

## AMONG KNOWLEDGE AND COMMUNICATION. SYSTEMS OF SCANNING 3D AND CULTURAL HERITAGE

L. Baratin \*, H. Bonnici \*\*, D. Peloso\*

\*University of Urbino "Carlo Bo", Facoltà di Scienze e Tecnologie, Campus Scientifico  
Sogesta , Località Crocicchia 29, 61029 Urbino, tel: 0722.304302, fax: 0722.304240.  
[laura.baratin@uniurb.it](mailto:laura.baratin@uniurb.it)

\*\*Ministry for Resources and Rural Affairs – Restoration Unit – Works Division  
[hbon1@um.edu.mt](mailto:hbon1@um.edu.mt)

**KEY WORDS:** Photogrammetry, Laser scanner, 3D animation, Virtual Reality

### ABSTRACT:

The spread of digital technologies has determined a great change in the process recording of the spatial data; the said change was due in particular to the development of the systems of scanning together with the traditional methods such as topography and photogrammetry.

The use of laser scanners, the realization of complex models, both navigable and measurable, as well as the procedures of management of collected data introduced new problems of approach to the structure to be measured, returned and interpreted.

As a matter of fact, the spatial data allow to realize models of great scientific value that can be considered as real digital databases.

Such three-dimensional databases allow to exalt not only the informative-spatial aspect of the surveyed objects through their geometrical acquaintance, but also the evocative-communicative one.

These aspects largely increase the value of both the geometric representation and all the inter-connected elements.

This contribution aims at showing the existence of new possibilities of data' interaction and use, with the purpose to guarantee the full spatial value as well as introduce in a simple way the information to the community within a virtual reality.

The case of study describes the application of laser scanner methodologies to the Fort S. Elmo of Malta (European Project P.A.G.U.S.).

The work concerned the elaboration of virtual models that allow to check constantly the state of maintenance of the architectural asset in order to restore, recover, control its structural deformations and catalogue it.

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