

Pompano Beach construction firm uses virtual technology, drones to speed projects



Pompano Beach-based construction firm Current Builders uses drone, building information and virtual software to speed projects.

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At the Park 3400 luxury apartment project in Davie, drones flew over the construction site to obtain 3D images of the area.

Current Builders, the Pompano Beach-based construction firm, intends to use the visuals to help its client keep abreast of how each building component is being installed, step-by-step. When the project is completed, the images will be used to help market the 259-unit complex.

The construction firm also created a virtual mock-up of interior finishes for the apartments, using an iPad gaming engine that provides instant changes to selections of counter-tops, cabinets, back splashes, fixtures and appliances, to help managers and interior designers choose what they want to install in each residence.

At another residential project, the Allure in Boca Raton, Current Builders used building information modeling software to resolve issues experienced in constructing the first unit. Without the technology, a mistake could have been replicated hundreds of times and construction halted to make repairs.

“You have to stay on the leading edge,” said Charles “Chip” Reid, CEO and one of 10 partners in Current Builders, a 45-year-old company that has annual revenues of between \$125 million to \$150 million and employs more than 160 people.

In recent years, technology has been a core component of the construction process for Current Builders. Reid said technology helps the company be more nimble, safer on the construction sites, improve accuracy and expedite the building process.

Rick Stephano, senior vice president of project development for Rosemurgy Properties in Deerfield Beach, said the technologies deployed by Current Builders is one reason they chose to work with the construction firm on projects including Park 3400.

With advance computer modeling, “by the time the guys are going out in the field, we already know where [piping] has to go. It solves problems before we get to them,” he said.

Stephano said computer modeling also helps with equipment conflicts so that builders know a pipe can’t be installed in the same place as, for example, a fire sprinkler line that crosses over from another apartment.

While building information modeling and virtual design has been available for awhile, construction firms are finding new uses for the software, as well as exploring newer technologies such as drones.

Mike Kennedy, general counsel for Associated General Contractors of America, said more than 1,500 construction firms across the country are using drones in their work.

“Anything you need to inspect, you can do it faster, cheaper more frequently with a drone,” Kennedy said. “Drones are just a great way of collecting additional data that was too expensive or difficult to collect in the past.”

Construction firms are using drones for wide-ranging purposes. They include mapping construction sites; project management; site logistics including where to locate equipment and materials; safety including the use of drones instead of people for dangerous inspection duties; environmental inspections, and documentation of a project’s progress for the client or dispute reasons.

“What we’re going to see over the next four or five years is a great deal of experimentation,” Kennedy said.

Current Builders’ investment in emerging technologies began in 2007, with a second major investment in 2010, when South Florida builders were struggling to survive the recession and housing crisis. Now it’s upgrading its technology again this year with a new sharing portal to allow multiple contractors access to the same data and share information on a project.

The more information that architects are given, the more quickly they’re likely to make a decision and a project can proceed, the construction firm has found.

“I look at it as an investment we have to make. The value we get out of it far outweighs the cost,” Reid said. “I would hate to think if we didn’t adopt the technology in 2007. We made a lot of internal changes during the recession, and as soon as we came out, we were ready.”

Kar Ho, 34, heads Current Builders’ virtual design division. A 2010 University of Florida graduate with bachelor’s and master’s degrees in architecture and a master’s in building construction, Ho has been implementing technologies in the field as well as experimenting with new uses.

“What else can we do to advance the company? We don’t ever want to be stale,” said Ho, who learned technologies including building information modeling and virtual design software in college. He said he took it upon himself to take **Federal Aviation Administration** training to safely operate drones over construction sites.

Ho said the firm has as many as 20 projects employing the technologies, which has helped smooth work flow.

In ordering prefabricated materials such as duct work, virtual design can help determine the exact size needed before it’s shipped, so they can “get it right the first time,” Ho said.

Reid said the biggest problem in the industry is waiting on instructions to move forward with a project. “If Kar can solve the waiting-on-instructions problem, then productivity goes up,” he said.

Current Builders shares what it learns from its technological experiences, even with competitors.

Daniel Whiteman, vice chairman of Miami-based Coastal Construction Group, said his company attended a technology seminar for local contractors conducted by Reid and his team.

“Chip is a leader in the industry,” Whiteman said, adding that Coastal has since expanded to six people using building information modeling and virtual design tools.

Reid said using advanced technologies has had the extra benefit of attracting millennials — such as Kar Ho -- into the industry. Companies need them as baby boomers retire.

“When we go to recruit, we show these young men and women what we’re doing, and it’s very attractive. They all grew up using an Xbox,” he said.

Not all of the technology that Current Builders has invested in has worked.

“We’ve had some busts,” he acknowledged. “We bought a \$25,000 piece of surveying equipment that’s sitting on a shelf. It didn’t work as advertised.”

But that’s part of innovation, Reid said.

“We don’t know where we’re going to be in five years. Construction is on the cusp of exploding into technology. We’re one of the last industries to adopt.”

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