

BIM - The Future of the Building Industry Has Arrived

By Rob Kelly of Proposals Plus

Building Information Modeling (BIM) is an approaching tsunami that has started to crest. Familiar with the design-bid-build process? "Say goodbye," predicted Brian Kimsey, AIA, of GSA's Sunbelt Region of the Public Building Service. BIM is its successor.

"Say goodbye (to design-bid-build)," predicted Brian Kimsey of GSA's Public Building Service.

The Society for Marketing Professional Services (SMPS), Georgia Chapter, sponsored a panel of BIM experts who basically repeated this revolutionary message to a packed audience of building industry professionals, November 28 at the Villa Christina in Atlanta. The Georgia Chapter of SMPS, presided over by Lee D. Jarboe, CPSM of Hartrampf, Inc., has been a strong advocate of the building industry providing monthly programs for education and networking for its members and the A/E/C community. More information about SMPS and a calendar of their upcoming events is published at www.smeps-ga.org.

What is BIM? GSA's Kimsey elaborated that "BIM is a multi-faceted, computer model that simulates the construction and operation of a facility," but one speaker simply defined BIM as a "3D model with intelligence," namely the addition of scheduling and costing capabilities.

BIM now required. Kimsey announced that GSA is now requiring the use of BIM for space planning in its building contracts. "It is not perfect, but good enough," says Kimsey. GSA published a draft BIM Guide earlier this year for industry comment. The first two chapters are finalized: Series 01 - GSA Guide Overview, and Series 02 - Spacial Program Validation. More will follow. The GSA BIM Guide appears on the GSA web site at www.gsa.gov. GSA expects BIM to reduce errors in the field and more easily reconcile costs resulting in overall cost reduction. It will even enable bomb blast simulations, and assist in energy planning.

BIM, a paradigm shift. Michael LeFevre, AIA, Director of Planning and Support Services of Holder Construction Company, a national construction firm, further emphasized the point of dramatic change by holding up a recent copy of Engineering News Record with its cover blaring that BIM was a "Paradigm Shift." He warned that firms in the building industry need to "change (to BIM) or perish." He described BIM as "a social phenomenon - where architects and contractors are now actually talking and working together." LeFevre highlighted that "BIM it is not just technical, but cultural, too."

"Change (to BIM) or perish," warned Michael LeFevre of Holder Construction.



Elizabeth Niedzwiecki of Leo A. Daly demonstrates the visual benefits of BIM in a dynamic presentation of its use in Daly's worldwide construction projects.



Brian Kimsey of GSA's Public Building Service announces that GSA now requires BIM for space planning in its building contracts.



Brian Kimsey (left) of GSA's Public Building Service and Michael LeFevre (right) of Holder Construction confer on the attributes of BIM with attendees at the SMPS luncheon.

Get a BIM champion. Mark Newdow, AIA, a Principal at Stevens & Wilkinson Stang and Newdow, an Atlanta design firm since 1919, encouraged firms in the building industry to "appoint or hire a person to champion BIM." Newdow indicated that initial acceptance of BIM in his firm was slow, but when it was realized that the firm could "collect fees earlier, that did it. As of January 1, 2007, one hundred percent of all company projects will be executed in BIM." He encouraged firms not to be intimidated by the initial investment because the system would eventually more than pay for itself.

BIM, an aid for risk management. Elizabeth Niedzwiecki, AIA, Vice President of Leo A. Daly, presented visually dramatic examples of BIM capabilities used in their major building projects worldwide. She emphasized that the key values of BIM were to "enable identification of problems before construction, and to make informed decisions to resolve issues, thereby significantly reducing the costs of potential field changes." Niedzwiecki emphasized that the BIM integration of designs was "very helpful in the risk management process."

BIM software tools. The speakers described three major BIM software programs on the market. Applied Software in Atlanta is the local reseller of AutoDesk's Revit with different versions customized for architects, interior designers, and MEP engineers. Design Integrations, Inc. in Marietta sells Graphisoft; and, Bentley Atlanta sells the Bentley Architecture BIM program.

Nicole Shumaker, a BIM solutions specialist with Applied Software, explained that the BIM concept has been around for years, but has now become perfected enough to come of age. She indicated that a BIM program sells for around \$5,000, and that various levels of training are available. Shumaker says they are now quite "busy" with sales of their BIM software.

County schools go BIM. Val Bates, President of Khafra, a local environmental engineering and construction firm spoke of their entrance into the BIM marketplace because they are pursuing

school construction work. Some counties are now requiring the use of BIM, especially for prototype schools, then using the BIM of the prototype for expansions and follow-on schools. Bates considers BIM to be a revolutionary trend in the schools market.

"Who owns the BIM content"? asked the audience. Answer: "No one entity owns it, but it is owned by any one that has a piece of it," replied LeFevre. In the past, the architect owned the design until it was signed off and passed to the contractor. Now it is a collaborative, living effort that is never finished, but continuously updated in real time as it is implemented. Even after the building is complete, the BIM lives on as an as-built tool for expansion, remodeling, blast analysis or whatever.

"...it (BIM) is owned by any one that has a piece of it," explained the BIM panel.

Manufacturers' BIM library. Mike Collins, a Managing Partner of BIMWorld, explained that his firm retains a software library of building supplier products such as doors and windows of a score of manufacturers. These manufacturers provide free, BIM-compliant software of their products, much as they have in past in paper catalogs, but now as parametric, digital models that can be plugged in and manipulated in the master BIM.

Collins says BIM is now being used for large and small projects from New York City's new Freedom Tower to chicken coops. He expects BIM to touch everyone in the building industry from suppliers to subcontractors. While there will be a major impact on architects and general contractors, subcontractors with a small role will likely see little difference, but will need a general understanding of BIM as eventually they will be accessing BIM designs via the internet to obtain the necessary drawings and specifications for bidding.

Collins noted that there are other government agencies besides GSA now using BIM. These include the Department of Homeland Security, Department of Transportation, and the U.S. Army Corps of Engineers.

AGC's helpful guide. Collins offered that the Associated General Contractors (AGC) has published The Contractor's Guide to BIM, a document to help firms get started in BIM. It can be accessed on their web site at www.agcga.org.