

## COMPANY

**Access Architects**

## LOCATION

**Mumbai, India**

## SOFTWARE

**Autodesk®Revit®****Autodesk®A360 Rendering®****Autodesk® Navisworks®**

# Achieving Smarter design and faster execution in Buildings

Access Architects is one of the earliest adopters and a pioneer in the use of Autodesk Revit.

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—Mr. Atul Shah  
Principle Architect  
Access Architects

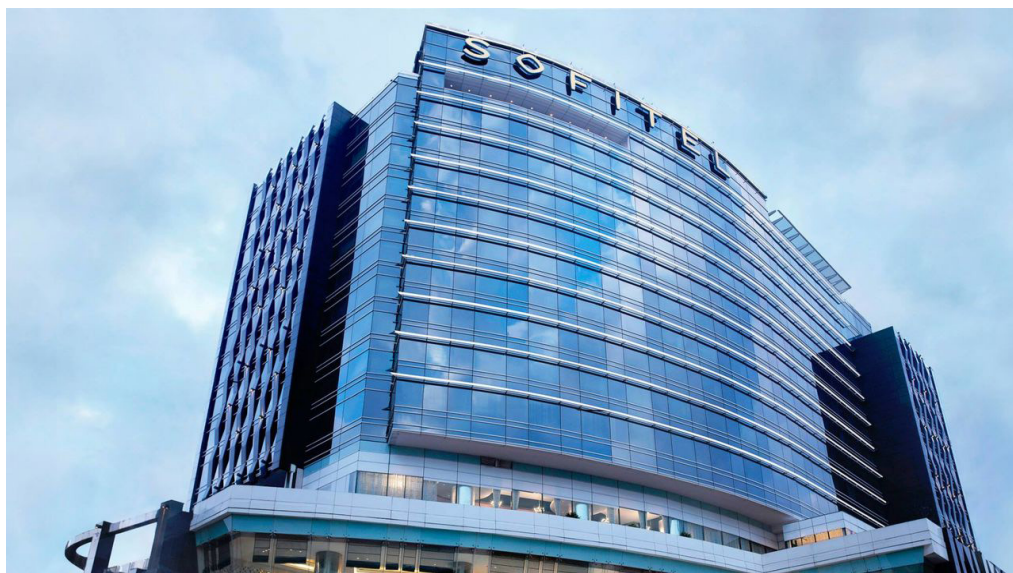


Image courtesy of Access Architects

**Access Architects is an award winning architecture, planning, interior and graphic design firm with its headquarters in Mumbai, India. It was founded in 1981 by Architect Atul Shah and later he was joined by his son Jay Shah, who graduated from Columbia University with a Masters of Science in Advanced Architectural Design. Access Architects is known for creating innovative and sustainable environments in response to today's rapidly changing culture. They are known to be thought-leaders in the use of technology from design to execution.**

Access Architects has delivered exceptional design ideas and solutions to more than a thousand buildings through their creative blend of human need, environmental stewardship, value creation, science and art. The firm's emphasis on providing value-added design services to their clients in a range of marketplaces has resulted in the design of projects throughout India; Access Architects' award-winning portfolio of projects spans across the country and addresses a range of scales and typologies including residential, commercial office buildings, hospitality venues, corporate offices, cluster development and education facilities. They have become particularly well known among the Mumbai community for complex high-rise, mixed use projects within the dense urban fabric.

The firm's design process is an interactive and collaborative one, promoting open communication facilitated by effective leadership. Throughout the design process, clients are engaged and informed in making decisions in order to reach consensus and move projects forward to successful completion.

## Design and Technology

Access Architects believes in moving ahead of the times and this is evident in their early use of new technology from conception to execution. In the early 90's, Access Architects was one of the first firms in India to begin using AutoCad when this was still a relatively new product in the Indian market. They were the first firm in India to complete a large project on Revit. Kanakia Samarpan Royale, a luxury residential building, was completed in Revit in 2006. As with any new tool used for design, there has been an evolution in use. In the first few projects, Revit was mainly used from design development to Construction documents. As its use in the office increased, it started being used for Schematic and Concept design. Aside from visualization it was also used for analysis. As a result of this, it was used in the concept stage for various other things like wind analysis or sun path diagrams and these helped to envision and design projects more efficiently in the earlier stages itself. Added information was derived earlier in the design process which aided in designing a building more efficiently.

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There are different stages to using new tools when it comes to creativity. When a tool is introduced into a design studio, initially one plays around with the functions, before you actually get to the point where you begin to create a productive output with its help. These tools help in specific quantifiable gains of the design development. The earlier you adopt a new technology, the sooner you are able to find the hidden crevices and tools in each parametric design software and master it. It helps not only in coordination, but also design.

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### The Projects

Access Architects believes good design is a strategic business advantage. Whether the client requires a landmark building, corporate campus, hospitality venue or a sensitive historic restoration, the firm leverages the creative talents and design passion of every staff person to fulfill and exceed the client's expectations.

Recently, the firm did a hotel project in central Mumbai area. The project was an unusual task on many levels. The client was looking for a distinct and self-contained structure offering panoramic views and other facilities. The site of the hotel was not pleasing as there was no great view ahead as it was located in a dense area of Mumbai. Along with a unique façade design and design aesthetics, the client wanted to have distinguishing interiors for each room with a different view.

Another, challenging project done by Access Architects in Mumbai is a luxury hotel, school, luxury apartment and rehab building designed in a 20 m x 103 m long plot. It was a critical task to accommodate distinctive structures together providing completely different facilities and experience to the occupants. The amenities provided in the luxury apartment were completely different than those provided in the rehab building. It was difficult to handle such a large project with 2D CAD packages because of variety of the requirements in the same project. It was essential to design the entry for the buildings (Luxury & rehab), school and hotel keeping the uniqueness and privacy at all levels. Along with

all these challenges, the designers have to be in line with the local municipal corporation rules. That tends to change from time to time. "For site like this to put it together is more of design and we need to have the right tools to overcome challenges," said Architect Jay Shah, Access Architects.

Access Architects has designed a 180m tall building on a 600 sq. meter plot in South Mumbai. There is no difference between the architecture, structure or MEP. They are all so tightly connected that there is no room for each one being designed without the other through the whole process. It has to work within each other and this was only possible due to the use of BIM.

Another high-end luxury apartment structure at a posh locality in South Mumbai, is being done in steel.

Sofitel Mumbai BKC is another project fully designed in Revit.

Besides Mumbai, Access Architects has recently done eco-friendly projects – Alterra Pawna (near Pawna dam, Lonavala) and Atmanya in Goa. The team faced challenges in designing villas nestled among the mountains with a magnificent view of the Sahyadri range and Pawna Dam. The primary challenge was to encompass villas in a few acres of land with harsh development conditions like difficult terrain, hills and water bodies with the vast array of offerings that includes Hybrid Villa, Designer Villa, Swiss Chalet to a Russian Log House. Visualizing the project with multiple design options and data from various sources and converting sloping terrain into the picturesque landscape had an impact on design layout and requires a creative approach to overcome challenges.

### Key Benefits

Mr. Jay Shah also praises Autodesk for its BIM solutions.

The use and extraction of data from 3D models are significant components of the BIM process. Access Architects relies on intelligent 3D models because 2D misses important information. A 3D model provides complete, unlimited numbers of sections and therefore complete control over every situation with practically no extra effort.

Here's where the BIM process became so important. Without it, the firm would not have been able to realize the vision to create such a unique and difficult structure. With Autodesk BIM, the architects can go directly from concept to manufacturing, and bring the distinctive, freeform elements of the building to life.

### The Solution

The hotel project in Central Mumbai brought challenges to the design and construction process as there were lots of curved, complex shapes. The façade was one of the most difficult design aspects to solve.

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"What is good for the environment is almost always what is good for the pocket."

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Director  
Access Architects



Image courtesy of Access Architects

## What is good for the environment is always good for the pockets, clients are happy to follow growing movement towards sustainable design thus reducing the energy requirements for the building.

To accomplish this fabricate aluminum panels were embossed with letters in braille. It was decided to emboss Mahatma Gandhi's quote on the panels and reduced the number of open spaces to bring down HVAC load. Excellent design and planning was required to convey symbolic meaning of the structure. For reducing cost, the design team was able to create an innovative design where the 2 panels were converted to one to save time and money required in manufacturing and installation. This distinctive hotel design has earned the firm industry recognition.

Access Architects tackled the challenge by modeling façade panels using Autodesk Revit. "The Autodesk BIM solution, especially curtain walls in Revit played a massive role in designing panels. We have better visualization and control on the entire project, check all the interactions and size all the components that would be prefabricated with confidence that everything would work fine." explains Mr. Jay Shah.

The rehabilitation project was a tough combination of rehabilitating a social housing unit, luxury hotel an apartment and a school. "Because of the size of the rehab project, we benefit significantly from Autodesk Revit BIM features. We use it for planning and logistics, reporting, and communicating within team members and our consultants, while we work on design, production, installation and project management." Said Mr. Jay Shah.

From Access Architects' point of view, Building Information Modeling is necessary for projects like the Rehabilitation project. It is a large project with numerous project parties, and Access Architects has to coordinate their actions with the other contractors. Overcoming logistic and information sharing challenges is a part of project management's daily work, and to the firm's experience it is vital for any successful project.

"Using traditional modeling techniques, this project would have taken at least a few months; working with different combinations in a single site and trying to place it correctly would have been far more complex and time consuming without Autodesk BIM solutions." Said Mr. Atul Shah.

For the Pawna Dam project, visualizing the project with multiple design options and data from various sources and then converting the thick forest and sloping terrain into the picturesque landscape had an impact on the design layout and this requires a creative approach to overcome challenges.

It was extremely helpful, particularly with shaping the terrain with minimal damage to the environment without excavation and filling requirements. This helped in easy handling of a

large number of variations in villas built to suit the individual needs of customers.

This attention to detail, both in the design and sustainable elements, the Pawna and Atmánya projects have allowed Access Architecture to be a visionary in the field of green architecture. "What is good for the environment is always good for the pockets, clients are happy to follow growing movement towards sustainable design thus reducing the energy requirements for the building." explains Mr. Jay Shah.

### Results

To express that "outside the box" thinking, the design team uses Revit as their choice of design tools. The drawings and plans produced with the program play an integral part in all phases of the project. Access Architects has an internal group that works on finding the innovative solutions for the potential issues such as the use of eco-friendly materials, pre-cast concrete, steel and using an innovative approach to avoid direct sunlight in glass building.

Access Architects has earned success with numerous local and regional awards, and most of their design work has been constructed. "But it's the quality of our drawings and renderings that has been the basis of our growth," adds Mr. Jay Shah "Autodesk Revit allows us to use one file from the start, beginning at the conceptual phase and moving into construction, all while letting us pull out reports and diagrams to communicate our design to anyone who needs to see it. Autodesk Revit is an incredibly important part of our process."

Access Architects has continued to discover the benefits of integrating Autodesk BIM software into its workflow. It allows using the same model to produce results for analyses and plans, and to create drawings and reports. It also enables the parties in a building project to share an up-to-date model in all stages of the project. Autodesk BIM is used in building processes from conceptual design to site management, planning resources and quantities of materials, and scheduling.



Image courtesy of Access Architects

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