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Join ICLEI Europe and the 3ENCULT project consortium in a free study tour on energy efficient solutions to preserve your historic buildings. ICLEI Europe will host a study tour exploring how historical buildings and monuments can be adapted to achieve high



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Workshop to discuss energy efficiency, historic buildings and tourism



A free workshop focusing on the economic benefits of energy efficiency in **historic buildings** is set to take place in the **historic city of Krakow (Poland)**. The workshop will specifically address real estate benefits and benefits for the **European tourism service industry**. ICLEI Europe and the **3ENCULT project consortium** warmly invite you to join.

The workshop is part of a series of events organised by the 3ENCULT project. Exchange and knowledge-sharing will be carried out on topics such as the economic feasibility of refurbishing historic buildings, recommendations and experiences on how to save historic edifices, and providing sustainable energy to meet the challenges of growing tourism in European historic centres. The event is aimed at local political decision-makers who guide the urban planning strategy and/or climate protection work of the municipality and technical staff working with monument protection, building and energy.

Explore with us how historical buildings can be adapted to achieve higher energy efficiency and improved levels of comfort while contributing to the outcomes of a broader climate mitigation strategy. The **latest draft of the programme** is available online. Places are limited so early registration is advised. Secure your place and experience ambitious options for sustainable energy efficiency.

Date:

26.11.2013, Krakow/Poland

Further information:

Giorgia Rambelli (ICLEI Europe) giorgia.rambelli@iclei.org.

Research goes hand in hand with demonstration: SINFONIA follows up 3ENCULT in Innsbruck (Austria)



A good practice how research links to demonstration will be achieved within the framework of two FP7-projects: **3ENCULT** and **SINFONIA (Smart INitiative of cities Fully cOMmitted to iNvest In Advanced large-scaled energy solutions)** by renovation of the case study building (**CS5**) **NMS Hötting (Innsbruck, Austria)**.

In the first phase an intensive investigations on conservation issues and energy efficient solutions as well as building diagnosis were performed on this listed school building. Based on this research funded by 3ENCULT, two prototype class rooms were refurbished exemplarily. One year of monitoring related to energy and comfort will now help to optimize the solutions for full scale renovation of the whole building. Substantial energy savings can be achieved by reduction of transmission heat losses, innovative ventilation system with heat recovery (see related **3ENCULT news**) as well as energy efficient solutions for lighting).

Starting in the year 2014, the following "Smart Cities´ & Communities´" project SINFONIA (ENERGY.2013.8.8.1: Demonstration of optimised energy systems for high performance-energy districts) will built upon work done so far. Hötting school is included as one of the pilot projects. This demonstration project with 25 partners is going to be carried out in the two cities of Innsbruck (Austria) and Bolzano (Italy) within a five years project period. The aspects like buildings renovation, introducing of district heating and cooling networks and smart grids are covered. Residential houses and schools with total floor area of 66.000 m² in Innsbruck and about 36.000 m² in Bolzano will be renovated down to very low energetic need (**EnerPHit standard**) with additional involvement of renewables like photovoltaic and solar thermal energy. Specifically, at the roof of the school building NMS Hötting, 390 m² (50 kWpeak) of photovoltaic panels are planned to be installed. Clear instances how research from 3ENCULT (work package on active solutions and RES-integration) passes into execution in SINFONIA.

Further information:

Contact 3ENCULT, UIBK: Rainer Pfluger, Unit Energy Efficient Buildings, University of Innsbruck, Austria, rainer.pfluger@uibk.ac.at.

Integrating historic buildings into urban sustainability process



3ENCULT is calling for input from Local Governments across Europe on ways to integrate energy efficiency retrofits of historic buildings into local sustainability processes and strategies. Starting from the well-established Aalborg commitments, a working group will discuss recommendations and replication.

Signed by over 700 local governments across the world, the Aalborg commitments have been devised with the aim of clustering the implementation of sustainability at local level into 10 areas of actions. Designed to be flexible and to allow each local authority to plan for local tailor-made solutions, they aim not only to provide a framework for planning, but also for the implementation and monitoring of the action.

In addition to advocating for energy and resource efficiency, as well as for the increase of Renewable Energy sources, Aalborg commitment 5.4 calls explicitly for local authorities to ensure

appropriate conservation, renovation and use/re-use of our urban cultural heritage.

The 3ENCULT working group wishes to address barriers to implementation, and explore solutions for the advancement of this target through an inclusive process of consultation and the development of a set of recommendations. A questionnaire and draft proposed indicators are available for consultation and discussion – please share your knowledge and experience!

To learn more about the process and join the working group, contact Giorgia Rambelli (ICLEI Europe): giorgia.rambelli@iclei.org.

Can historic buildings save on energy consumption?



Spanish Historic House Foundation explores interventions to improve energy efficiency on ancient buildings, which respect their cultural values and avoid irreversible and inaccurate actions.

The conference '**Energy Efficiency and Historic Buildings: in the footsteps of Europe**' will take place on the 25th and 26th of September 2013 in the Auditorium of the School of Architecture of the Polytechnic University of Madrid. Although this topic has been generating a lot of debate at European level, it is still little known in Spain.

Elena Lucchi from EURAC research will introduce into the state of the art and research on international level, and contribute to the discussion with 3ENCULT's experience on how to approach an energy retrofit to make it conservation compatible.

The current state of scientific research, the tolls for knowing the levels of energy consumption and the practical solutions to achieve significant energy savings, the possibilities regarding renewable energies, the existing funding systems to apply and some practical examples of successful interventions will be some of the discussed subjects. The conferences are dedicated to owners and managers of historic buildings and professionals involved in their energetic rehabilitation.

The Fundación de Casas Históricas y Singulares (Historic Houses Foundation), a Spanish organization dedicated to the preservation, dissemination and protection of historical heritage, organizes this conference with the support of the Secretary of State for Europe of the Spanish Ministry of Foreign Affairs and Cooperation.

For more information please

- have a look at the attached programme
- contact Elena Lucchi, EURAC research, +39 0471 055653

- or directly the conference organizers
sofia@casashistoricas.com
www.casashistoricas.com
www.facebook.com/energia.y.edificacion.historica

[Click here to open the attachment](#)

Taking Care of Our Treasures: The 3rd European Workshop on Cultural Heritage Protection (EWCHP)



Final countdown till the stakeholders of cultural heritage properties converge in Bolzano/Bozen for a three-day workshop on the preservation of Europe's precious heritage properties.

The 3rd European Workshop on Cultural Heritage Preservation (EWCHP) will take place in Bozen/Bolzano, Italy from 16–17 September, 2013, with an additional training day on 18 September, 2013.

Hosted by EURAC research and the 3ENCULT project, the objective of these important workshops is to provide a forum for exchange between scientists, curators, owners of cultural heritage properties and other experts involved in the protection of cultural heritage sites. The workshops will bring together European activities and initiatives that capture the current state-of-the-art in research and development.

For the third event in the series, a two-day workshop will take

place that will cover topics such as energy efficiency, climate change, indoor environments, as well as testing and monitoring methods. Poster sessions and presentations of the latest results from the European & national projects round out the meeting.

The third day of the event will be dedicated to a practical training session on measurements, mitigation and preventive conservation strategy. Among these sessions will be a demonstration of the MEMORI dosimeter technology for preventive conservation with the aim of reducing costs to provide long-term benefits for cultural heritage collections, as well as one from 3ENCULT project, on comprehensive diagnosis and multidisciplinary approach for the conservation compatible energy retrofit at Bolzano/Bozen's 13th century weighing station.

For more information and to register please [CLICK HERE](#)

3ENCULT Study Tour. Historic buildings renovation in Bolzano and Innsbruck Bolzano, Italy



Join ICLEI Europe and the 3ENCULT project consortium in a free study tour on energy efficient solutions to preserve your historic buildings.

ICLEI Europe will host a study tour exploring how historical buildings and monuments can be adapted to achieve higher energy efficiency and improved levels of comfort, without compromising the site's historical value. Visits will take place in the cities of Innsbruck (Austria) and Bolzano (Italy), allowing attendants to see first-hand examples of successful retrofits. Experts will explain how these retrofits work within the political context of a city's planning.

The Public Weigh house in Bolzano was built in the 13th century, but today it is used for commerce and residential purposes. The case study demonstrates how this site was retrofitted with better insulation and a high tech energy system throughout the building, particularly how windows from the

1950's were replaced with energy efficient alternatives.

Monumental School in Innsbruck was completed in 1931, and is considered an important example of early modern architecture. Unfortunately the original design of the building demands high energy usage and allows for severe overheating. In order to correct this, but also to preserve the historical integrity of the building, an innovative and non-invasive ventilation retrofit was necessary. Participants will be able to view the unconventional ventilation system and its potential in the renovation process.

To register follow [THIS LINK](#)

LED wallwasher offers optical finesse



A revolutionary lighting concept has been devised under 3ENCULT that both protects surfaces and is aesthetically pleasing. As such, the concept meets both human and material requirements.

Physical and chemical reactions triggered by electromagnetic radiation may accelerate deterioration of materials. The newly conceptualised luminaire 'wall washer' slows down the deterioration process that material undergoes. The light is intended for use on delicate surfaces such as frescoes, and can be adapted if particular risk to specific colours/materials is known.

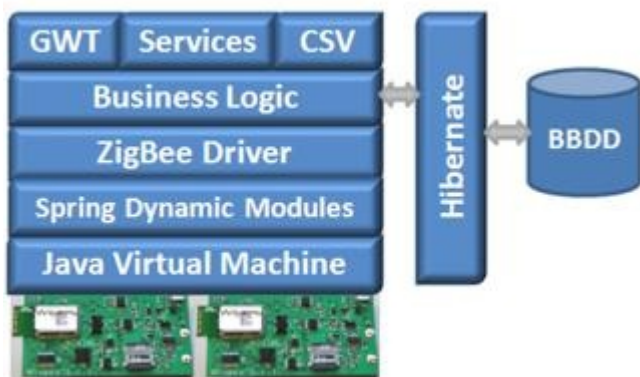
This 3ENCULT developed device is made from energy-efficient LEDs and requires only minimal installation (anchors and rope-bearing, stand mounted, on floor or cornices), ideal for buildings in which invasive refurbishment is not an option. Additionally, the use of LEDs allows for superb colour rendering and is

entirely glare free (it includes both vertical and lateral cut-off). It can also be tuned to reproduce the illumination given by incandescent lighting (2700K).

Further information:

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New Building Management System



A novel Building Management System (BMS) has been developed in the 3ENCULT Project which gathers monitoring information from a sensors network, known as "ZigBee", and displays the behaviour of the building in terms of the parameters measured. The system then calculates the best approach to take based on control algorithms.

The great innovation of the BMS is the capability to communicate in an easy way with the ZigBee sensors through user input. The BMS includes a mixture of technologies, both old and new, that are seamlessly integrated into the architectural make-up of the building. Google Web Toolkit is used for the Graphical User Interface. Mixing the new technologies, including successfully gathering and integrating data from the ZigBee sensors, is the main challenged faced.

When operating, the BMS increases reliability and user-

friendliness, and makes it easier to manage historic buildings.

Further information:

Jose Hernandez Garcia (CARTIF): josher@cartif.es

Exciting results from radar tests in Palazzo d'Accursio, Italy



Refurbishment works in Sala Urbana, a hall within the Palazzo d'Accursio in Bologna (Italy) famous for its frescoes of papal coats of arms, are now underway and have resulted in new discoveries being made.

Deputy Mayor for Public Works of the Municipality of Bologna, Riccardo Malagoli, presented to the press the refurbishment works that just started inside the prestigious Sala Urbana, followed by a demonstration of the lighting prototype installed in the room.

The room was built in 1630 in honour of Pope Urban VIII, and features frescoes from the mid-eighteenth century. Closed to the public due to the bad conditions of the roof, the room has become one of the case studies of the 3ENCULT project.

A number of tests were carried out as part of the comprehensive diagnostic methodology developed by the researchers of the **DICAM Department**. These tests aimed to evaluate the

energetic and structural health conditions of the building. The team from Bologna University, working in close contact with restorers, applied a radar technique to the masonry walls and discovered an unexpected number of chimney flues. Thanks to the high-resolution radar system used, it was possible to image the exact extension and depth of these features, which were completely unknown to the historians and to the directors of site works. Carla Bernardini, Director of the **City Art Collections** museum, said the new discovery will be much appreciated by museum visitors and citizens.

The tests conducted also made it possible to evaluate the state of conservation regarding wall decorations, wooden furniture, sculptures, paintings on canvas and wood, textile and paper materials. In addition, the available data made it possible to examine the most suitable waterproofing solution to ensure the best conditions of temperature and humidity, and to preserve valuable and artistic goods.

Further information:

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3ENCULT presents a new methodology of Environmental Impact Assessment

WS 6: Special HVAC Solutions for the Refurbishment of Historic Buildings
Monday, June 17, 15.00-16.30, Meeting room 4

Workshop organizer: **3ENCULT project consortium**
Additional information, links: www.3encult.eu
Presenter:

In June 2013 Prague (Czech Republic) hosted one of the most significant events of the year focused on Heating, Ventilation and Air Conditioning (HVAC) in buildings – the 11th REHVA Congress **CLIMA 2013**.

Integrated into the congress was the IAQVEC, the 8th Conference on Indoor Air Quality, Ventilation and Energy Conservation in Buildings. The event was highly international, with a large number of participants attending from Japan and the USA.

The 3ENCULT project consortium organised a workshop presenting HVAC solutions for the refurbishment of historic buildings. Project coordinator Alexandra Troi (EURAC) gave an overview of the main aims, challenges and outcomes of the 3ENCULT project, pointing out the importance of the multi-disciplinary approach and the involvement of different stakeholders in the planning and implementation of refurbishment of listed buildings. Rainer Pfluger (University of Innsbruck) presented the **case study** of the listed **Höttinger school building** in Innsbruck (Austria), in which a revised HVAC system was implemented.

Enrico Zara closed the session with a presentation on the multidisciplinary design for integrated solutions in historical buildings. Attendees then discussed the different aspects and challenges of the refurbishment of historical buildings and gave useful input for the next period of the project.

Date:

17.6.2013, Prague/Czech Republic

Further Information:

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PROJECT INFORMATION

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