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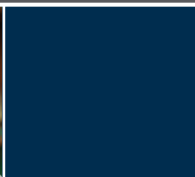


AECOM Hunt Studio H and DIRTT Transforming Construction in the Midwest

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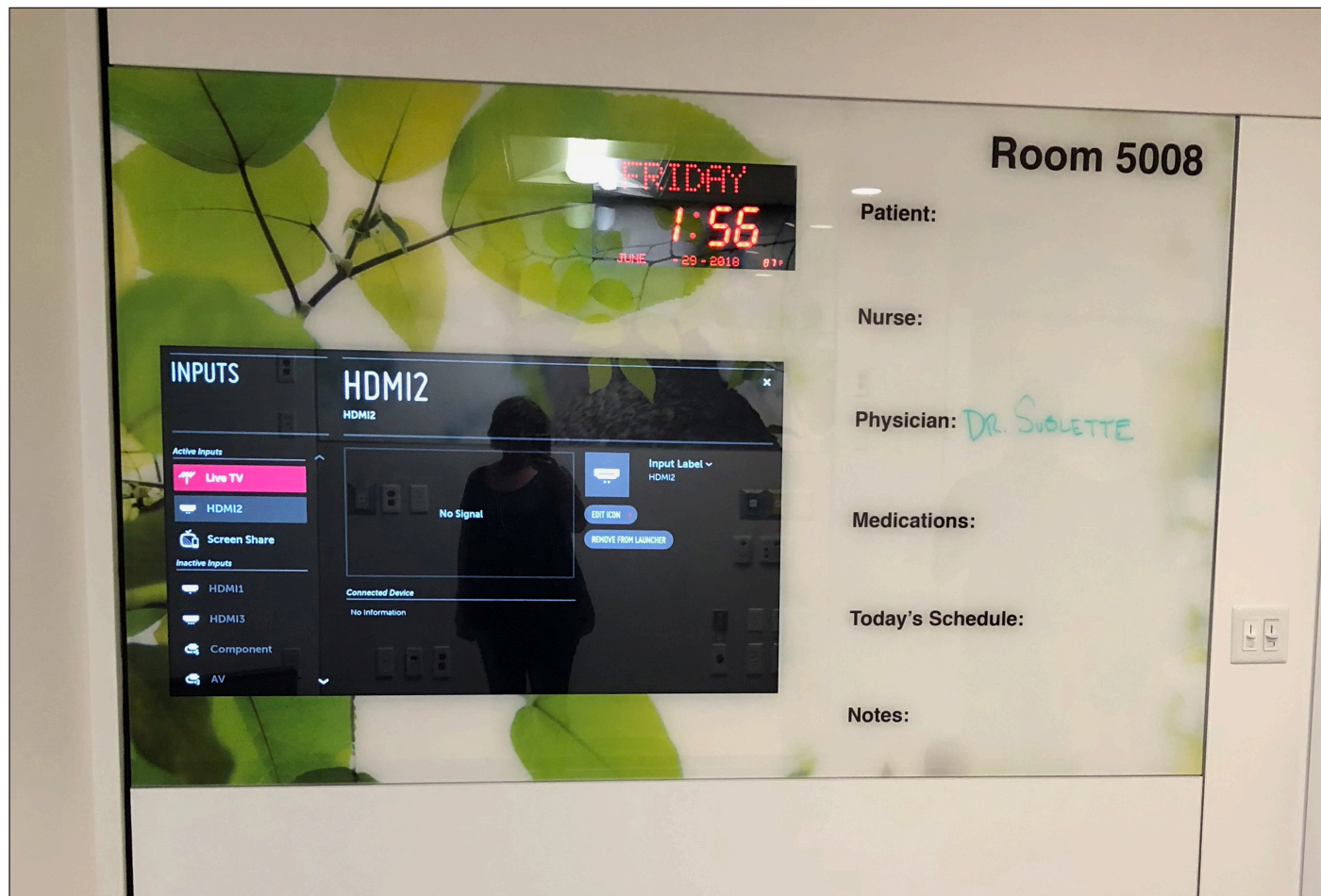
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DIRTT Brings Cutting Edge Prefabrications Systems to the Midwest

By Jack Quigley



Flexible hanging options move technology and accessories off the floor. Writable surfaces track patient info and maximize functionality. Integrated technology can be installed to allow patients to watch tv, play games or view x-rays and other medical records that doctors want to share with them.

For almost 15 years, DIRTT Environmental Solutions has used advanced technology to revolutionize prefabrication in the construction industry. Whether it be an adaptable patient room for a hospital or a fresh design for an office space, DIRTT (Doing It Right This Time) has partnered with RJE Business Interiors in Indianapolis to make interior building more efficient.

Instead of using the traditional stick built method of constructing designs on-site, DIRTT uses software called ICE to create a 3-D model of the site for prefabrication at their factories in Calgary, Phoenix, Savannah, and Kelowna. From this model, DIRTT professionals work in collaboration with the owners, architects, designers and contractors to create a design that works for everybody.

"The value proposition is bringing all of us to the table at the beginning and helping facilitate a faster, cleaner, and more complete design process," said Justin Reboulet, RJE's Project Manager for DIRTT.

Once the model is completed and includes the desired materials for each part, the file is sent to DIRTT's factory to be manufactured. From there, the building process is completed in a matter of weeks and the newly constructed design is sent directly to the jobsite where contractors assemble the parts in about a third of the time it would take traditional stick-built construction to be completed.

Value Realized

One key value lies in time savings. DIRTT can reduce on-site construction time by over 60%. In a test conducted by AECOM Hunt's "Studio H" in Indianapolis, two groups of contractors were summoned to build identical patient rooms, one group using traditional methods and the other using DIRTT construction. It took DIRTT contractors five and a half days to build their room from start to finish while it took the other group 15 days to finish the job using standard materials. Despite completing tens of thousands of projects in DIRTT, the method of construction remains on the cutting edge.

"In the next 10 to 15 years, I think this is something that will be pretty mainstream," said Aaron Sublette, Project Manager Preconstruction for AECOM Hunt. "Prefabrication is going to be the norm."

By using panels made from half inch MDF wood that is stronger than sheet rock, DIRTT provides durability while also eliminating the dust that is created by drywall. In their patient room, DIRTT was able to implement their own design improvements such as a fully functioning integrated television and sliding doorways. The integrated television is more sterile than a typical screen that extends outside the wall and the sliding doors save space and create less disruption for doctors and nurses.

Among the benefits of using DIRTT is its cost-effective method of planning and assembly. In Midwest markets, DIRTT Representative Ann Armstrong said initial costs are around the same as traditional building methods. The true savings, according to Sublette, come from ownership costs.



AECOM Hunt Vice President Kurt Stahl demonstrates how easy it is to install and remove the seal between panels, which creates a more sterile environment for patients.

"If there is damage to it, each panel has a QR code on the back of it," Sublette said. "You just pop the panel off and scan the barcode and it'll tell the manufacturer at DIRTT exactly what panel it is and they can order it for you with a two week turnaround." This is also helpful from an infection control standpoint, Sublette said, because it eliminates the need to take an entire block of rooms out of service for construction.

"Every day that a patient room is down, or a unit is down, that's a lot of money that is not being generated," said Reboulet. "If there's a water leak the DIRTT tiles pop right off. There is no shutting down; we can swap tiles in a matter of minutes."



AECOM Hunt Project Manager of Preconstruction Aaron Sublette demonstrates how easy it is to remove a panel in order to access power and utilities behind the walls.

Built for the Future

Since DIRTT is a prefabricated interior construction solution, owners are provided with more flexibility if they decide to change locations. Instead of building metal studs and drywall that does not have the capacity to move, DIRTT is not permanently attached to the building shell and can move from one jobsite to another. AECOM Hunt Senior Vice President Kurt Stahl said, "Now, you can actually take that with you and you can go set up shop somewhere else and you don't lose all that capital."

In addition to this, DIRTT also has the capacity to change the initial design and reconfigure the space as company needs and culture change over time. "It offers flexibility to our owner," said Cliff Ragan, VDC Engineer for AECOM Hunt. "If there's some sort of flow that they don't like about the design they bought, we can change that a lot faster."

Aside from being adaptable and cost effective, the DIRTT model also allows owners and architects to fully customize the layout, style, functionality and finishes

of their design. "They can do so much," said Sublette. "The options are pretty much endless."

Because DIRTT solutions are constructed precisely down to a sixteenth of an inch, DIRTT uses laser scanning to determine exact measurements used for manufacturing. This ensures that each solution is constructed perfectly for the space it will live in."

Easing Labor and Delivery

With a labor market that is struggling to bring more tradespeople into the construction business, some contractors see DIRTT and prefabrication in general, as a way to circumvent problems created by current labor trends in the industry.

"For every three people that are leaving the trades, there is less than one coming back into the trades," Sublette said. "So, we're really looking for a way to short-circuit the labor issues by making our schedules and our projects more efficient."

Stahl said DIRTT looks to use about a third of the labor that typical contractors need for projects while remaining faster and more efficient. "We must use our latest DIRTT schedule and cost data to forecast properly in today's market where we are encountering labor shortages in all trades to deliver on time," said Stahl.

Forward Thinking

The integration of a new idea does not come without its challenges. DIRTT employees, (fondly referred to as DIRTTbags), acknowledge the struggle of introducing an innovative approach to traditionalists in the industry.

"I think our biggest challenge right now in the Midwest versus what we're seeing on the coast is just simply educating the market on this approach to construction.



(Left to right) Aaron Sublette, Project Manager of Preconstruction, Kurt Stahl, Senior Vice President and Cliff Ragan, VDC Engineer, all of AECOM Hunt

That's our number one challenge," Armstrong said.

In other regions, DIRTT has been a rising force in the construction industry for years and it is only a matter of time before more examples are seen across the Midwest.

"We're building entire hospitals in California out of DIRTT," said RJE's DIRTT Account Executive Kelsey Venekamp. "It's very robust on the coast. Boston, New York, San Francisco. It's definitely making its way in."

For Reboulet, a transformation of ideals is what DIRTT is all about.

"That's really what we're trying to do," Reboulet said. "To get people to acknowledge that there's different way of thinking about how to bring buildings and environments for interiors to life."

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