

Constructing tomorrow's buildings: Expect an explosion in modular design

BY MATT BAKER



The Hyatt Place Hotel Waco

Next year, a new Hyatt Place Hotel will rise in Waco, Texas. Though it will have all of the typical amenities and features of a modern, new construction hotel, it's what the guests won't ever see that will be truly groundbreaking.

The project is using the latest evolution in modular design and construction. This process has grown in maturity over the years, with recent innovations that endow tremendous time and cost advantages.

The Waco Hyatt project, for instance, will be constructed almost entirely off site, in the fabrication facility that ModularDesign+ operates in Euless, Texas. A strategic partner of global architecture firm CannonDesign, ModularDesign+

hopes to change the way that owners, developers, architects and contractors think about modular construction.

The 110-room, eight-story Hyatt Place Hotel Waco, designed by MWT Architects, will feature both rooftop and ground-level restaurants, a shopping center and a parking garage—all of which will be fabricated in Euless. Once completed, 140 stackable units will be shipped over the course of only three to four weeks to their final destination in Waco.

That's the largest incentive that modular offers: speed to market. The quicker that an owner or developer can begin generating revenue on a space, the better.

For all its advantages such as reduced material waste and fewer construction days lost to inclement weather, however, building modular hasn't always translated into cheaper construction costs.

"The old-school methodology of modular construction was that an architect team would design a project, then the general contractor would lease a facility close to the job site and bring in the subcontractors to build the modules," said Josh Mensinger, vice president, ModularDesign+. "They could never really figure out why there were no cost efficiencies."

At their Euless facility, ModularDesign+ uses the principles of DFMA, or design for manufacture and assembly to streamline operations. DFMA is an engineering methodology that simplifies both the design of a product, as well as the assembly of the component parts.

DFMA allows a manufacturer—whether they be producing televisions, automobiles or multi-story buildings—to find the most efficient process to assemble that product. The result is greater schedule control and less waste, among other benefits.

"We're a manufacturer, we're not a contractor. Our 100,000-square-foot facility that we have here in DFW is actually an assembly line," Mensinger said. "That's where we drive the costs—not just the schedule—down because we're actually taking it from the approach of a manufactured good but using subcontractor trades."

In a trend that has shifted the approach that the industry is taking to modular construction and design, ModularDesign+ is producing structural, stackable volumetric modular units. Once on site, these can be craned into place like Lego bricks, constructing the total volume nearly three times as fast as it would take using traditional, stick-built methods.

Henry Ford famously quipped that "Any customer can have a car painted any color that he wants, so long as it is black." Ford, of course, revolutionized the manufacturing process with the introduction of the assembly line, enabling his company to quickly and cheaply produce Model Ts and meet growing demand.

While that process allowed for less customizability, the tradeoff was affordability, bringing car ownership to the masses for the first time. According to Mensinger, that tradeoff cannot work with construction and design. That is why each project is unique, absorbing the desires and needs of the client and using the manufacturing facility to fabricate an end product that meets those specs as efficiently as possible.

"If you go to a kit of parts, you don't give the client much freedom to build the designs and the buildings that they want to," said Mensinger. "What we designed in our manufacturing facility is a unique hybrid assembly line that allows us to adjust to the client's needs."

This assembly line approach requires smaller construction teams, a real benefit during times of labor shortage. Additionally, job site safety is increased with fewer bodies moving around. Installing one modular unit may require only six to eight construction workers, far fewer than the 30 to 40 that would be needed

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on a similar project being erected using traditional methods.

Modular "cassettes" that are inserted into ready and waiting buildings have been around for a while. They are especially useful and efficient in healthcare, hospitality and other asset types with repeatable interiors.

This next evolution of modular construction is still in its nascent stage. There are a handful of projects around the world that have gone ground-up using stackable, modular components. As owners and developers are always looking to cut costs and increase efficiencies, the stage is set for this approach to find wider usage.

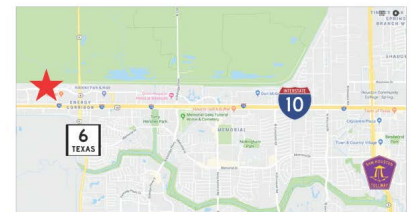
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PROPERTY INFORMATION

- 15,000 SF +/- office/warehouse building
- Approximately 7,100 +/- SF office area
- High quality interior finishes with lobby/reception, hardwall offices, large classrooms, conference rooms, large bullpen and large kitchen
- Two grade-level overhead doors
- Fully insulated warehouse
- Deed-restricted Park Ten Business Park
- Excellent Energy Corridor location
- Lease rate: \$0.75/Mo.INNN



Excellent proximity to I-10 and Highway 6



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