

Basic Principles for Developing Capacity Building in Geometric Recording of Cultural Heritage

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Key words:

SUMMARY

According to the recently adopted International Charta of ICOMOS: “*Conservation, development and restitution of architectural heritage demands multidisciplinary approach*”. For such an approach a geometric recording of all architectural elements of world’s cultural heritage is necessary. In this field Surveying Engineers have a leading role to play. Geometric recording of historic monuments becomes of major importance especially in countries like Greece, which have long history and great cultural heritage. Greek cultural monuments belong to a broad variety of historic periods starting from 1500 BC up to the Neoteric years.

Simple topometric, surveying, photogrammetric and laser scanning methods are applied for geometric recording giving a variety of large scale products, such as: vector maps (horizontal plans, sections, facades, developments), raster products (rectifications, orthophotos) or 3D models (derived from laser scanning point clouds or from photogrammetric stereomodels). The scale and accuracy of the geometric recording may vary, depending on the purpose of use, the type of product, and the particular characteristics of the object, from 1:100 up to 1:20 or even up to 1:5 for smaller objects or architectural details.

The main fundamental principles in order for a Surveyor to play a successful role in the field of geometric recording of cultural heritage are:

- The applied methods for geometric recording must be in line with the International Rules, concerning the respect to the monument and the reversibility of any action or intervention.
- Low cost methods should be used as long as the products satisfy the needs according to the given technical specifications.
- Specialization of needs (accuracy, type and format of products) should be done according to the importance of the object, its shape, and the type of intervention that will follow.

Still, an even more critical factor is the need for special education and capacity building at all levels:

- at political level or all the key players and decision makers. Awareness must be built up about the necessity for multidisciplinary approach and the value of geometric recording of cultural heritage, so that the necessary financing budgets will be available
- at administrative level. Necessary legislation and institutional arrangements must be made to facilitate the intergovernmental cooperation and the joined up policy among the relevant agencies for the supervising and the quality control tests of the projects

- at scientific level. Surveyors need to acquire special technical knowledge through specific courses of continuing education, and experience through active participation in multidisciplinary working groups
- at financial level. Compilation of cost-benefit studies for the geometric recording, where financial criteria will be considered together with cultural criteria such as the preservation and conservation of world's cultural heritage, should be made to facilitate the purchase and maintenance of the appropriate hardware and software
- at user level. Society in general and users, who usually are specialists of other scientific fields, should become aware of the products of geometric recording and their benefits. They should be aware of what they can demand and what they can expect, what are the procedures and the technical methods for cultural documentation and recording of the present situation for a future use or monitoring control. Individual citizens should also be aware of the importance of world's cultural heritage and the need for historic knowledge.

As a conclusion of the above analysis, the main principles and content of a draft "Guidelines and Action Plan Framework about Geometric Recording of Cultural Heritage" are given. The advantages and benefits of its application in all stages of interventions on cultural monuments are mentioned.

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