

# Getting to BIM

By Scott Hammond

*The first in a series of articles exploring the implementation and use of building information modeling (BIM), this article provides an outline of the process for the implementation of BIM, addressing processes such as rearranging staff, training, efficiency in implementation and configuration. Subsequent articles in this series will cover collaboration, risk management and best practices when working in a building information model.*

Once merely an industry buzzword regarding the future of design, building information modeling (BIM) is quickly becoming the central, guiding principle of the design process. BIM, the building design and documentation methodology that relies on an internally consistent, coordinated, and computable digital representation of the building, is used for design decision making, and accurate construction document production, planning, and performance predictions. With BIM, engineers are able to keep information coordinated, up-to-date, and accessible in an integrated digital environment, which increases profitability, reduces risks, and eliminates inefficiencies in the building design, construction, and management of any project.

So, now you're sold on the notion of BIM, and want to use it in your practice. The next question to address is:

How does a firm go about implementing it? The implementation process is a key component to a firm's successful transition. BIM will bring about many changes in the engineering profession, as it calls for new learnings, the application of new processes, the development of new workflows, and better knowledge of other building disciplines. These changes may seem daunting, but with the correct planning, the execution of BIM implementation can be done easily and your firm will soon see the benefits.

## Make a Game Plan

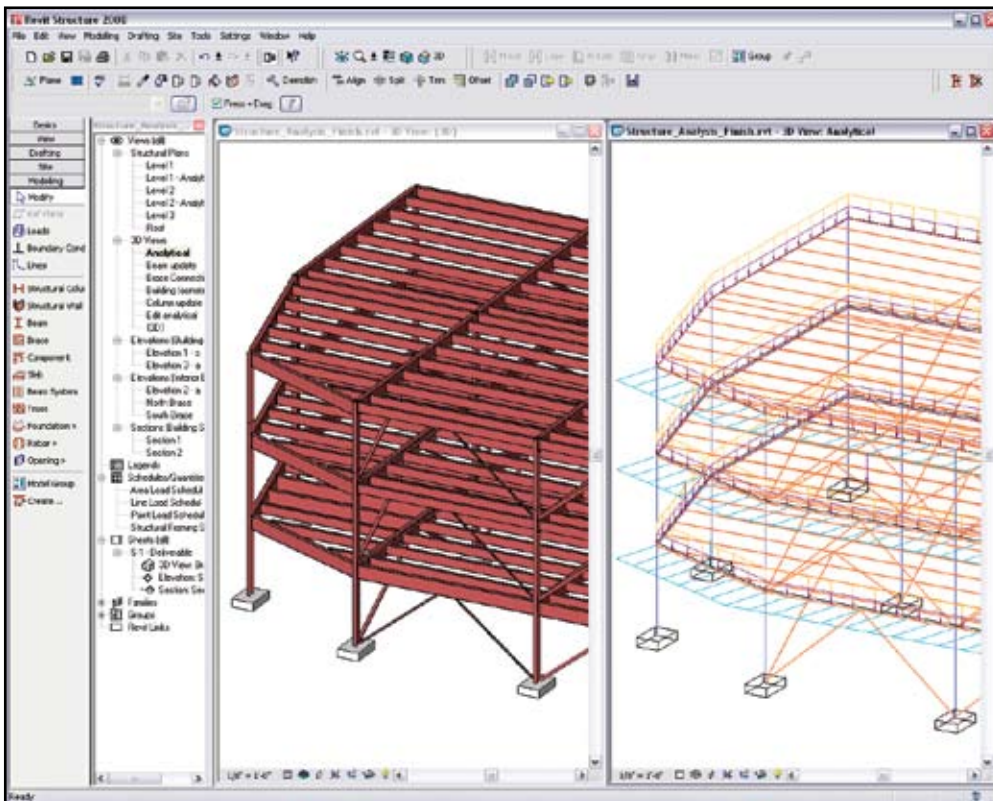
A formal implementation strategy is an essential component of any successful BIM deployment, and must go well beyond a simple training and rollout schedule. First, you must decide what it is specifically that your firm is looking to get out of BIM. Your implementation strategy should address head-on the

work-flow and process changes inherent to BIM. Often times, the transition to BIM within a firm is a gradual one, on a project-by-project basis, in order to better accommodate employees and customers alike as the new process changes and work-flow reorganizations are developed and solidified within the firm. With a gradual transition, the implementation strategy also needs to address how the new solution will initially coexist with 2D drafting or 3D modeling applications already in use. This will enable a smooth transition that does not disrupt productivity and workflow within the firm as BIM is gradually implemented.

Firms should also look into how the building information model can be accessed by related applications such as energy analysis, cost estimating, and specifications. Can the model be exported into a variety of structural analysis programs, providing users with easily accessible data that can improve the decision-making process and empower architects and engineers to design better-performing buildings?

Every firm is different, and the needs of each firm will vary according to size, focus, and scope of work. If a firm manages very large projects, the implementation strategy should

include guidelines for creating and working with large models, including additional hardware requirements, techniques for reducing model complexity, and so forth. Not only the size of projects, but also the size of the firm itself needs to be addressed during the process of deploying BIM. Acknowledging the needs, limitations, strengths and goals of your firm will help to develop a more individualized implementation plan that will create a smooth process while moving to BIM, and create a BIM process that enables your firm to create quality work with greater speed and productivity at a lower cost.



Revit Structure 2008 Physical and Analytical Model.

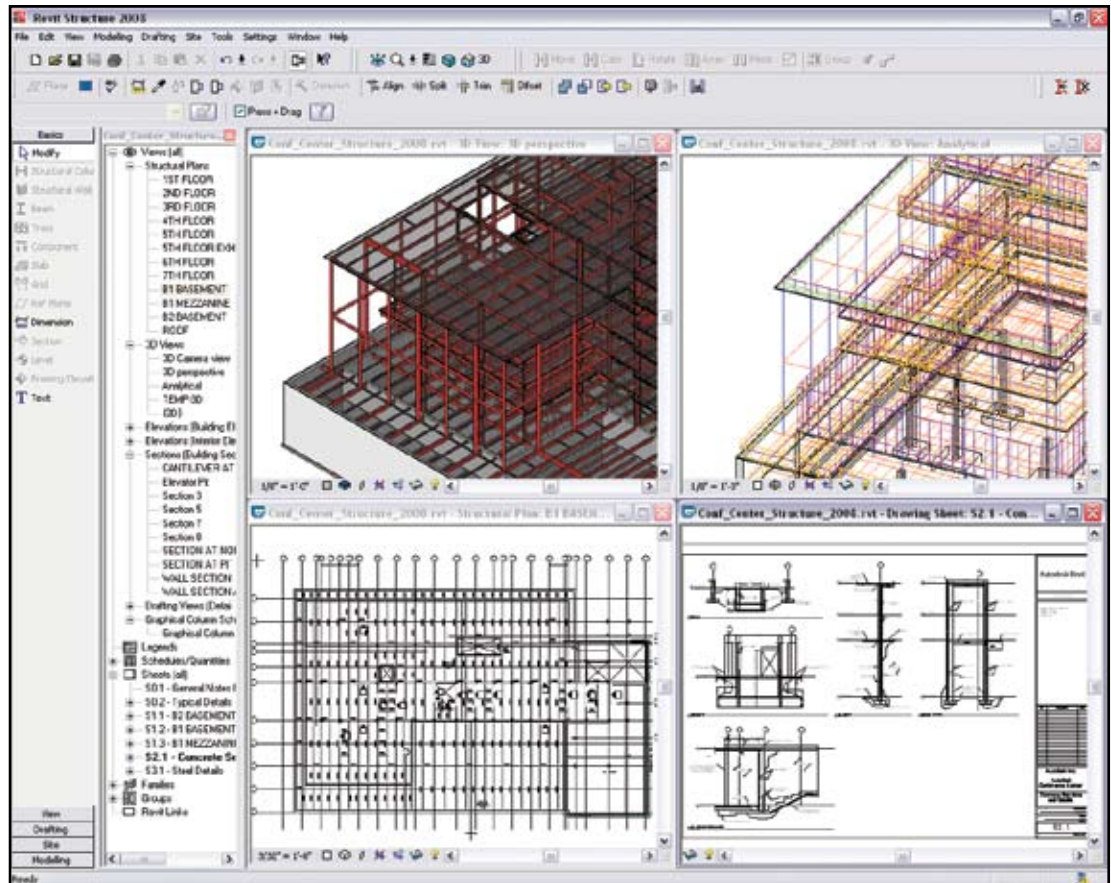
## Bring In Outside Help

BIM implementation is best carried out with the help of trained professionals who are fully versed in BIM and in specific BIM platforms. The guidance of consultants who have a deep knowledge of BIM, and can help to ease the pains of transitioning to new software, can make the transition a painless one. Consultants help to train employees to use BIM more efficiently, and aid firms in the process of moving BIM by providing software training and deployment methodology. Working with a consultants helps to accelerate your firm's BIM learning curve, thus enabling the many benefits of BIM to be seen at even the earliest stages of implementation.

## Pick a Team

In order to maintain productivity while transitioning to BIM, many firms start out training only a part of the firm's employees in BIM and working on a pilot project while the rest of the firm continues to work in the old process on outstanding projects. By transitioning with a pilot team, productivity within the company does not cease as the implementation of BIM takes place. Smaller firms may not have the bandwidth to transition in this way, and may not have the need to do so, because a smaller project load to transfer over and fewer employees to train will make for a faster implementation process.

Because BIM represents a new approach to building design and engineering – not just the implementation of new supporting technology – firms should pay close attention to the make-up of the transition team. Teams need to represent the entire organization, reflecting the underlying process changes that come with BIM. The team should be comprised of progressive individuals who understand the big picture and represent all aspects of the firm, so that knowledge of BIM will gradually expand to all areas of the company.



Revit Structure 2008 Integration Analysis.

## Choose a Pilot Project

While implementing BIM in your firm, it is best to start out with a pilot project that will position your team for success. It should be a type of project your firm is already familiar with, so there's only a single dimension of learning required. A smaller project will allow the team to focus on the details, and make a good start towards determining the processes and methodologies they should follow for future projects.

Measuring the ROI of your investment is important. If possible, the pilot project should be a project type with known metrics, so the benefits of BIM can be accurately gauged. Some of the most important benefits are difficult to quantify: more time for up-front design, clearer presentation of the design to the client, and so on. However, other benefits, such as increased documentation and productivity, are more immediate and relatively easy to measure. Gathering these statistics can substantiate the promised ROI of the system.

## Reaping the Rewards

As with any new process and software, full comprehension of how to use a BIM program will take time. However, some of the benefits will be seen right away, and as your firm continues to work towards becoming more comfortable within the world of BIM, the process will improve and become increasingly easier and more efficient.

Please stay tuned for the next article in this series, which will demonstrate how entire project teams collaborate through BIM, illustrating BIM workflow integration and streamlined processes. ■

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