

BIM concept prevents duplicate efforts on complex projects

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Applying BIM to outdated processes could be a cure that's worse than the disease. As much as 40% of project data can be lost in the handoffs of modeling from design to contractors to subcontractors to owners, San Diegobased construction management firm Gafcon Inc. estimated using Aon insurance data, arguing that many efforts are duplicated when each stakeholder works within a silo.

Gafcon, an owner's representative, is a proponent of what it calls the Digital Twin OneModel approach, by which architects, engineers, contractors, subcontractors and managers work on their respective models in a unified platform that fosters better collaboration.

"Everyone's efforts are combined into this line of products that ultimately ... produces the building but then also produces the platform to manage the building for 50 or 100 years," Yehudi "Gaf" Gaffen, CEO and founder of Gafcon, told Construction Dive.

Unlike 2D documents, BIM is "not a static thing," he said, and a shared digital environment helps stakeholders keep pace with changes their peer collaborators are making.

The technology landscape is ripe for this kind of consolidated approach, Gaffen suggested. Just as mobile phones have progressed to include a phone, computer and camera all in one, he said, construction technology can now loop in three workflows that used to operate separately: drawings, cost and schedule.

Gafcon has partnered with cloud-based construction management software e-Builder, Oracle's Primavera Unifier for lifecycle management and project management software Kahua for the OneModel program. It has been rolled out for the 70-acre, \$1.6 billion Seaport San Diego redevelopment and \$1.2 billion expansion of the Los Angeles Convention Center and neighboring JW Marriott L.A. Live hotel, and is in planning for the \$3 billion San Diego International Airport expansion. Gafcon is also working with a confidential Fortune 50 company that Gaffen describes as a "serial builder."

Breaking down silos

Construction technology has matured far beyond spreadsheets and its

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benefits are measurable, Gaffen said. For instance, OneModel can reduce the number of RFIs on a given project from what's standard on comparable projects by as much as 60%, saving more than \$3 million in added expenses and costs associated with dealing with RFIs, according to Gafcon.

But old habits die hard. Architects, engineers and contractors traditionally keep to their silos and "throw models over the wall at each other in an isolated moment," Chris Boal, integrated construction manager of PCL Construction's California Buildings District, told Construction Dive.

Each stakeholder would create a local model and add cost or schedule to it, he said, "so people were recreating the wheel many, many times." OneModel's "single source of truth" concept, in contrast, brings each project stakeholder into the same cloud-based environment. They're still able to work "behind the veil," said Boal, who is involved in the Seaport project, but a far more efficient exchange of information can take place because of the shared database.

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There was a natural discomfort in the early days of the project with the level of transparency that OneModel calls for, according to Boal, but improved security rights helped assuage PCL's concerns and those of its risk managers and lawyers. Plus, a contractor doesn't necessarily want to see every move the architect makes, he said. "We want to see the published, confirmed and approved moves."

It's appropriate that stakeholders have their respective spaces for now, Boal said, but the ability down the road to work from one model from design inception to fabrication, installation and turnover is no less exciting.

AEC professionals like to hold their cards to their chest and to own their data, he explained, so the open-source world creates an "uncomfortable moment." But if they can shake this discomfort with the proper risk mitigation measures in place, "it's absolutely changing the way that we work" for the better, said Boal.

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