CLIMPACTH

Climate Impact on Built Heritage

DURATION
01/09/2021 – 01/12/2025

BUDGET
957 363 €

PROJECT DESCRIPTION

Our **built heritage** is an invaluable collection of exceptional cultural, social and economic importance. At the same time, it is also fragile and vulnerable due to its long-term exposure to the environment. Therefore, the sustainable management of our built heritage requires the implementation of actions to reduce its vulnerability and to increase its resilience to the **risks of climate change**. In addition, as the public and private sectors are encouraged to invest in near-zero energy buildings for economic, ecologic and climate reasons, the pressure on our built heritage to follow the same path is increasing, posing an additional threat to its historical and cultural values. Caring for our built heritage also means caring for the collections kept within.
The **CLIMPACTH** project will combine climate expertise (IRM-KMI) and built heritage expertise (KIK-IRPA), to safeguard Belgium's built heritage in the 21st century and make it more resilient in a changing environment. The consortium consists of KIK-IRPA (coordinator), IRM-KMI, and the universities of Ghent (UGent) and Antwerp (UA). The CLIMPACTH project will develop a **decision model and framework** to address the sustainable management of the built heritage and its collection(s) in order to assess a risk management plan to increase their resilience to the increased hazard risks of climate change, and to assess mitigation actions such as the improvement of the energy performance of built heritage. The project addresses in this context the study and selection of materials and procedures for the conservation-restoration and preventive conservation of built heritage and its collection(s). It will develop the necessary means to achieve a paradigm shift towards an environmentally friendly management of buildings and collections.

The **research objectives** of CLIMPACTH can be summarised as follows:
- the development of a decision model and framework to effectively integrate climate change into maintenance or restoration works and building physics studies of the built heritage in support of policy makers, building owners, architects and engineering offices for building physics;
- the integration of international research data and initiatives in this framework to strengthen access to these data for heritage professionals;
- the development of climate data for building physics studies to support research and practice;
- the development of a methodology for sampling, material identification, and selecting the most relevant on-site and lab tests for heritage materials to assess the relevant material properties required to evaluate damage risks to the built heritage.

Heritage and climate change are both of general interest and there are therefore several ways to disseminate the results to an **audience of experts and non-experts** alike. The progress and results of the research will be communicated through the project website and social media (Facebook and Linked-In), and possibly through news articles. Cross-cutting communications will be prepared to reach different stakeholders. A1 publications in academic journals and contributions to conferences will be used to communicate with the scientific community and to strengthen the cutting-edge capacity of this research. Communications in professional magazines will reach professionals in the heritage, construction and meteorological sectors. We will take advantage of professional magazines, as well as workshops, seminars, sandboxes and newsletters from FSIs, universities and existing (non-profit) professional organizations such as ICOMOS and WTA, which will help build capacity in the different sectors. The public will be informed through news or articles in popular scientific journals or through participation in heritage-related events (such as Open Monuments Day).
CLIMPACTH encourages, more specifically, the management of our built heritage by providing a decision model and physical tools for assessing the impact of climate change on built heritage and its collections. It will produce an atlas on material degradation, material characterization and environmental risks for built heritage, which will serve as background information for the decision model for **policy makers** and **heritage professionals**. CLIMPACTH will collaborate with the regional heritage authorities to develop an (online) **publication** for local authorities, museum curators, building owners and the general public in English, Dutch and French to explain the decision model and to disseminate the knowledge transfer. CLIMPACTH will also organize a **workshop for heritage professionals** as part of its dialogue with stakeholders, as well as a **summer school** to disseminate the results at an international academic level and to train young professionals and academics in risk assessment of built heritage and climate change.

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