The EU Framework Programme for Research and Innovation

HORIZON 2020

Recent and future calls for project proposals

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CONNECT

G2 Interactive Technologies, Digital for Culture & Education

Mission of the Unit - WHAT

Support the *digital transformation of cultural and education institutions* *by:*

- *promoting the digitisation of cultural heritage, its wider access and reuse through new technologies and the further development of Europeana as Europe's platform for digital cultural heritage*
- *fostering the modernisation of education and training systems in an age of rapid technological changes*

Support to European industries

Mission of the Unit – WHAT (2)

Support the take up of interactive technologies *such as:*

- virtual and augmented reality
- conversational systems
- wearable technologies
- Human-Machine interaction
- haptic technologies
- etc.

in all domains, to allow users to access, process and deliver information in more natural, efficient and less intrusive ways, providing enhanced and personalized experiences.

Mission of the Unit - HOW

- ➢ *Using digital technologies to open new perspectives for cultural heritage , education and new ways to interact with the digital world*

- ➢ *Through policy, coordination, funding for research and innovation, and the wider take-up of interactive technologies, learning technologies and connectivity*
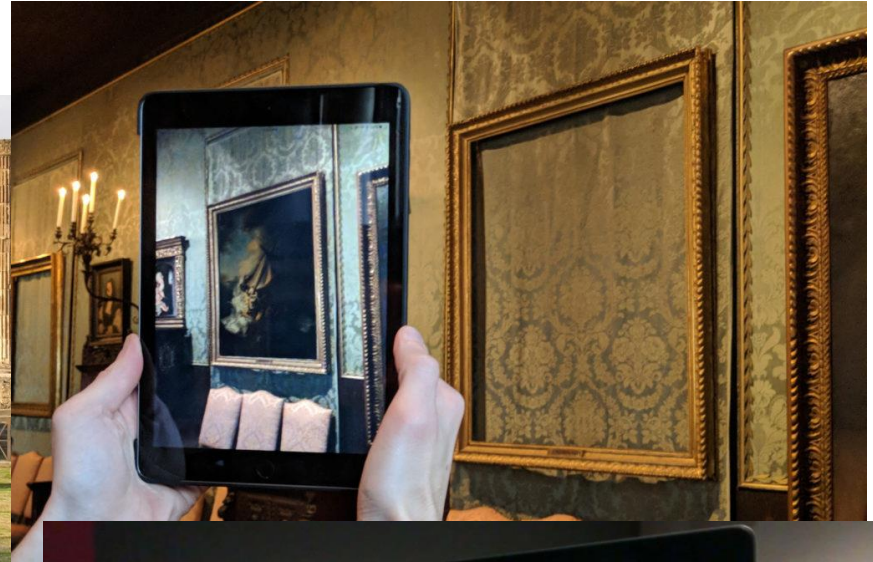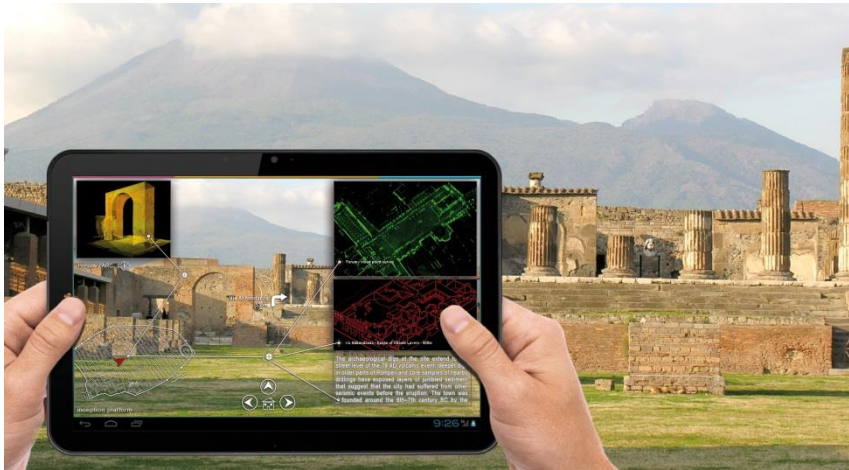
Importance of virtual and augmented reality

AR–VR–MR–XR

Recent calls
H2020 - ICT-25-2018-2020 call

Two calls:

a) support a pan-European coordination effort to strengthen the collaboration among the constituency; (**CSA**)

b) increase the European innovation capacity through the development of new authoring tools and the access to a broader community. (**RIA**)

H2020 - ICT-25-2018-2020 call

Two main objectives:

- *Support European industries.*

- *Support a competitive and sustainable ecosystem of European technology providers in interactive technologies.*

Key novelty

6 Selected proposals under Grant Agreement Preparation
Total budget: 23,4 M EUR

- use of AUGMENTED REALITY in the EDUCATIONAL SYSTEM, aiming to build a pan-European competitive ecosystem that supports fast dissemination of **augmented learning content** to a wide audience

- three distinct pilot studies (STEM, English literacy skills, Positive Behaviour Intervention)

- provide an **AR cloud platform and digital twins solution** *for industry 4.0 and construction 4.0 to enhance productivity gains and quality*

- one of the key services is the display of complex 3D augmentations on any AR device

Key novelty

- build a novel intelligent verification and validation technology for **Extended Reality** systems based on techniques from AI including socio-emotional AI.

- create **virtual digital characters** *that are realistic in both looks and behaviour* and can act as trustworthy guardians and guides in the interfaces for AR, VR and more traditional forms of media

- *include rich and meaningful* **tactile information** *into the novel interaction systems to substantially increase the quality of immersive VR experience used locally or remotely.*

- *develop an accessible,* **collaborative VR rehabilitation environment** *that uses a serious gaming virtual space to provide stimulus, socialisation and friendly competition for users on the path to rehabilitation.*

CSA **- XR4All –** eXtended reality for all

XR4ALL is designed to forge a competitive, sustainable XR-tech ecosystem in Europe, with the following main objectives:

- *create a pan-European (XR-tech) community,*

- *build a platform for developers to share products & tools,*

- *develop a research agenda,*

- *award grants for innovative technology projects,*

- *increase investments & tech transfers to help products reach market.*

V4Design - Visual and textual content re-purposing FOR(4) architecture, Design and video virtual reality games

3D reconstruction, generation of dynamic 3D objects
– Innovative tools to architects and video game designers
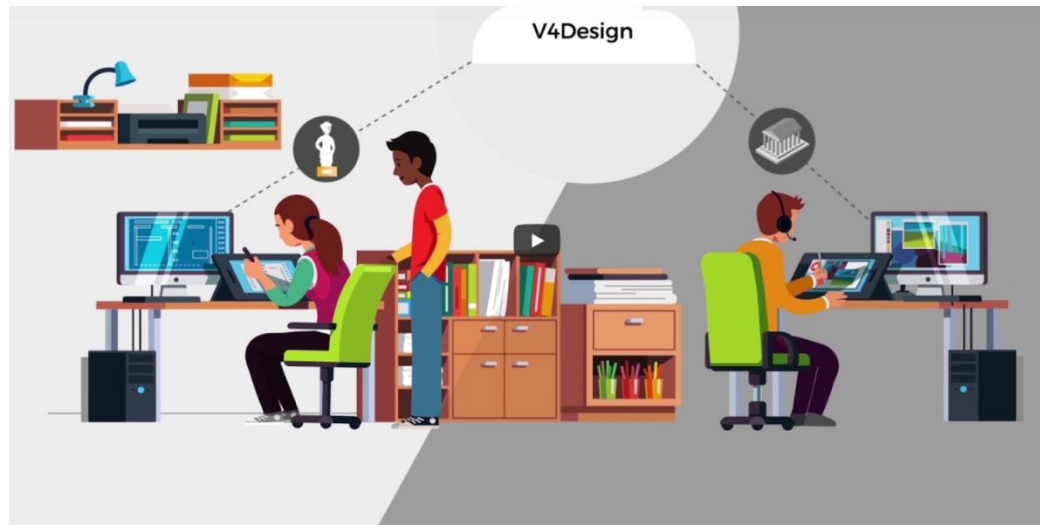
**Project website:** http://www.v4design.eu/

V4Design

V4Design - Visual and textual content re-purposing FOR(4) architecture, Design and video virtual reality games

Goal: Reuse existing heterogeneous multimedia content and repurpose it so as to inspire and support the design, architecture and 3D / VR game industries
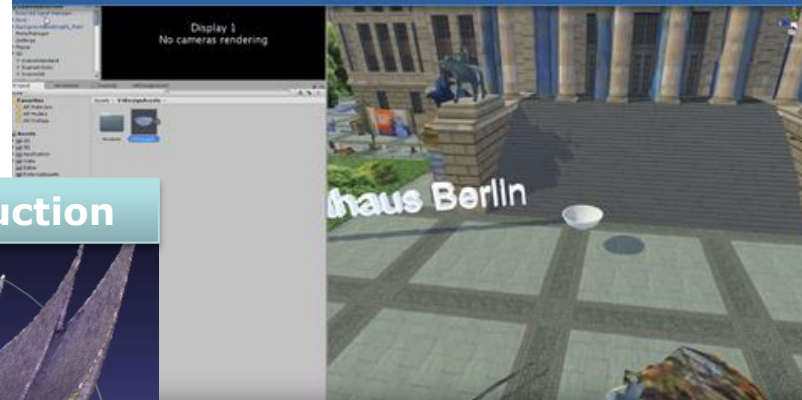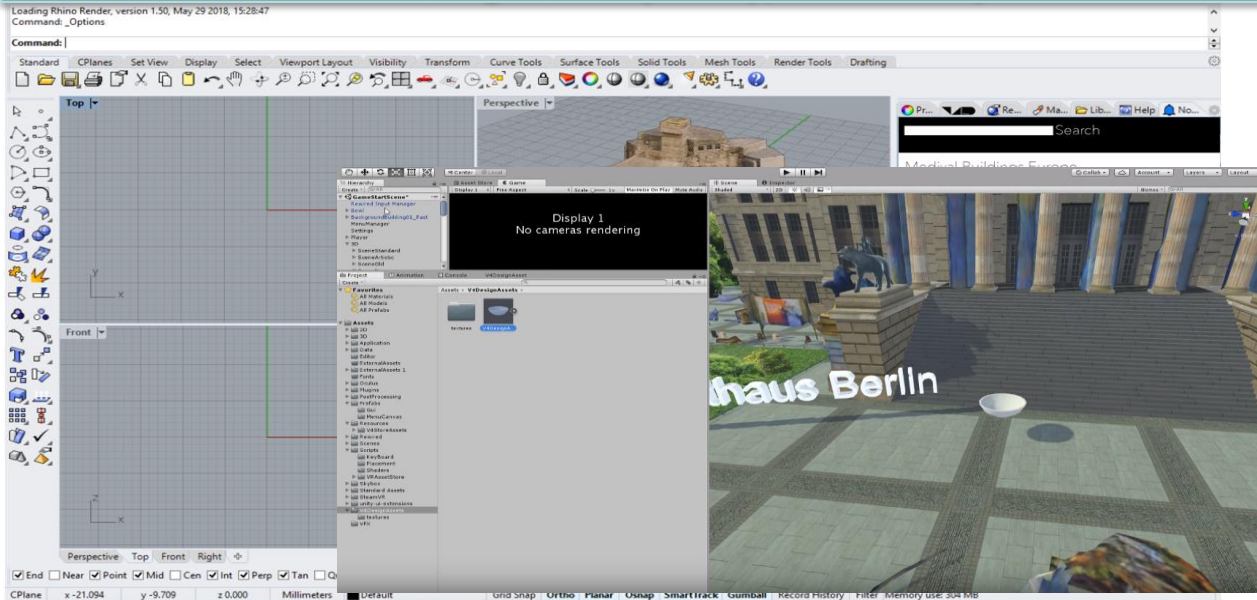
Object / building localisation

3D model reconstruction

VR Environment

V4Design
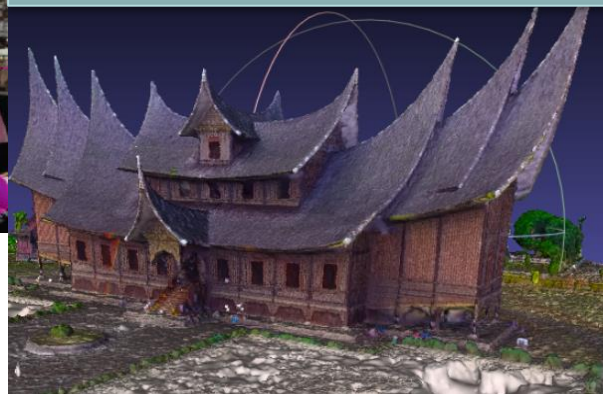
Authoring tools (Unity, Rhino3D)

Text analysis

1 The photo shows the Gendarmenmarkt in Berlin-Mitte (often referred to as the most beautiful square in Berlin) is a square in the historical center of Berlin. The central building is the concert hall, on the north side of the French Cathedral (right) is flanked on the side opposite the German Cathedral (left)

V4Design participated in the Digital Assembly 2018 with an exhibition stand where the visitors had the chance to have an exciting "Living the past" experience through a Virtual Reality demonstration of a walk in a historic square, the Berlin Gendarmenmarkt, in different time periods.

European Commission

iMARE CULTURE

i-MARE Culture

Advanced VR, **iM**mersive serious games and **A**ugmented **RE**ality as tools to raise awareness and access to European underwater **CULTUR**al heritag**E**

- VR storytelling offers an entertaining and educational way to communicate cultural heritage

- Users can travel in the past and EXPERIENCE underwater cultural heritage
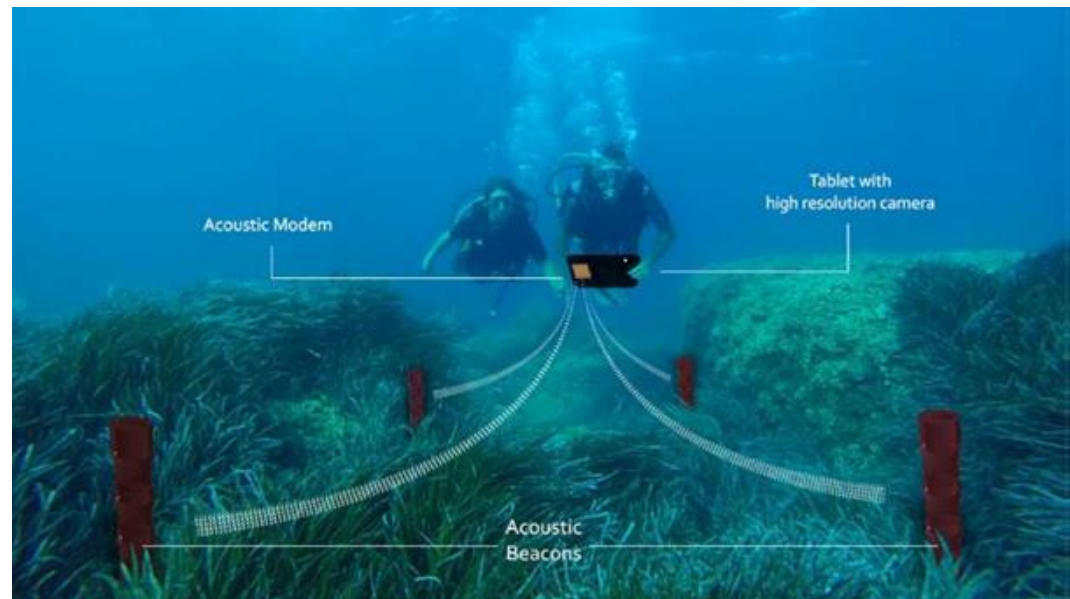
New technologies based on an augmented reality system used in the i-MareCulture project to showcase underwater cultural heritage

REVEAL

Imperial Forum game
A Night in the Forum

To experience personally what it was like to be in Rome during Augustus' reign, going into the forum during the night;

To find out interesting information on life, people and places in those historical times

The Chantry

Environmental Narrative Videogame in Virtual Reality

-Explore the 18th Century family home of Edward Jenner, the father of immunology, whose pioneering work on vaccination is said to have saved more lives than anyone else

- Learn about Jenner's links to Napoleon Bonaparte, and the role of The Salem Witch trials in the smallpox story.

Future calls

DT-TRANSFORMATIONS-12-2018-2020: Curation of digital assets and advanced digitisation (€13.5 M)

DT-TRANSFORMATIONS-20-2020: European Competence Centre for the preservation and conservation of Monuments and Site (€3 M)

Date of publication of the calls: 05/11/2019

Date of closing: 12/3/2020

DT-TRANSFORMATIONS-12-2018-2020: Curation of digital assets and advanced digitisation (€13.5 M)

- Present cultural and historic remains and memories in a comprehensive and attractive though scientifically based way.

- Proposals should also show how the preservation and analysis of the tangible and intangible resources of our cultural heritage would enhance our understanding of cultural history.

- Gains from use and re-use of digital assets.

- Better promotion of Europe's cultural heritage.

- The analysis of the tangible and intangible resources of our cultural heritage will enhance our understanding of cultural history.

Type of action: Research and Innovation Action

Research and innovation actions

Funding for research projects tackling clearly defined challenges, which can lead to the development of new knowledge or a new technology.

Who?

Consortia of partners (min 3) from different countries, industry and academia.

Funding rate: 100% of eligible costs

The European Competence Centre for the Preservation and Conservation of Monuments and Sites

What for?

- *Preservation and conservation of European cultural heritage using new state-of-the-art ICT technologies*

- *Mapping past and ongoing research*

- *Collect, analyse and promote best practices*

- *Point of reference for transnational and interdisciplinary networking*

- *Support Cultural Institutions in the use of ICT technologies*

- *Ambassador for massive digitisation of endangered European Cultural Heritage*

Coordination and support actions

Funding covers the coordination and networking of research and innovation projects, programmes and policies.

Who?

Single entities or consortia of partners from different countries, industry and academia.

Funding rate: 100% of eligible costs

Expected impact

- increase the quality of preservation initiatives undertaken by Cultural Heritage institutions.

- demonstrate how it will contribute to an increase in the number of and quality of digitised monuments and documents, allowing a better use and re-use of new digital assets.

- strengthen the coordination between all players in the Cultural Heritage domain and upscale the competences of the potential users.

Duration: around 3 years

Funding: 3M EUR

Type of action: Coordination and Support Action

H2020 – ICT-55-2020 (IA)

Uptake of Interactive Technologies in various industrial and societal domains

Opening date: 9 July 2019
Deadline: 14 November 2019

EU funding

Total budget: 17 million EUR
Expected proposals: between EUR 1.5 and 2 million EUR
Duration: between 12 and 24 months

Expected Impact:

- *Increase in the use of Interactive Technologies in the industrial and societal domains.*

- *Increase in the number of European SMEs and start-ups who benefit from technology transfer.*

- *Increase in market opportunities in the Interactive Technologies sector for European SMEs.*

Objectives

- *develop authoring tools for automated interactive content creation that can be used also by non-expert users on various platforms and environments; The authoring tools are expected to:*
    - *rely on less manual input enabling quicker content creation*
    - *manage large quantities of data*
    - *allow higher fidelity*
    - *allow improved immersion, engaging all senses*

- *or develop solutions in key sectors such as in manufacturing, automotive, healthcare or cultural and creative industries or in sectors where the use of such technology is not mainstream.*

Innovation actions

Funding is more focused on closer-to-the-market activities. For example, prototyping, testing, demonstrating, piloting, scaling-up etc. if they aim at producing new or improved products or services.

Who?

Consortia of (min 3) partners from different countries, industry and academia.

Funding rate: 70% of eligible costs (except for non-profit legal entities, where a rate of 100% applies)

Contact information:

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