



This project is funded by the European Union

## Efficient Energy for EU Cultural Heritage

### Coordinator:

EURAC – European Academy of Bozen, Institute for Renewable Energy (IT)

### Partners:

1. The Royal Danish Academy of Fine Arts School of Architecture, Institute for Technology/Institute for Building Culture (DK)
2. Institut für Diagnostik u. Konservierung an Denkmälern in Sachsen und Sachsen-Anhalt e.V. (SME) (DE)
3. University of Innsbruck, Institute for Construction and Materials Science, Unit Building Physics (AT)
4. ARUP – OVE ARUP & PARTNERS INT'L LIMITED (Industry) (UK)
5. Technical University Darmstadt, Chair of Building Materials, Building Physics and Building Chemistry (DE)
6. Fundación CARTIF (ES)
7. Bartenbach LichtLabor (SME) (AT)
8. Technical University Dresden (DE)
9. **Municipality of Bologna (IT)**
10. Wolfgang Feist (DE)
11. The Netherlands Organisation for Applied Scientific Research (NL)
12. **University of Bologna (IT)**
13. Artemis - ARTEMIS Srl (IT)
14. Gelbison -Gelbison Electronics Srl (IT)
15. GRUPO UNISOLAR (Industry) (ES)
16. Menuiseries Andre SARL (FR)
17. Remmers (Industry) (FR)
18. ATREA s.r.o. (SME) (CZ)
19. youris.com (EEIG) (BE)
20. ICLEI - Local Governments for Sustainability, European Secretariat GmbH (ICLEI) (DE)
21. Federation of European Heating and Air-conditioning Associations (Association) (NL)

## BACKGROUND

Historic buildings are the trademark of very many European cities and other places: the uniqueness of our cities is given by their historic quarters, because they are the living symbol of Europe's rich cultural heritage and the reflection of its society. And yet, these quarters are also the city area where the high level of energy inefficiency usually contributes to a huge percentage of greenhouse gas emissions. It is therefore necessary to set up new actions to refurbish historic buildings.

## OBJECTIVES

The project focuses on buildings with a public or social function and aims at improving the management of energy flows in these kind of buildings, by means of efficient active and passive solutions, cheap and long lasting, adequately monitored and checked, and also studying their social and environmental impact on the related urban context, always considering the historical as well as current function of the captioned buildings..

## ACTIVITIES

The research activities in the project are accompanied and stimulated by the involvement of eight case studies. At the same time, the studies will allow the assessment of the developed solutions. The found solutions and the selected buildings will help identify replicable factors and the context where replication is possible (e.g. other protected buildings, like residential houses). Moreover, this will make it possible to ask for an integration of EPBD (Energy Performance of Buildings Directive), which at the moment does not include historical buildings.

The project includes the participation the Municipality of Bologna, that will offer **Palazzo d'Accursio** as a case to study, making it available for experimentation of technologies developed by its research and industrial partners.

The case study will be led by a team of researchers from the University of Bologna, who will also deal with another historical building, **Palazzina della Viola**, owned by the University.



[www.3encult.eu/](http://www.3encult.eu/)

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**October 2010**

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**42 months**

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**€ 6.590.168**

Expected funding:

**€ 4.990.486**

Total cost for Bologna Municipality:

**€ 181.880**

EU funding for Bologna municipality:

**€ 141.485**



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**VII Framework Programme of Research and Development – Compatible solutions to improve energy efficiency in historical buildings in the city area**