Innovative holistic framework for the management and analysis of CH data

Emmanouil Alexakis[1], Alexandros Raikos, Antonis Rifios, Dimosthenis Kyriazis and Antonia Moropoulou

[1] National Technical University of Athens, School of Chemical Engineering, Iroon Polytechniou 9, Zografou, 15780, GREECE
alexman@central.ntua.gr

Abstract: Monitoring, assessing, digitizing, and surveying Cultural Heritage (CH) as-sets are the most salient research actions in the respective scientific and technological area. To address those issues, the RESPECT project is proposing an innovative holistic framework for the management and analysis of CH data, which will ease the exploitation of data and knowledge across scientific disciplines and support the stakeholders over critical decisions regarding CH assets. The RESPECT solution employs a holistic CH data management platform which is aligned with the general necessity for quality control principles provided by continuous monitoring for a systematic dynamic data collection, storage, analysis, and retrieval. The aim of RESPECT is to deliver an integrated platform that provides the ground for the management and analysis of big amounts of cultural heritage data. The goal is to access and collect data in an optimum way that enables all analytics tasks (e.g., documentary methods analysis, preservation services for cultural re-sources, etc.) and provides efficient and rich representation to the collected, modelled, interpreted, and analyzed datasets. RESPECT platform will pro-vide tools and methodologies for turning raw data into valuable knowledge through the employment of data functions across the complete data path. The suggested platform architecture (Fig. 1) includes a data modelling part where the various available data are organized and stored after preprocessing (conversion, cleaning, aggregation etc.) but also in raw format for documentation and reference purposes, enabling data analytics. Finally, the results are visualized utilizing 3D representation capabilities by considering policies evaluation stemming from intervention policies modelling.

Keywords: Data Management and Analytics, Integrated Platform, Cultural Heritage.