SARCO Architects Costa Rica employs solid BIM solution for their residential projects from the initial design to construction.

CASE STUDY

COMPLETE BIM RESIDENTIAL PROJECT - SARCO ARCHITECTS COSTA RICA

SARCO Architects Costa Rica wins Central & South America Property Award for Casa Magayon

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Project name: Casa Magayon
Type: Residential
Location: Guanacaste, Costa Rica
Year: 2015
Size: 13,900 ft² / 1290 m²
Software used:
GRAPHISOFT ARCHICAD,
GRAPHISOFT BIMx
Award-winning Casa Magayon is located in the Península Papagayo Resort, Guanacaste, Costa Rica, with a construction area of 1,290m². The residence is a tropical interpretation of the classic “Glass House” by Philip Johnson. Basically, the design was structured in a modular way, based on independent cubes with large, floor-to-ceiling glazed surfaces, and connected to each other by bridges that form open-air passageways, allowing constant contact with the environment. This strategy was also used as a sustainable element, since it reduces the amount of air conditioning, and allows it to operate in a modular way, consuming energy only in the spaces being used.

The project is a luxury residence for vacation and to rent when the owner is not there. The residence minimizes energy consumption compared to many other examples within the resort, without compromising on luxury and finishes.

The award-winning design integrates a palette of green-gray and light gray stucco wall surfaces, with accents of dark gray volcanic stone plaster; large, glazed surfaces with curtain walls with its
special green tone structure inspired by the colors of the jungle around it; and accents on exposed steel surfaces, painted in light orange, inspired by the colors of the flowers of some trees native to the area.
Casa Magayon modeled in ARCHICAD

Casa Magayon was modeled entirely using ARCHICAD, from its initial concept; the entire 2D documentation process was generated from the “live” ARCHICAD model, with absolutely no content drawn in 2D. During the process, MEP was also incorporated to model the air conditioning and storm drains to confirm that there were no collisions. All the built-in furniture is modeled entirely in ARCHICAD, with the assistance of the Cadimage Cabinets tool. Teamwork was incorporated throughout its development process, and BIMx was used as an essential communication tool with the client during the construction process and on site.
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Models in ARCHICAD
Facilities

ARCHICAD’s MEP modeler tool facilitated the integration of plant trajectories, as well as analysis and planning from the design stage, offering integral solutions not only to the HVAC component but also, to correctly coordinate integrated solutions of furniture or ceiling design, etc.
Structure

Using an automated quantification, SARCO Architects Costa Rica was able to generate several lists and schemes of structure, foundation, elements, components and zones, which are integrated as an essential part of the documentation set in the delivery of projects.
“The results of working with ARCHICAD as a BIM tool are surprising, since throughout the life cycle of a project we can accompany it in its different stages, witnessing that the model is identical to reality as our project begins to take shape.”

Roderick Anderson
CEO & Design Director, SARCO Architects Costa Rica

**Project Execution**

SARCO Architects Costa Rica managed the development of the project within ARCHICAD. The entire project was generated using “layer combinations” and the “Viewmap,” which allowed them to save views and layers that are passed directly to the documentation without having different BIM models for the different stages of the workflow. Likewise, all the quantification of elements, materials, carpentry, etc., was handled automatically, with all the necessary technical sheets with its suppliers, allowing the project to advance much faster, more efficiently and without errors.
Construction Process on Site
“The results of working with ARCHICAD as a BIM tool are surprising, since throughout the life cycle of a project we can accompany it in its different stages, witnessing that the model is identical to reality as our project begins to take shape.”
For SARCO Architects Costa Rica, the BIMx application opened up the possibility to incorporate Hyper-models, combining 3D with 2D content on mobile devices, which changed the logic of graphical representation of the plans. During the preliminary presentations, the application was essential to show the customer the level of precision. They further incorporated the use of color in the final documentation, since BIMx became a central communication and visualization element for SARCO Architects Costa Rica throughout the work process -- in the preliminary design stage, in the visualization of complex projects, and as an essential element for discussions in meetings with suppliers, etc.

Central & South America Property Awards recognizes Casa Magayon by SARCO Architects Costa Rica

The project was “5-Star, Best Architecture Single Residence Costa Rica 2016-2017” award by the International Property Awards, sponsored by The Telegraph Newspaper, in London, UK.
The International Property Awards are aimed at professionals in residential and commercial properties around the world. Since 1994, they have celebrated the highest levels of success achieved by companies operating in all sectors of the real estate industry. The Americas Property Awards are divided into four geographic regions: Canada, Caribbean, United States, and Central and South America. The prizes are awarded to the most impressive architecture in the region, in various categories such as: high-rise buildings, recreational facilities, shopping centers, public service buildings, office complexes, apartments and residences.

The panel of judges consists of approximately 70 professionals in various sectors of the property industry, including Andrew Painting, Director of Operations for the British Property Federation; Peter Bolton King, Global Residential Director of the Royal Institute of Chartered Surveyors (RICS); And Christian Morris, Director and Owner of the architectural firm Yotomo Ltda.
“It would be impossible to tackle complex projects without a comprehensive tool like ARCHICAD.” Roderick Anderson, CEO & Design Director, SARCO Architects Costa Rica

The implementation of BIM software has had a strategic impact on the company, resulting in significant savings in construction costs, by preventing errors throughout the construction process. The firm has designed approximately 65-70 projects using ARCHICAD. It is also supported by other software that complements its work, such as Artlantis Render for photo-realistic rendering and Twinmotion for presentation animations.

SARCO Architects Costa Rica strongly recommends the implementation of ARCHICAD for architectural firms. It is a tool that boosts work capacity, increases productivity, improves workflow and guides professional business consolidation.
SARCO Architects Costa Rica

SARCO Architects Costa Rica is a leading architectural firm dedicated to design and construction, focused mainly on the development of luxury residences for a market of high-level foreign clients; the firm has also carried out several multi-family residential projects. Outstanding clients from multiple locations in the United States, Great Britain, Germany, Austria, Switzerland, Australia, etc. The firm is Headquartered in San Jose, Costa Rica the firm serves the areas of Costa Rica, Panama, Nicaragua and The Caribbean.

About GRAPHISOFT

GRAPHISOFT® ignited the BIM revolution in 1984 with ARCHICAD®, the industry-first BIM software for architects. GRAPHISOFT continues to lead the industry with innovative solutions such as its revolutionary BIMcloud®, the world’s first real-time BIM collaboration environment; EcoDesigner™, the world’s first fully BIM-integrated “GREEN” design solution; and BIMx®, the world’s leading mobile app for BIM visualization. GRAPHISOFT is part of the Nemetschek Group.

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