



C. ABSTRACT ENGLISH

The aim of the thesis is to analyse new technologies for integrated architectural surveys, studying the advantages and limitations of each in different architectural contexts, providing a global vision and unifying terminology and methodology in the field of architecture and engineering. The new technologies analyzed include laser scanning (both time-of-flight and triangulation), image-based 3-D modelling and drone-based photogrammetry, along with their integration with classical surveying techniques.

With this goal, some case studies were examined, using different survey techniques with several advanced applications, in the field of architectural heritage. The case studies enabled us to analyze and study these techniques, however having quite clear that Image- and Range-based Modelling techniques, rather than compared, must be analysed for their integration, which is essential for the rendering of models with high levels of morphological and chromatic detail.

On the other hand, thanks to the experience of the two different faculties (Architecture in Valencia, Spain and Civil Engineering in Pisa, Italy), besides the issues of interpretation between the two languages, divergence was found between the terminology used by the different specialists involved in the process, be they engineers (although dealing with different branches), architects and archaeologists. It is obvious that each of these profiles has a different view of architectural heritage, general construction and surveys. The current trend to form multidisciplinary teams working on architectural heritage, leads us to conclude that an unified technical terminology in this field could facilitate understanding and integration between the different figures, thus creating a common code.