



FCS Park Schaffhausen, Switzerland

4D Design Loosli

Soccer Upstairs, Shopping Below

An unexpected combination awaits Schaffhausen soccer fans when they get their own stadium in 2011. Rather than kicking the ball at ground level, the players of FC Schaffhausen will be playing at elevated heights, namely six meters up in a nine-story building complex (seven above ground, two below). Below their feet, those with less interest in soccer can enjoy a shopping trip in a modern shopping mall stretching over two stories. A two-story hotel with over 130 rooms is also planned, as well as restaurants, offices and various service offerings.

Multifunctional is the magic word, as the FCS Park in Schaffhausen offers far more than just excitement for soccer fans. The operators of this innovative building structure have a multitude of usage options available to them, and the imagination knows no bounds. One big advantage: with the income from activities beyond the soccer field, the Schaffhausen stadium will largely finance itself. The concept of a mixed-use soccer stadium – invented by Marazzi Generalunternehmung AG with headquarters in Muri, near Berne – has already been put into practice successfully in Berne and Basle.

Complex Project Planning with Allplan and CINEMA 4D

For ETH architect Hardy Loosli from Berne, the FCS Park in Schaffhausen is not the first building project of this kind that he has designed as part of a planning team. In addition to his involvement in Stade-de-Suisse in Berne, he has also executed several preliminary projects for soccer stadiums in Switzerland on behalf of Marazzi GU AG. Project planning and 3D visualization are the focus of the 4D Design Loosli office, founded six years ago. The company used Allplan and CINEMA 4D from the very beginning. "In complex projects like the stadium in Schaffhausen in particular, 3D is soon involved in the process," says Hardy Loosli.

In the planning phase, he usually starts off working in 2D alone, and switches to 3D at a more advanced stage. However, he had to use a new strategy for the FCS Park Schaffhausen: "Due to lack of time, we had 2D and 3D running in parallel at a very early design stage," explains Hardy Loosli. With this kind of procedure, a two-pronged attack with Allplan and CINEMA 4D was ideal for him, as both programs go hand in hand. With this dynamic duo, he quickly created meaningful visualizations for project and design variants, which could be analyzed quickly, enabling rapid decision-making. The necessary calculations and cost estimates could then be derived from these 3D models in a short space of time. With simultaneous planning in 2D and 3D, he himself was able to achieve excellent results under severe time pressure.

Complex Building Usage under control with Allplan

For the team of architects from FRB + (Ittigen), OMG + (Winterthur) and 4D Design Loosli, the location of the stadium floor was a challenge: the primary issues of concern were being able to evacuate up to 10,000 spectators, and of course the static of the building. For example, a large ramp which runs to the upper level as an access route for trucks and emergency vehicles offers the necessary evacuation solution. All this together resulted in nodal points, which Hardy Loosli and the design teams were able to resolve skillfully with Allplan.

In addition, a particularly large number of regulations have to be observed in the FCS Park Schaffhausen project. UEFA, FIFA, the Swiss Football Association and television have numerous regulations that need to be met. This was also true for the lighting: it not only has to suffice for spectators and players, it must also meet the special requirements for Television coverage.

A building project of this complexity can only be mastered with the help of three-dimensional, digital models, according to Hardy Loosli. Sophisticated systems such as Allplan and CINEMA 4D, which offer the architect a suitable project structure and ensure the necessary planning security through constant visual control, are required. The result of the work was convincing: the large, multimedia presentations of the project to the authorities and the general public, with numerous views and animations in 3D, were a great success. The approval of the project is now just a formality.



Efficient Communication Saves Time and Money

The extensive data exchange and clarification processes with building clients and partners such as Marazzi Generalunternehmung AG, FRB+ Partner Architekten AG or OMG+ Partner Architekten AG also functioned smoothly, thanks to the numerous interfaces in Allplan. Integrated working, in which all specialists have access to the same information at the same time, plays a central role for Hardy Loosli, as it is the only way he can keep a firm grip on the ever-increasing time and cost pressures.

Hardy Loosli believes 3D design and visualization are a central working method for the future. In architecture competitions, digital visualizations are required more and more often in place of the traditional plaster models. Customers can also be won over more quickly and easily with three-dimensional images, virtual tours and other animations. Not every building client can easily interpret two-dimensional plans, and according to the Swiss architect, Allplan is the ideal software for these tasks: "I am impressed in particular by the ongoing further development of the 3D design instruments and the versatile interfaces, which are becoming increasingly important."



With your 4D Design Loosli architecture office, you have specialized in project planning and 3D visualization. Why did you choose these areas?

Before I set up my own office, I worked for seven years in the design department of a large architecture office, and tried out Allplan there for the first time. During this time, it became clear to me that there was a gap in the market in the area of digital visualization that I could exploit as a young architect. With the software from Nemetschek, I also had the right tools for the job straight away.

So you used Allplan and the Cinema 4D visualization software from the very start. What was it about these two applications that impressed you?

I was impressed in particular by the ongoing further development of the Nemetschek products over the years. By this I mean in particular the modifications to specific customer requirements, such as user friendliness, the simplified clarification processes with the help of the PDF exchange format or the large number of functioning interfaces.

How have Allplan and CINEMA 4D helped you to deal with the FCS Park Schaffhausen projects with all its specific requirements?

By using Allplan and CINEMA 4D, I was able to deal with the tasks facing me in a very short space of time. This was only possible because I was able to work with both programs in parallel from the outset, rather than having to start with 2D design and then switching to 3D. The design variants can also be created very quickly and easily with Allplan and shorten the decision-making process with the building client.

What do you think will be the future planning trends?

Many modern buildings are becoming increasingly complex. There are more and more projects with difficult amorphous forms and geometries. It will only be possible to design and plan these buildings effectively if you work in 3D from the start. Integrated planning, in which all project members have access to the same information and in which smooth data exchange is guaranteed, will also play a central role. With its software portfolio, Nemetschek is staying abreast of these two developments, and can support the architecture and architects of tomorrow.