

## HORIZON 2020 – INCEPTION

Inclusive Cultural Heritage in Europe through 3D semantic modelling



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INCEPTION research project has received funding from the EU's H2020 Reflective framework programme for research and innovation under grant agreement no. 665220.

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[www.inception-project.eu](http://www.inception-project.eu)

### INCEPTION PROJECT

The research realises innovation in 3D modelling of cultural heritage through an inclusive approach for time-dynamic 3D reconstruction of artefacts, built and social environments. It enriches the European identity through understanding of how European Cultural Heritage continuously evolves over long periods of time.

INCEPTION's Inclusive approach introduces novel solutions of 3D digital modelling:

1. **forever:** INCEPTION "Time Machine" that represents an innovative use of timescale for dynamic 3D reconstruction with emphasis on how the modelled cultural heritage evolves over time in association with its built and social environments
2. **for everybody:** portable, user-friendly and cost-effective hardware and software instruments for 3D capturing, modelling and analysis, as well as INCEPTION Semantic Web technologies and open-standard platform to creating and sharing understanding between various end-user group
3. **from everywhere:** INCEPTION's proposed standard procedures for data acquisition and open-standard format for Cultural Heritage Building Information Modelling (H-BIM).

INCEPTION solves the shortcomings of state-of-the-art 3D reconstruction by significantly enhancing the functionalities, capabilities and cost-effectiveness of instruments and deployment procedures for 3D laser survey, data acquisition and processing. It solves the accuracy and efficiency of 3D capturing by integrating Geospatial Information, Global and Indoor Positioning Systems both through hardware interfaces as well as software algorithms.

INCEPTION methods and tools will result in 3D models that are easily accessible for all user groups and interoperable for use by different hardware and software. It develops an open-standard Semantic Web platform for HBIM to be implemented in user-friendly Augmented Reality operable on mobile devices.

The Consortium is fully supported by a Stakeholder Panel that represents international organisations, EU public institutions and NGOs. Innovation will directly and indirectly benefit the project consortium and stakeholders. The combination of innovative methodologies and protocols, processes, methods and devices to enhance the understanding of European Cultural Heritage by means of 3D models will bring: new knowledge, collaboration across disciplines, time and cost saving in develop and use of 3D digital models, increase of market share, and social benefits. When developing innovative results during the project, market consideration will be taken into account, especially regarding: a) new products; b) for improved products; c) the use of technology to reduce cost and to guarantee effectiveness.

#### INCEPTION OBJECTIVES

- To create an inclusive understanding of European cultural identity and diversity by stimulating and facilitating collaborations across disciplines, technologies and sectors.
- To develop cost-effective procedures and enhancements for on-site 3D survey and reconstruction of cultural heritage artefacts, buildings, sites and social environments.
- To develop an open-standard Semantic Web platform for accessing, processing and sharing interoperable digital models resulting from 3D survey and data capturing.

#### INCEPTION CONSORTIUM

1. University of Ferrara / TekneHub (Italy) – Project coordinator
2. University of Ljubljana (Slovenia)
3. National Technical University of Athens (Greece)
4. Cyprus University of Technology (Cyprus)
5. University of Zagreb (Croatia)
6. Consorzio Futuro in Ricerca (Italy)
7. CARTIF (Spain)
8. DEMO Consultants (Netherlands)
9. 3L Architects (Germany)
10. Nemoris (Italy)
11. RDF (Bulgaria)
12. 13bis Consulting (France)
13. Zoller + Fröhlich (Germany)
14. Vision Business Consultants (Greece)



INCEPTION time machine



INCEPTION on-site application



INCEPTION off-site application

#### NEXT PROJECT MEETINGS AND PARTICIPATIONS IN EVENTS

- SBE16 Malta. 16<sup>th</sup>-18<sup>th</sup> March 2016. La Valletta (Malta)
- INCEPTION General assembly. 30<sup>th</sup> June – 1<sup>st</sup> July 2016. Delft (The Netherland)
- INCEPTION Consortium meeting. November 2016. Limassol (Cyprus)
- EuroMed 2016. 31<sup>st</sup> October until the 5<sup>th</sup> November 2016. Limassol (Cyprus)