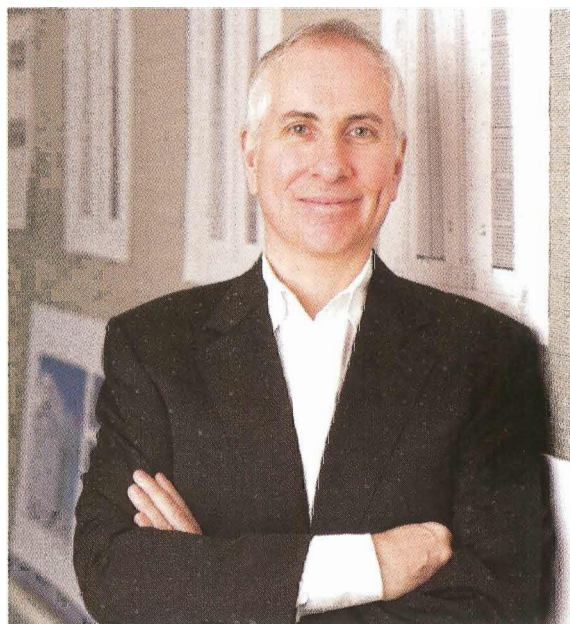KPF'S JAMES BROGAN GIVES TIPS ON HOW FIRMS CAN MAKE THE
TRANSITION FROM 2-D TO 3-D DESIGN.

Text Fred A. Bernstein **Photo** Matt Greenslade

SOFTWARE GURU

James Brogan is overseeing the implementation of BIM as a design tool at KPF, but the transition has been a slow one.

KOHN PEDERSEN FOX (KPF) IS A BIG FIRM with an even bigger profile: its 600 employees in New York, London, and Shanghai are working on such megaprojects as New Songdo City in Korea; the Shanghai World Financial Center; and the Heron Tower in London, to name a few. Changing the way such a large organization works is no small feat, which is why James Brogan, director of firmwide information technology, is keeping close tabs on building information modeling. Usually known by the one-syllable moniker BIM, the system links every drawing, schedule, and construction document associated with a project, so that changes in one are immediately reflected in all the others. The large scale of KPF's projects and the fact that BIM requires architects to think and design differently than in the 2-D days of AutoCAD make such a transition difficult. But Brogan, who studied architecture at Pratt Institute in New York and came to KPF in 2001, believes that BIM allows architects to take advantage of today's computing power.

Choose the software that's right for you ...

Brogan has explored the four leading BIM systems: Autodesk's Revit, Bentley Architecture, Graphisoft's ArchiCAD, and Digital Project from Gehry Technologies (yes, that Gehry). "Overall, we have found that the most recent versions are—finally—robust enough for our larger projects," he says. For some of those projects, he says, Revit appears most promising.

... and the features that fit the way you work.

At KPF, BIM is not yet being used as a design tool. Architects continue to design with the modeling applications they've used for years, including McNeel's Rhino, Bentley's Generative Components, and Autodesk's 3D Studio Max. "Their work in those programs is 'ported' to the BIM platform once we are well into the schematic phase," says Brogan. "But that means we have to make sure all those other programs interface with our BIM software, which can be a challenge."

Train people "just in time."

At KPF, employees who need to learn BIM software start with a week of full-time training. "That lets most people get up to speed," says Brogan. But to be really comfortable with the tool, he says, can take up to eight weeks of on-the-job training. That process doesn't begin until a person has a real project on which to use the software. "If you train people to use a program before they actually need it, the training isn't nearly as effective," Brogan says.

Consider how people in the firm work together ...

"The real challenge of BIM," Brogan says, "is that it revolutionizes the way architects collaborate. Modify one document, and every other document changes. So the firm has to pay attention to group dynamics. A designer who is used to working alone may have to make a difficult adjustment. And those who master the BIM tools can have a great deal of influence on a project."

... and with people outside the firm.

The promise of BIM is that everyone working on a project, inside and outside your office, will have access to the same information at the same time. Contractors will use BIM for scheduling, estimating, and modeling the sequence of construction. But that also means people outside the firm will have the ability to modify construction documents. It's important to be clear about each firm's responsibilities, says Brogan—both to maintain the integrity of your design and to avoid being held responsible for changes made outside your office.

Don't look back.

"BIM," says Brogan, "is the wave of the future." Eventually, he predicts, "the new technology will alter how practically all architects practice."