



Hotel Medical Spa Isla Valdecañas, Spain

Miguelangel Gea & Asociados-Arquitectos

Visionary Architecture

The “Hotel Medical Spa Isla Valdecañas” architecture and landscape unite to form an unusual entity which is unique in so many ways. Even the location of the Spanish luxury hotel is special. It is built on a steeply inclined island in the middle of a 7,200-hectare reservoir at the foot of an imposing mountain range, the Sierra de Gredos. But that’s not all. As part of a 135-hectare tourism complex, the wellness hotel is integrated in a large nature reserve. The luxury leisure complex with a golf resort, sailboat marina, holiday village, villas, sports complex and congress center is just 160 kilometers away from Madrid. With this multi-use mix, the project is the first of its size and type on the Spanish mainland.

An architecture design that harmonizes with the surrounding landscape meets the highest luxury standards and still takes conservation into account – the architects at Miguelangel Gea & Asociados-Arquitectos were more than happy to take up this challenge. Urban planning and tourism amenities are their specialty and form the core business of the company, founded 31 years ago and currently employing 15 people. “We designed the Hotel Medical Spa Isla Valdecañas from the inside out, so to speak,” says project manager and head of the company, Miguelangel Gea. “Guests should discover the landscape through the architecture, yet not notice the architecture in the landscape,” he explains. The building should blend into the landscape like a rock blends into its surroundings. The architects were able to achieve this by using a terraced, low design and green roofs, and through their choice of building materials. “We used only natural stone from the region and in yellow ochre tones,” says the company head. And particularly because most of the island and the surroundings are protected, it was extremely important that the building be integrated

into the landscape. In consultation with the environmental protection authorities responsible, an “architecture design” was created that respects and preserves the surrounding protected area. “Landscape and architecture should merge to form a unit. We don’t have a fixed style for this. It should simply be a pleasure to be in the building,” the Spanish architect explains.

Personal Hallmark

The first drafts were created two years ago – with Allplan Sketch. A pressure-sensitive pen is used to sketch on a tablet PC as if on paper. The big advantage is that the initial drafts can be digitally edited and used immediately in the CAD system. At Miguelangel Gea, the draft architecture with Sketch is naturally an executive issue: “This tool saves us a lot of time without restricting our creativity. With Sketch we can achieve a scale of 1:1000 not possible with pen and paper and still give our drafts the personal hallmark of a traditional sketch.” At every preliminary meeting, the building client, Marina Isla Valdecañas, was also impressed by the interplay of creative individualism and the latest information technology. In these meetings, the initial Sketch drafts were simply projected onto the wall with a beamer. As soon as the draft was approved, it went to the planning department, which processed it to create a virtual building model. The architects used Allplan to design this model. BIM stands for Building Information Modeling and enables a project to be processed in full using a single, central building model. “This means we can model accurately in 3D, create high-quality 2D drawings quickly and at the same time integrate various technical departments,” explains Miguelangel Gea.

Teamwork is the Trump Card

Allplan including Workgroup Manager is installed on 14 workstations. This enables the team to work on one and the same digital building model and tailor the different processes to each other exactly. Workgroup Manager handles the organization of CAD and layout workstations in the local network. This central administration of design and construction projects ensures that all the projects on all the computers can be accessed and edited directly from every workstation. Teamwork is extremely important at Gea in any case: a core team of ten employees is responsible for construction of the Hotel Medical Spa Isla Valdecañas. Their range of tasks begins with the initial evaluation through to construction management. For engineering services and

building facilities, the architecture office works in close partnership with two consulting companies, Calcosa and Engineers-Assesors. Development of the island, creation of the infrastructure, and construction of the golf club began one and a half years ago. The first three pilot villas will be built shortly in the holiday village, and construction of the hotels and other building work is scheduled to begin in January 2009. The first guests should arrive by 2011. Construction costs amount to 15 million euros, with a total of 190 million euros being invested in the tourism complex as a whole.

Breaking with Tradition

Sketches become 4D animations, 2D plans are created from a 3D model. "Building Information Modeling hugely simplifies our day-to-day work and gives us a lot of creative freedom, because we can make decisions very quickly in the individual work stages," explains Miguelangel Gea. With Allplan, architects are no longer tied to a traditional sequence of steps: after the initial sketches, they create a rough model on the computer, which they can then modify until they arrive at the final design. "Like a sculptor who creates a sculpture based on a sketch, we model, and do not have to stick to rigid plans," the company founder adds. In the virtual building model, all project-relevant information is entered centrally and made available to all those involved across the complete planning and construction phase. In addition, they visualize the draft with the Allplan solution CINEMA 4D. "To do this, the model data is simply imported from BIM, materials and textures are assigned, and a photo-realistic representation of the building is created at the click of a mouse," says Gea.

Intelligent Integration

If people work together, they need to be organized. This relates for example to clarifications with the client and partners: that they are always up-to-date, and that they regularly receive the CAD data exported from Allplan, including explanations, in 3D-PDF format. This is a particularly intelligent way of exchanging planning and design information, because it allows a virtual building to be viewed in 3D on any PC, regardless of the software application used. In addition, it means there are fewer questions from the building client, planning partners and contractors on the building site, and planning security increases. Thanks to integrated project processing, designers always have the project under control. All project information – that is, all the specialist data of all the companies involved – is merged and coordinated in a central Allplan building model. A comparison of the company's own plans with the imported data from the design specialists prevents design errors.

This type of CAD-supported connection to specialist design eliminates redundant data, reduces processing times and avoids unnecessary additional costs. "Direct work in 3D also makes a big impression on the building client, who is therefore better able to make decisions, and it simplifies our work processes," adds Gea. As a result, Allplan creates an important competitive advantage and is a great tool for helping us to acquire new clients.



What's important during the technical planning of construction projects?

Cost and time pressures are very high today. The planning and construction phase must be as short as possible and technically sophisticated in order to execute a project efficiently. This requires a lot of flexibility and precisely defined project requirements so that all those involved in the construction process can work together without breaks in information, and can react flexibly to changes. We use Building Information Modeling from Nemetschek Allplan for this, as it enables us to achieve integrated project processing on a central building model with the maximum information data.

Why did you switch to Allplan three years ago?

Today, we are able to execute projects in a timeframe and with employee capacities that would have been unthinkable three years ago. BIM's integrative concept makes our day-to-day work far easier and gives us a lot of creative freedom, because we no longer need to follow a rigid sequence of work steps. We start with the 3D model and visualizations and then draw the detailed designs in 2D. Because

Allplan and CINEMA 4D enable us to plan a building within the shortest space of time and create high-quality, photo-realistic visualizations, we also enjoy greater success in acquisition and have an edge on the competition.

In which project phases and areas do you use Allplan?

We use BIM from the very start. Thanks to the virtual building model, we can create clear, object-oriented work results and presentations before the plan is even printed. Building clients are thrilled if we can show them what the entrance area could look like, or simulate views from any perspective, even in the first design presentation. Integrated planning and design is hugely important to us. In Allplan we can control the planning and design steps from the beginning. This is where the software from Nemetschek Allplan beats all the other established CAD systems.

How do you rate the user friendliness of the software?

The user interface of Allplan is extremely easy to use. This pays off particularly when we work with wizards. In our office, new employees who are not yet familiar with Allplan need only one month, before they are able to work very efficiently with the software. Three years ago, we successfully switched the whole office over to Allplan. This change didn't present any problems, even for our 62-year-old employees.

How do you ensure transparent work processes and clarification procedures within your team and with external experts?

The central administration of planning and design projects by Workgroup Manager guarantees that all projects can be accessed from every workstation – without a loss of security. If several users are working on a project simultaneously, the same dataset is provided for them all. There is no question of duplicate data maintenance. We use 3D-PDF for cross-office communication with design specialists and building clients. The 3D model created in Allplan can be forwarded in PDF format from the CAD system by e-mail. Design specialists receive the design data and add other elements to the 3D model.

