

Project: Castello di Monteserico, Lucania, Italy

Allplan in practice

WINE TASTING IN CASTLE RUINS

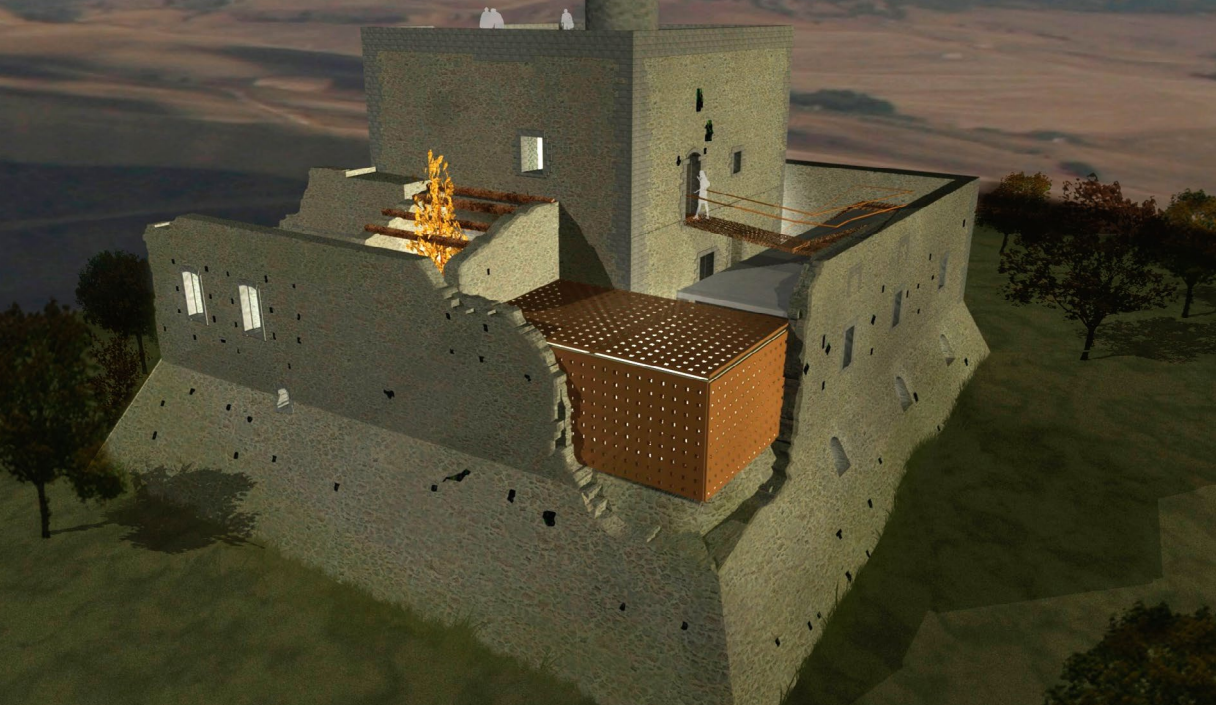
Restoring the historical remains of the Castello di Monteserico in the Italian region of Basilicata and turning them into a usable building was the task of a competition organized by Milan university Politecnico di Milano.

It recognized the work of two young Italian architects who processed the project directly in 3D using the Allplan Architecture software and portrayed it extremely realistically with textures. Their plan: to convert the over thousand year old ruins into an innovative center for fine food and wine.

The origins of Castello di Monteserico in Genzano di Lucania cannot be accurately dated, but the history of the over thousand year old building probably goes back to Norman times. The castle has a strategically important location at a height of 557 meters above sea level, and has therefore borne witness to various historical conflicts in this region. The ruins have

the form of a truncated pyramid and are surrounded by a moat.

The architecture and function of the once magnificent castle are being brought back to life by the restoration proposal from architects Gianluigi Branciaroli and Fabio Lovaglio, who both work for architectural office BMT. They won the "Alluminio/Innovazione" competition, organized by the Building Environment Science & Technology department (BEST) and aluminum manufacturer Novelis. The task was to turn the Castello di Monteserico back into a usable building making use of rolled aluminum products.



THE FORMAL UNITY OF THE BUILDING IS RETAINED

The young architects' idea is to turn the building into a gastronomic center in which regionally important wines are presented. The design includes a multi-functional hall over two levels with a floor area of 115 m², rooms for tasting and a restaurant, and a museum on the ancient methods of winemaking. The highlight, and final stage, is an acoustic space – a small domed room in which visitors learn about the steps involved in a wine harvest and about the history of the castle, in audio and visual presentations. The most important aim is the restoration of the Castello die Monteserico using a material that does not impair the original character of the existing structures and retains the formal unity of the building. Visitors should tangibly experience the different use of building materials in a temporal context, feel the complementary interaction of old and new, weighty and light. Elaboration of the project proved extremely complex, as no historical documentation was available at all. Allplan Architecture made an important practical contribution here, because the powerful software makes it possible to develop the conceptual idea for restoration and the new building use step by step, with real-time detailing, so to speak, as a standardized process with optimized processing times. To start with, the facade and floor plans were measured, which was conducted as part of a diploma thesis about the castle.

ALLPLAN AS A PARAMETER-SUPPORTED PLANNING INSTRUMENT

"Compared with a normal building, the digital processing was far more complex," explains architect Gianluigi Branciaroli. "We did not have reliable, detailed initial data, so the digital reconstruction had to be carried out in a number of steps." Based on this, the subsequent design process was carried out using innovative digitalization. Here, Allplan Architecture proves its strengths as a parameter-supported planning instrument that was developed for the special requirements of the architecture sector. Building models and support structures can be created with ease: from simple through to extremely complex constructions, from which the quantity takeoff and reliable cost calculations can be derived for all phases of planning.

TEXTURES BRING THE MODEL TO LIFE

Allplan Architecture makes it possible to develop the virtual reconstruction of the building in 2D and 3D in parallel, as a result of which the very high degree of flexibility in classic CAD processing can be combined with the possibilities of parametric, object-oriented modeling. "The walls were entered manually and in some cases converted to 3D areas, extruded, modeled and given different materials and colors to adapt them to the specific features. Another very important aspect for this type of



project is the use of suitable textures: in our case, we created a texture based on a photograph of the castle. The large-format detail was mirrored multiple times in an image editing program, color nuances and brightness were varied in order to avoid a repetitive appearance," says architect Fabio Lovaglio.

MODERN BUILDING INTEGRATED IN THE OLD WALLS

In addition to the historical walls, which were modeled based on their character and dimensions, Allplan made it possible to insert the new building volumes, which were created using modern construction techniques with a supporting structure made of steel. The predefined girders contained in the various Allplan modules could be used for this. The result is a multilayered design thesis that enlarges upon the construction-related and support-structure aspects of the project. "We simultaneously worked on different parts of the building and checked the interiors by means of various clipping paths," states Gianluigi Branciaroli.

VISUALIZATION WITH CINEMA 4D

Another top product from Nemetschek, the graphics and rendering software CINEMA 4D, made a decisive contribution to the clear presentation of the project. This tool enabled the architects to place the design in its landscape context. The advantages of using CINEMA 4D lie not just in the speed of

drafting during the various graphical and technical steps, but also in the ease with which complex designs can be handled. After the reimport, Allplan permits an optimum graphical display compared to other programs. It is one of the few programs, if not the only one, that enables a three-dimensional reproduction on the screen that is easy to use and at the same time permits a check on all the changes made. The ability to manage numerous sections and drawings simultaneously is a decisive advantage. It is a method that can only be achieved with difficulty using the classic layers in the other CAD programs on the market, according to the designers.



"Allplan is one of the few programs with display in 3D that is easy to use and at the same time enables all changes to be checked."

Gianluigi Branciaroli und Fabio Lovaglio,
Architects

END-TO-END PROCESSING IN 3D

Allplan offers not only partial modeling but also the end-to-end processing of a project in 3D. Along the entire design process, the system creates an increasingly detailed building model, which is adapted to the ongoing changes. It is a recommended procedure, which offers decisive competitive advantages not only to future architects during their degree, but also for every professional architecture office.

For Gianluigi Branciaroli and Fabio Lovaglio, the successful design from the competition opens the door to further important projects. And here, too, the two architects are working with the same solution that impressed them in the Castello di Monteserico project, namely Allplan Architecture.

ABOUT ALLPLAN

ALLPLAN is a global provider of BIM design software for the AEC industry. True to our "Design to Build" claim, we cover the entire process from the first concept to final detailed design for the construction site and for prefabrication. Allplan users create deliverables of the highest quality and level of detail thanks to lean workflows. ALLPLAN offers powerful integrated cloud technology to

support interdisciplinary collaboration on building and civil engineering projects. Around the world over 500 dedicated employees continue to write the ALLPLAN success story. Headquartered in Munich, Germany, ALLPLAN is part of the Nemetschek Group which is a pioneer for digital transformation in the construction sector.

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