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## Q&A with Cogdell Spencer ERDMAN

The migration to BIM Q&A with Kurt Helin, Senior Vice President of Design Operations for Cogdell Spencer ERDMAN.

A clearly defined vision & implementation strategy were key for Cogdell Spencer ERDMAN when they decided to migrate to Building Information Modeling for 3D design. Their commitment & planning has proved rewarding as they and their customers enjoy better productivity, efficiency & savings.

**1** *Cogdell Spencer ERDMAN has been migrating from 2D drafting tools to the next generation of 3D modeling with Revit. Can you tell us what you've been working on since that decision was made and where the implementation stands today?*

Since the decision was made to migrate from 2D AutoCAD to 3D Revit, we have focused on building a "solid model." In order to accomplish this, our initial task was to develop the content required to provide the 3D model, to provide staff training, and to establish processes and procedures that would maximize modeling effectiveness and efficiency. We defined the level of modeling required at the various phases of project delivery from schematic design through construction documents and have refined these guidelines through utilization on several projects. At this time, we have completed our content development, have trained 100% of our architectural and engineering staff, have developed modeling guidelines, and are proceeding with the finalization of Revit policies and procedures. Design models have been used as a visualization tool with our clients, and we are currently conducting a pilot project where we are leveraging the model into construction.

**2** *Moving to Revit and a parametric modeling environment offers some obvious and not-so-obvious benefits. Can you cite a few key reasons why this decision was made, and the specific benefits you were looking to achieve?*

Industry awareness and use of building information modeling has grown. Designers, engineers, contractors, and owners are either adjusting their delivery model to match new processes or are aligning with strategic partners to leverage BIM. Cogdell Spencer ERDMAN's integrated delivery model is well-suited to the adoption of BIM and provides us with a unique opportunity to gain an additional market advantage by being leaders in the BIM environment. BIM also allows us to leverage the data drive model into other areas of our Design-Build process.

An increasing number of proposal requests require the project to be produced using BIM technology.

BIM will allow the design team and clients to better visualize the building, resulting in less project re-work. The data drive model will allow us to produce specifications, cost estimates and material take-offs. In addition, the clash detection programs will improve the quality of our construction documents and improve construction efficiency and productivity.

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- 3** *Some parts of the building industry do not fully understand the value and downstream benefits of Building Information Modeling (BIM). Do you have any words of encouragement for them at this point?*

As stated earlier, industry awareness and use of BIM has grown considerably. Building owners are becoming very knowledgeable about the short-term and long-term benefits of a building information model and are making BIM a requirement in their requests for proposals. Many owners have never been through a design process and find it challenging to understand two-dimensional floor plans. Three-dimensional building information models help to bridge the gap, resulting in better alignment with their expectations and less project re-work.

By constructing the project in the virtual world, we are able to eliminate conflicts prior to construction, resulting in savings for the design team, the construction team and the owner. BIM has had a marked effect on reducing the overall project duration from design concept to building completion.

- 4** *One concern that some companies seem to have about transitioning to Revit is the availability of resources to help them migrate to this platform. What other resources might you recommend companies consider to learn more about this transition and the new design platform?*

Our company has worked closely with MasterGraphics during our migration to BIM. They have facilitated in-house training and staffed our help desk during the initial stages of implementation. Members of our staff attend Autodesk University on an annual basis, to keep them apprised of new applications, and also belong to local focus groups.

We have had meetings with local contractors to understand how they are improving construction efficiency using the BIM model and how we can revise current processes to better leverage the model to meet construction needs.

- 5** *What advice or recommendations can you offer to ensure a successful implementation?*

Successful implementation begins with a clearly defined vision and implementation strategy that is fully supported by executive leadership. You need to provide time and funds vital to the success of this strategy, and to follow industry standards to ensure the greatest degree of interoperability possible.

Staff involved in the implementation have to be empowered to modify existing processes as necessary to achieve the goals of the vision and strategy. Expectations of leadership, participation and engagement at all levels have to be established.

- 6** *Were there any specific challenges that you faced and how did you address them?*

We experienced a number of challenges as we migrated to BIM.

An important component of our strategy was to simultaneously implement all discipline-specific versions of the Revit software. However, expectations that the MEP engineering software functionality would catch up with the capabilities in the architecture and structural versions were not met, which resulted in significant software configuration and modeling challenges. Across all versions of the software, "out of the box" 3D content that we could modify for use in our models was not available. To accelerate our functionality requirements, we re-prioritized our core content needs and outsourced specific content development.

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Because of our integrated delivery model, the standard Autodesk training approach did not serve us well. In response to this, the BIM Leadership and Support team worked with our external technology partner to create a customized staff training program that more closely replicated our Design-Build process. This program has been successful in shortening the learning curve and accelerating user proficiency.

BIM software places a significant demand on desktop and laptop resources. Although we anticipated this requirement and have focused on these resources, we found that we underestimated the requirements as we started to produce larger models. In response to this, we accelerated our hardware update cycles to ensure the best performance possible and now have all users working with faster operating systems.

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*What are the next steps for your team?*

Building Information Modeling creates a myriad of new opportunities across Cogdell Spencer ERDMAN's service offerings. At this time, we feel that we are producing a "solid model" and can now leverage the model into other software applications. Our next step is to transition from Revit version 2010 to Revit 2011. The 2011 version has upgrades that will greatly improve our modeling efficiency and enhance the system's functionality. We will incorporate e-specs to generate specifications from the model. We are also focusing on integrating Revit with our material take-off software in order to create a bill of materials and are piloting the use of Navisworks to provide a higher level of construction document coordination with our sub-contractors' work.

Our company manufactures a number of building components and we will leverage the BIM model into Gritec to generate structural detailing and fabrication drawings.

Future applications will focus on project estimating, programming, visualizations, and facility management with the goal of enhancing Cogdell Spencer ERDMAN's value proposition to our customers.

We will continue to develop the leadership capabilities and a much higher level of staff collaboration and awareness, focused on integrated BIM enabled work processes, workflow and creative model utilization in order to ensure sustained and market leading BIM practices.

Visit the Cogdell Spencer ERDMAN website: [www.cogdell.com](http://www.cogdell.com)

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