as the prime educational nucleus, being a transformation from a problem-based learning approach into a unique approach towards a real-world learning, for application to other historic buildings and real or digital applications in the four countries.

• in-situ education for archaeologists, introducing innovation in engineering with emphasis in nondestructive testing and evaluation methods and georeferenced multispectral and multisemantic data,

• innovation-oriented educational synthesis, in the context of embedding, within the learning experience, the process of utilizing innovation to address scientific and engineering challenges, and as a synthesis tool that fuses and merges multilevel knowledge into effective solutions. New knowledge that has been produced within the emblematic project of the exceptional rehabilitation of the Holy Aedicule of the Holy Sepulchre in Jerusalem and its urban context is a prime outcome that strongly supports this transformation, where interdisciplinarity, effectiveness, transparency, holistic and digital integration of fused data and social acceptance have advanced the field of protection of monuments,

The EDICULA hands-on framework will be based on the elucidation of the values and understanding authenticity and integrity as the means for building CONSENSUS AMONG AUTHORITIES AND DECISION-MAKERS that require difficult decisions and often contradicting measures.

EDICULA hands-on framework will evolve from a learning procedure to a teaching activity, focusing on 'training the trainers' These **trainers**, will then **apply their acquired knowledge and skills** in the education of graduate students and experts from relevant authorities, thus approaching **a wider audience**.

EDICULA Teacher's Course

O4: EDICULA DIGITAL GAMES

EDICULA-digital game aims to achieve the following:

Provide a quick revision game which can be at the end of a guided at the site, providing some fun and **promoting team spirit and sportsmanship** (*if collaboration and playing in teams will be selected as a delivery method*)

Expose visitors to the new information and science outside the formalities of classrooms and the one-way flow of reading a book.

Directly relate to the visitors' need for engaging interaction with a digital experience that provides flow.

• a teaching activity to train higher education teachers in order to promote the transdisciplinary scientific synthesis as the key element for innovative education into other scientific fields.

INNOVATION

EDICULA is **an innovative approach** that fuses t**he interdisciplinary collaboration among the sectors of applied sciences in the protection of monuments** with archaeology and theology (for monuments of religious value) using XR technologies, to develop an educational framework to advance scientific transdisciplinary synthesis.

The innovation of the EDICULA project is that it emphasizes that this transdisciplinary collaboration can be instrumentalized through education, with the various universal educational tools and the experience from the emblematic Holy Sepulchre restoration acting as common base.

The EDICULA project aims to set an **innovative framework** to fill the gap among science, technology and education, for **social responsibility and accessibility**, through scientific transdisciplinary synthesis **using education as a tool to transfer the innovative know-how**.

Firstly, EDICULA encompasses the pioneering knowledge obtained by the emblematic rehabilitation of the Holy Aedicule of the Holy Sepulchre in Jerusalem. Secondly, the obtained scientific knowledge will be instrumentalized in order to define cross-national educational frameworks. This will employ in parallel state-of-the-art technologies such as VR, AR, AI aimed at embedding the innovative knowledge to the beneficiaries' curricula with reference to its setting and context.

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O5: EDICULA SYNTHESIS

The project of the rehabilitation of the Holy Sepulchre was more that an engineering achievement

The project of the rehabilitation of the Holy Sepulchre, an integrated diagnostic study, design of works and their implementation, is an EXEMPLARY APPLICATION IN THE FIELD OF MONUMENTS PROTECTION,

of transdisciplinary cooperation, an outcome of Innovation, not only on Research, but in the implementation process, with emphasis on technological advancements



















(ITALY)

(ISRAEL)

(ROMANIA)

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(GREECE)