

Role of Geomatics in Architectural and Cultural Conservation

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Abstract : The intent of this paper is to demonstrate the role of computerized auxiliary science in advancing the desired and necessary alliance of historians, surveyors, topographers, and analysts of architectural conservation and management. The digital era practice of recording architectural and cultural heritage in view of its preservation, dissemination, and planning developments are discussed in this paper. Geomatics include practices like remote sensing, photogrammetry, surveying, Geographic Information System (GIS), laser scanning technology, etc. These all resources help in architectural and conservation applications which will be identified through various case studies analysed in this paper. The standardised outcomes and the methodologies using relevant case studies are listed and described. The main component of geomatics methodology adapted in conservation is data acquisition, processing, and presentation. Geomatics is used in a wide range of activities involved in architectural and cultural heritage – damage and risk assessment analysis, documentation, 3-D model construction, virtual reconstruction, spatial and structural decision – making analysis and monitoring. This paper will project the summary answers of the capabilities and limitations of the geomatics field in architectural and cultural conservation. Policy-makers, urban planners, architects, and conservationist not only need answers to these questions but also need to practice them in a predictable, transparent, spatially explicit and inexpensive manner.

Keywords : architectural and cultural conservation, geomatics, GIS, remote sensing

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