

TYPE

Technical Office

CUSTOMER

Andrea Donadello - Architect

INTERVIEWEE

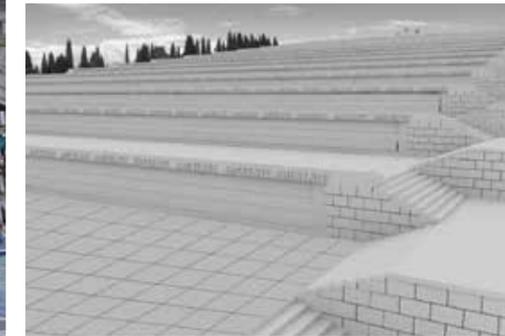
Andrea Donadello - Architect

SOFTWARE

STR Vision CPM

STR Vision BIM

SPECIAL BIM



INTRODUCTION

Andrea Piero Donadello is a self-employed architect who mainly deals with restoration projects. He collaborates with the "Palladio Associati" office carrying out surveys with laser scanner technology, and with "CSG Palladio", a laboratory responsible for diagnosing infrastructures and Cultural Heritage. Mr. Donadello's past activities include the restoration of the Palladian Basilica in Vicenza (Italy), which was awarded the "European Prize for cultural heritage by Europa Nostra Awards 2014", the analysis of the Fabrica as part of the restoration project of Rialto Bridge in Venice (Italy), and the recent restoration project of the Military Memorial in Redipuglia (Italy).

Donadello

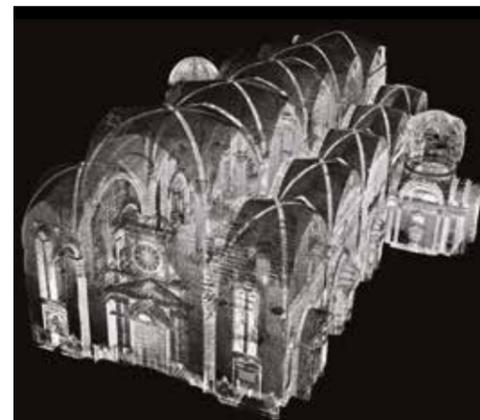
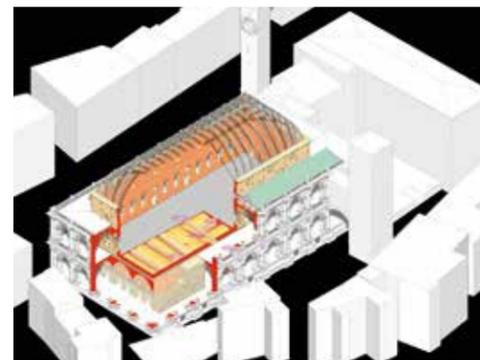
Restoring in BIM logic

How did you get to know STR solutions and how did you start with BIM methodology?

The restoration of the Military Memorial in Redipuglia, carried out together with my colleague Mr. Eugenio Vassallo, was the first important requalification intervention on a historical-monumental building using STR Vision software and the BIM (Building Information Modelling) method. This method is based on a principle: restoring involves "going back" over the work project to find its logic, its construction choices and its individual elements. It's a sort of "virtual disassembly" where the 3D model, complete with all necessary information, represents both the starting point and the synthesis of the restoration. This is why tools capable of describing and structuring the building elements are so important: their 3D representations are used by all professionals involved in the intervention, from structural to service engineers, considering all aspects connected with calculations, accounting and economic management of the whole work. Since the beginning I realized that STR solutions could perfectly meet my requirements, because they have been developed keeping the management of the whole building process in mind.

What challenges did you face during this important intervention?

From the functional point of view, the main challenges were related to the deterioration of the building: it was built in the middle of the thirties - with some degree of care and precision - and it bore the signs of time. The Military Memorial didn't show any special structural problems, a part from negligible deformations caused by a limited subsidence of the soil. Greater attention was required by the material preservation plans, especially as for the bronze plates in the chapels where the soldiers' remains are kept. The real challenge was time: the Memorial will be opened in 2018, the centenary of the end of World War I, and the works are planned to stop in 2017. To keep to this stringent schedule we adopted a clear strategy: each construction element playing a function in the work was identified and associated with an estimate item concerning the works to be carried out and the execution time. This procedure was possible thanks to STR BIM solutions.



On the basis of the experience made in the requalification of the Military Memorial in Redipuglia, what is, in your opinion, the potential of the BIM method in the field of monument restoration?

No doubt a very remarkable one, because the method is based on the overall management of the building process (a crucial issue today), where the accurate monitoring of execution procedures, times and costs plays a fundamental role. Even more so in monument restoration, where variables and unexpected events are more frequent than in a common building site. Due to its nature, any historical building shows an "unpredictability rate" which requires an even more accurate 3D modelling to provide a realistic picture of deformations, cracking situations and hidden portions. In this framework the so-called "scan to BIM", i.e. the integration between 3D laser scan technology and data into a BIM model, is the most effective way to obtain a true picture of the actual status of the building: a fundamental condition to choose the correct intervention method as well as the best procedure to monitor works, times and execution costs.

Do you think that STR solutions offer an efficient answer even when managing maintenance operations over time?

Certainly. In addition to the advantages underlined above, I think that STR Vision is an extraordinary tool to support later maintenance operations. Scheduled maintenance has been a topic of discussion for many years, at first at academic, later at regulatory level. Finally maintenance plans have become mandatory by law. However, maintenance plans mainly consist of a number of prescriptions which hardly apply to the individual maintenance object. BIM tools, developed by STR, offer a true qualitative leap because they go into the details of each individual component and of the works it requires, giving a clear indication of times and costs.

INFO

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