EUROPEAN INITIATIVE no 10:

Science for heritage: research, innovation, science and technology for the benefit of heritage

INNOVATION PILLAR

Draft version 06/12

WHY? - Objectives

The European Year is an invitation to "promote **research** and **innovation** in (…) cultural heritage, facilitate the **uptake** and **exploitation** of research results by all stakeholders (…) and (…) the **dissemination** of research results to a broader audience"[1]

Research and Innovation (R&I) can address many challenges of the cultural heritage sector by stimulating the emergence of smart, new and highly advanced solutions. The EU gives great financial support to develop an outstanding expertise in the field. **Horizon 2020**[2] supports cultural heritage research in key aspects of tangible, intangible and digital heritage. The Commission's Joint Research Center (JRC) is also a center of excellence for heritage-related research. The Year is an opportunity to showcase and further develop these efforts.

FOR WHOM? - Target groups

Research communities, innovators, academics, cultural heritage professionals, experts, public authorities.

WHAT? - Content of the initiative

The initiative will have 3 main components:

Component I- Promoting Excellence

For the 2014-2020 period, Horizon 2020 has allocated between 450-500 M Euros to fund research and innovation on cultural heritage. For the years 2018-2020, the total EU budget on cultural heritage will be between 150-200 M Euros. This initiative will showcase the potential of the EU-funded scientific research and the use of new technologies for cultural heritage. It will also promote examples of EU excellence in this field.

A few examples:

---

[1] *Decision (EU) 2017/864, Art. 2 specific objective 2(l)*

[2] The EU Research and Innovation programme managed by the European Commission - Directorate General for Research, with nearly Euro 80 billion of funding available over 7 years (2014 – 2020) to support excellence in science, taking great ideas from the lab to the market and tackling societal challenges. Horizon 2020 is open to everyone, with a simple structure to allow great ideas to get to reality faster.

A Horizon 2020 call launched in 2017 will finance as of end 2017 and beginning of 2018 new R&I projects that propose **'Innovative financing, business and governance models for adaptive re-use of cultural heritage',** such as churches, industrial and farm buildings that have lost their original function, or cultural landscapes which are degrading. Another current project ROCK - **Regeneration and Optimisation of Cultural heritage in creative and Knowledge cities** involves a network of 10 cities across Europe. It aims to develop an innovative approach for regeneration and adaptive reuse of historic city centres and will test the replicability of successful models,.

In 2018 several new actions in R&I will be launched under Horizon 2020. Among them, 18 M Euros are allocated to research and development of new and <u>cost-effective</u> technologies to increase resilience or reconstruct historic areas after damages and disasters *while fully respecting their historic value*. The projects will also provide guidelines to local authorities for reconstruction with the participation of local communities and propose new governance and finance models. Another example of R&I action for 2018 is the **'Innovative and affordable solutions for the preventive conservation of cultural heritage**', that aims at developing innovative and low-cost solutions to preserve artefacts, allowing cultural institutions with low revenues to comply with preservation standards.

Future initiatives to be launched in 2019 include **'Transforming historic urban areas and cultural landscapes into hubs of entrepreneurship and social and cultural integration'.**

The Commission's in house science hub, the Joint Research Center (JRC), has also developed a number of innovative tools applied in the cultural heritage sector. These include: (1) Fast Impact Hammer Testing (that allows for the best reinforcement for each particular case of building retrofitting); (2) testing the use of smart materials on historic masonry structures to improve their seismic resistance, and also to allow post-earthquake structural assessment; (3) 3D laser scanning technology originally developed for nuclear safeguards which is now also used for damage assessment and reconstruction planning of historical buildings; (4) a mobile laser scanning platform, accelerating 3D mapping of large areas.

Component II - Generating expertise

In 2018, two communities will be established: a <u>Community of Innovators on Cultural Heritage</u> and the <u>EU R&I Ambassadors on Cultural Heritage</u>. These communities will gather (on a voluntary basis) a large number of innovators, practitioners, entrepreneurs, pioneers etc. to promote the uptake of R&I successful results and innovative solutions, but also to encourage international cooperation and the opening of EU R&I on cultural heritage to the world. Around 300 universities, research centres, municipalities, industries and SMEs, cultural heritage organisations across Europe will be involved.

In addition, dedicated Horizon 2020 actions will support the establishment of two networks: 1) A <u>Network to promote heritage-led innovation and diplomacy</u> and provide expertise particularly where cultural heritage is at risk. The network will start in November 2018 and will promote exchange of knowledge, develop guidelines, tools and methodologies and encourage cultural diplomacy from R&I perspective. The project should contribute to more extensive protection and preservation of cultural heritage and enhanced capacities of third countries to safeguard it, particularly where cultural heritage is at risk. 2) A <u>'Social platform on endangered cultural heritage and on illicit trafficking of cultural goods' (see factsheet n°7)</u>.

Component III- Promoting good practices and rewarding excellence

A Policy Review showcasing important results from recent EU-funded research and projects on cultural heritage will be produced in early 2018, **identifying up to 50 good practices on cultural heritage research.** The Policy Review will be presented at the High Level Conference on Innovation and Cultural Heritage organised by the European Commission in Brussels on 20/03/2018.

Successful projects in the field of digital heritage will be promoted through EuropeanaTech and the Heritage in Motion Award by Europa Nostra, the European Museum Academy and Europeana.[3]. .

The prize for **Integrated Photovoltaic System in European Protected Historic Urban districts** will reward a European protected historic urban district that has integrated in its buildings a photovoltaic system for electricity generation and consumption for at least 50%.

Timeline:

- 20 March 2018: presentation of the Policy Review at the European Commission High Level Conference on Innovation and Cultural Heritage in Brussels
- March 2018- Social media campaign with success stories

WHEN? - Key Events

20 March 2018	High level Conference on Innovation and Cultural heritage in Brussels.
October 2018	launch event of all new Horizon 2020 research projects on Cultural Heritage in Brussels
November 2018	'Fair of EU Innovators' in Brussels, including the seminar 'Cultural Heritage Alive', an interactive workshop as well a demo area to showcase R&I results, products and prototypes developed so far, in close collaboration with the Community of Innovators on Cultural Heritage.

In addition, during the Year, the participants to R&I EU-funded projects will organize events in their respective cities and States. As an example, by 2018 more than 30 heritage cities and heritage landscapes sites will be involved in H2020 demonstration actions on the regeneration of historic city centers and rural areas in Europe.

PARTNERS

- Within the Commission, services dealing with research and innovation, education, culture, and the joint research center will be involved in this initiative.
- Europeana, the European Museum Academy

---

[3] Europe's digital platform for digital cultural heritage that provides access to over 54 million items