

November 2011
Dear Readers,

**"You cannot force ideas.
Successful ideas are the result of
slow growth. Ideas do not reach
perfection in a day....." -
Alexander Graham Bell**

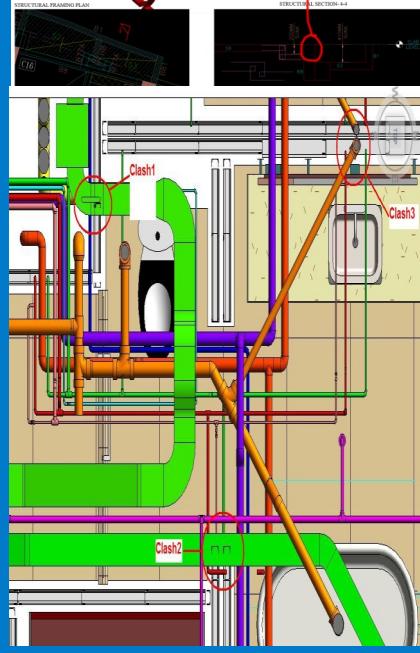
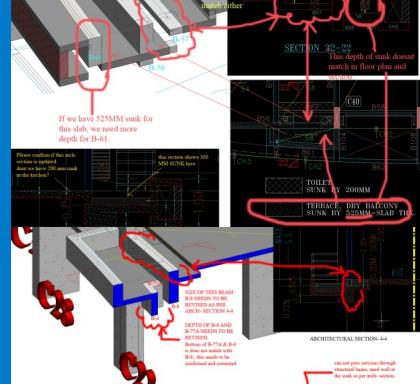
It has been always an effort with Excelize to have a continuous Endeavour for BIM activity to become an integral part of building construction. Helping the construction industry with its resources and technological expertise.



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The Buzz... More from BIM implementation

Another added benefit comes when the BIM is shown to the client. Creating hidden line 3D views of a BIM is quite fast and can be easily produced for a client meeting. If the client is viewing a set of three dimensional isometric or perspective images during a design review, there is a higher probability they will make decisions sooner regarding the direction of their project. This single item alone is worth the effort of implementing BIM within an AEC office.



On Going Projects at Excelize

A Consummate Experience about BIM:

(Note: Due to Non-Disclosure Agreement we will not be able to disclose the company name and actual figures too)

Project details in brief:

This is a residential tower project in Middle East having 6 levels of podium and 28 levels of apartments. The project was put on hold after the design was finalized. When it restarted, the owners decided to appoint another architectural firm and wanted value engineering done for this hi rise. This architectural firm used our services to assist them with value engineering.

Excelize scope of Work:

The architects appointed Excelize as BIM consultants to help with value engineering by generating a BIM model for clash detection/resolution and extracting the BOQ's. This was to be done for both the design options so that a comparative can be seen. Excelize created the BIM model in Revit for Architecture, Structure and MEPF. Structural modeling was done to the minutest details including reinforcement to extract the exact quantities out of this model.

Excelize performed clash detection between the services and then resolved those clashes by coordinating with the project managers at client office. Excelize has also extracted quantities out of these Revit models for both the design options to understand the difference between both the options in terms of the project cost.

How did the BIM Exercise help?

Two models were built for each of the design options, based on which comparisons were drawn across the same floors. The efficiency of the services layout for both the options were compared, the number of clashes for each floor were also compared, while the most important aspect was to get the quantities compared. Excelize extracted the quantities for all the civil work items, including the RCC, rebar's/reinforcement, block work, flooring, glazing, etc. Below is one such example showing quantity comparison for an indicative floor:

- Referred level: **Basement to ground level**
- Quantity Material: Steel
- Original design option quantity: 302 metric tons
- Value engineering design option quantity: 206 metric tons
- **Difference in Quantity: 94 metric tons**
- Referred steel Price Oct 2011: \$803 per ton
Cost benefit for level : $94 \times 803 = \$75482$

Conclusion:

With this exercise of using the BIM model our clients demonstrated the value addition that they had done to the design and helped the owners tremendously. This has clearly shown the difference between both the options in terms of design, cost and time required to finish the project. Our clients were very convincing in showing the cost efficient design option that they had proposed.



The Technology for you

BIM Implementation (Article Series) Article 4

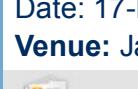
BIM and the Design Process

When using BIM, the design professional must also reeducate their clients as to changes in the design process. These changes include client drawing submissions, contractual agreements, and a realignment of how the scope of work is divided per phase.

For example, BIM requires a dramatic change in the process of what a design professional would submit to a client. Since a digital model of the project is being built, more decisions are being made sooner which requires more time during the schematic design phase. Instead of schematic design representing about 10% of the overall scope of work, BIM has changed the amount of time required for SD to about 35 percent. These early decisions do not need to be final and can be made up of generic model elements as place holders.

As the project enters the design development phase, again this phase of the project will become about 15 to 20 percent of the overall project scope. Once the project reaches the construction documentation phase, the remaining 45 to 50 percent of the project remains for dimensioning, annotating and detailing. In fact, I have had clients tell me they were 40 percent done with CD's by the time they reached the end of their BIM DD phase.

The true benefit of this process is that BIM will force the architect to address design issues more evenly throughout the project. This is not to say that the design intent has to be finalized in SD. The architect can respond by building the BIM with "generic" architectural elements and during the design process, change those elements to suit the design intent. If these design issues are addressed sooner, there are fewer surprises once the CD phase is reached.



Upcoming Events

BACE Expo 2011

Date: 11-NOV-11 to 13-NOV-11

Venue: Milan Mela Complex, Kolkata, West Bengal

Inside Outside Megashow-Kochi

Date: 17-NOV-11 to 20-NOV-11

Venue: Jawaharlal Nehru International Stadium, Cochin



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Please let us know if you would prefer not to be contacted regarding this information, send e-mail to opt-out@excelize.com and you will not receive any further e-mails from the sender.