

COMPANY

Strategies for Advanced Building Solutions (SABS) Architects & Engineers Pvt Ltd.

LOCATION

New Delhi, India

SOFTWARE

Autodesk® Revit®

“Our journey in architectural design and BIM began in 2004. Today, we are one of the most trusted names when it comes to global projects, especially in the Gulf and Middle East region,”

—**Bhasker Neogi**
Chief Architect
SABS, India.

Children’s Mall, Katara Plaza, Doha: Sketching Architectural Wonders in Middle East

Autodesk Revit® and BIM at the heart of architectural designing of Children’s Mall



Children’s Mall, Doha, Qatar- Perspective View (Image courtesy: SABS)

Let your imagination run wild, and leave the rest to Strategies for Advanced Building Solutions (SABS) Architects & Engineers Pvt Ltd. Located in the outskirts of the national capital, New Delhi, SABS is one of the leading offshore Computer Aided Design (CAD) and Building Information Modeling (BIM) production unit for Architecture and Engineering Services (AES) globally. Armed with technology and tools in their studio, SABS is capable of executing a comprehensive range of documentation services for architecture, interior design, and all other allied building engineering services like structural, electrical, HVAC and public health engineering. The nature of the projects being dealt is retail, corporate, hospitality, healthcare, commercial, residential, institutional & educational and infrastructure.

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says Bhasker Neogi, Chief Architect, SABS, India.

SABS joined hands with Autodesk in 2008, when they started working for the Children’s Shopping Centre, part of Katara Plaza in Doha, Qatar. Qatar Design Consortium (QDC), a leading Consultancy firm in architecture, engineering, project management and construction management bagged the unique and ambitious project by Ali Bin Ali Group and brought in SABS to take care of the BIM requirements.

When no straight walls posed a challenge

Middle East is home to some of the best and most challenging architecture and design structures in the world. Taking it a step ahead, yet another architectural wonder, the Katara Plaza was commissioned. It is the first ever open air-conditioned commercial plaza in Qatar.

As part of Katara Plaza is another architectural marvel which looks straight from a fairy tale, a dedicated shopping centre for children in the shape of a beautifully wrapped present. The shape will not only strike a chord with the children, but also house products and services based on their unique demands of clothes, education and entertainment.

With constant support from Autodesk, we were introduced to numerous intelligent tools and tricks of the software.

The project undertaken by SABS involved concept designing and development of a recreational centre spread across 3600 sq.m. The wrapped present like structure with a bow was complex as there were no straight lines. "Similarly, the horizontal cylindrical structure supporting the main construction represents box of cookies. The whole idea behind the concept was to provide an unforgettable experience of edutainment. It was a major challenge for us to design the concept with each wall being at a different angle. It could only be done using particular software tools," says Neogi.

The gift-wrapped-present concept was from a company named Linear Concept. "They came up with a great looking design but we were concerned about how to do the GFC (Good for Construction) package. It is very difficult to undertake the GFC with normal CAD as the projection of the floor plates was very difficult. That is when we decided to opt for Autodesk Revit®," adds Neogi. "The gift wrapped present is twisted at three different axis of 45 degree each. This was difficult to undertake using the normal CAD as it was very difficult to visualize the proper projections and floor plates. To meet these design complications, we chose Autodesk Revit® for the first time."

Autodesk Revit® - Transforming ideas to reality

This was the first project that was executed using Autodesk Revit® by SABS. The complex design and architecture created a need for specialized software tool that had 3D visualization and was BIM integrated.

"Each floor of the shopping centre has zones, ground floor is the educational zone, first floor for games, second floor dedicated for shopping and the third floor for office use with conference rooms. We modelled the entire building on Revit®, which was followed by cutting the floor plates at various levels. The CAD output on Revit® was taken and worked separately one each to develop the floor plans", says Neogi.

The wrapped present feature was done by creating cuboids. "Not parallelogram but cuboids were put together to create the wrapped present effect. We used the mass feature, later we shaped the cuboids using the box elements. The cuboids had to be at right angles," he adds.

All-in one 3D Software Tool

SABS was in dire need of 3D visualization to understand how the structure looked,

understand where the columns were going up and floor plates were cutting. "The design also had haphazard floor plates since the walls were all at angles. Also, as the walls were different components, we had to work on them as panels. We were unable to visualize the building in conventional CAD and that is where Autodesk Revit® came to our rescue. With its 3D visualization features it provided us the flexibility of actually making these individual walls as panels with great accuracy and high speed," adds Neogi.

The shopping centre project was an opportunity in disguise; it helped the company to work on something so unique. It also helped SABS understand the supremacy of Autodesk Revit® in terms of accuracy, quality and time taken. The entire package was done by SABS within 5-6 months.

"With constant support from Autodesk, we were introduced to numerous intelligent tools and tricks of the software. I still feel we have just used 20% of what the software is capable of, there is lot more to be explored," concludes Neogi.

Results:

- The structure was modeled as an entire building and later the floor plans were cut at various levels using Autodesk Revit®.
- As the alignment lines were all at angles, the wrapped present is twisted at three different axis of 45 degree each. It was time consuming to work on each projection using CAD. This was done using Revit® for accuracy and speed.
- The complex wrapped present shape was created using mass and box elements.
- The main structure was supported by the horizontal cylindrical structure resembling box of cookies. The alignment was checked using 3D visualization
- The design had haphazard floor plans as the walls were at angles. 3D visualization was used for perfect results.
- Autodesk Revit® helped SABS cut down the time consumed by 50%, along with being cost effective.
-and a stunning engineering marvel is before you.



Image courtesy: SABS

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—Mr. Arvind Bhandari
BIM Manager
SABS, India

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—Mr. Anil Sagar
Studio Manager
SABS, India