



CASE STUDY

# Transforming a convention center with Desigo Optic open building management software

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**SIEMENS**



# Transforming Memphis' Rensant Convention Center with Desigo Optic open building management software

In the fall of 2020, the Memphis Rensant Convention Center completed its multi-year, \$200 million transformation. The project featured broad-sweeping modernizations for the 400,000–square-foot building, which now reflects the vibrant and lively city in which it lives.

Director of Operations Darrell Jones has been working within this building for more than a decade, and says, “You can’t say enough about how sweeping

this transformation is.” Today, the modernization showcases the city’s iconic riverfront location with flexible spaces, natural lighting, and river views.

Through this transformation, the convention center kept an eye on sustainability and energy efficiency measures, including a major (approximately 80%) overhaul of the facility’s HVAC system, mechanical equipment, and new drives and controls within the central plant. To complete the renovation, Rensant Convention Center worked with EJK Automation, a Siemens Solution Partner and integration expert, a choice that would prove fundamental to the success of this transformation.

“A renovation by nature isn’t as clean as new construction,” says Jerry Edwards, President of EJK Automation. The convention center’s large central plant encompasses three chillers, 16 boilers, primary and secondary pumping systems, as well as dozens of air handling units and hundreds of VAV boxes. “Some of the equipment would get replaced and some would stay, requiring seamless integration between legacy equipment and new.”

## **Desigo Optic creates holistic view of operations for convention center**

All of the equipment, according to Edwards, received new Direct Digital Controls (DDC) and an automation platform that could easily and seamlessly command both new equipment and systems, as well as integrate the existing legacy equipment. For this project, EJK Automation and Rensant Convention Center selected Desigo Optic.









Photo credit: Creation Studios

"We were an early adopter of Desigo Optic," notes Edwards, who goes on to say that the user interface, workflows, cloud-based functionality, and Project Haystack tagging demonstrated Siemens' leadership in this area. "Desigo Optic is really the best front end we've seen from an IT/OT perspective. And what that means for our customers is simple: there's a single pane

of glass and we can all see every piece of equipment, and every zone. As a robust and integrated system, Desigo Optic truly puts an x-ray on the building."

Edwards points to a range of other benefits Desigo Optic provides to building owners like Rensasant Convention Center as well as their solution partners:

DESIGO OPTIC BENEFITS

	<p><b>Open framework</b> </p>	<ul style="list-style-type: none"> <li>• Built on commercially open FIN Framework for multi-vendor, open market access</li> <li>• Open protocol, governed by a third party, meets industry standards and provides interoperability across vendors</li> <li>• Haystack open-source tagging requires no tools or add-ons and is fully web accessible from any device</li> </ul>
	<p><b>Remote capabilities</b></p>	<ul style="list-style-type: none"> <li>• Critical data can be managed from any browser or smart device</li> <li>• FIN Edge2Cloud provides a secure, encrypted connection and eliminates the need for a virtual private network</li> </ul>
	<p><b>Accessibility and ease of use</b></p>	<ul style="list-style-type: none"> <li>• Best-in-class user interface provides all stakeholders with real-time access to all the data they need, whenever and wherever they need it</li> <li>• Desigo Optic is engineered and commissioned using openly available web browsers and a native mobile-first design approach</li> </ul>
	<p><b>Simplified programming and commissioning</b></p>	<ul style="list-style-type: none"> <li>• Guided engineering workflows for faster, easier integration with fewer clicks</li> <li>• Enhanced integrations across a wide range of devices, equipment, and protocols</li> <li>• Semantic tagging automatically clones standardized tags for similar devices</li> </ul>
	<p><b>Advanced trends and alarms optimize building operations</b></p>	<ul style="list-style-type: none"> <li>• Turnkey trend analysis reports provide insights necessary for keeping building operations on track</li> <li>• Data visualization and intelligent dashboards provide site overview with easy identification of points in alarm and points in override</li> </ul>



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Jerry Edwards, President  
EJK Automation



Desigo Optic provides actionable insights, helping Rensant Convention Center achieve their efficiency, sustainability, comfort, and indoor air quality (IAQ) objectives. "This is a really big deal," says Edwards. "In the past, what you see on your computer screen might not always match with reality. But with Desigo Optic, it's solid; you can believe the data."

Edwards further expects that this level of visibility into equipment performance will have a long-term, positive impact on maintenance. The combination of measured baselines and trend reporting will give Rensant Convention Center what they need to optimize their equipment. "It really means that we can commission the building, get it working per design as efficiently as possible, and then continue to maintain to this baseline," Edwards explains.

## Desigo Optic helps the Rensant Convention Center delight customers

Jones explains that prior to the renovation, some areas of the convention center would be too hot, while others would be too cold. "But we couldn't do anything about that because it was all manual; we didn't have the option of room level controls. If you tried to warm up one area, it would affect everyone. It was a nightmare."

Today, however, Jones can work with the convention center's event planners and when a client makes a request for a temperature setting, he can program that into Desigo Optic, and it's maintained perfectly. "That's our number one priority: client comfort. If they come in here and they're too cold or too hot, they're not coming back. Comfort is key," says Jones.

### Hot/cold calls virtually eliminated

Since the convention center reopened to hosting events, Jones notes that they have had just a few calls from event managers requesting temperature changes. "Prior to the renovation, hot/cold calls would have

happened every hour of every event. It's a night and day difference because of Desigo Optic."

Moreover, because the operations team is no longer distracted by frequent hot/cold calls, they're free to focus on strategic projects and other building maintenance – as well as on what clients need and want for their events, which is having a downstream, positive impact on client satisfaction.

### Desigo Optic's ease of use streamlines day-to-day operations

As Director of Operations, Jones' day-to-day responsibilities cover a broad territory. "There's a lot on my plate, so I depend on Desigo Optic to lighten my load. The last thing I want to have to worry about is controlling the building, and thankfully I don't have to anymore," he says.

For example, Jones notes that prior to this renovation project, building comfort controls decisions were effectively guesswork. "Do you need six boilers or two? And if you left at 7 at night, anything that was running when you left would still be running when you got back in the morning. With Desigo Optic, we don't have that issue anymore," he explains.

Ultimately this means that the convention center can now utilize streamlined preventive maintenance strategies, as well as run equipment more efficiently and with less wear and tear than ever before. Says Edwards, "It comes back to having a holistic view of operations, setpoints, and demands on the building, as well as applying the right sequence of operations to optimize those primary systems and deliver the desired comfort."

### 30% reduction in chilled water requirements

Just as important is the effect on utility and energy consumption. One aspect of the renovation and transformation project added significant square footage to the facility, including glass-enclosed walkways and floor-to-ceiling windows with views out to the Mississippi River. "All of this adds to the thermal load on the building. Still, we have seen a 30% reduction in chilled water requirements and our utility bills have remained roughly the same," says Jones.

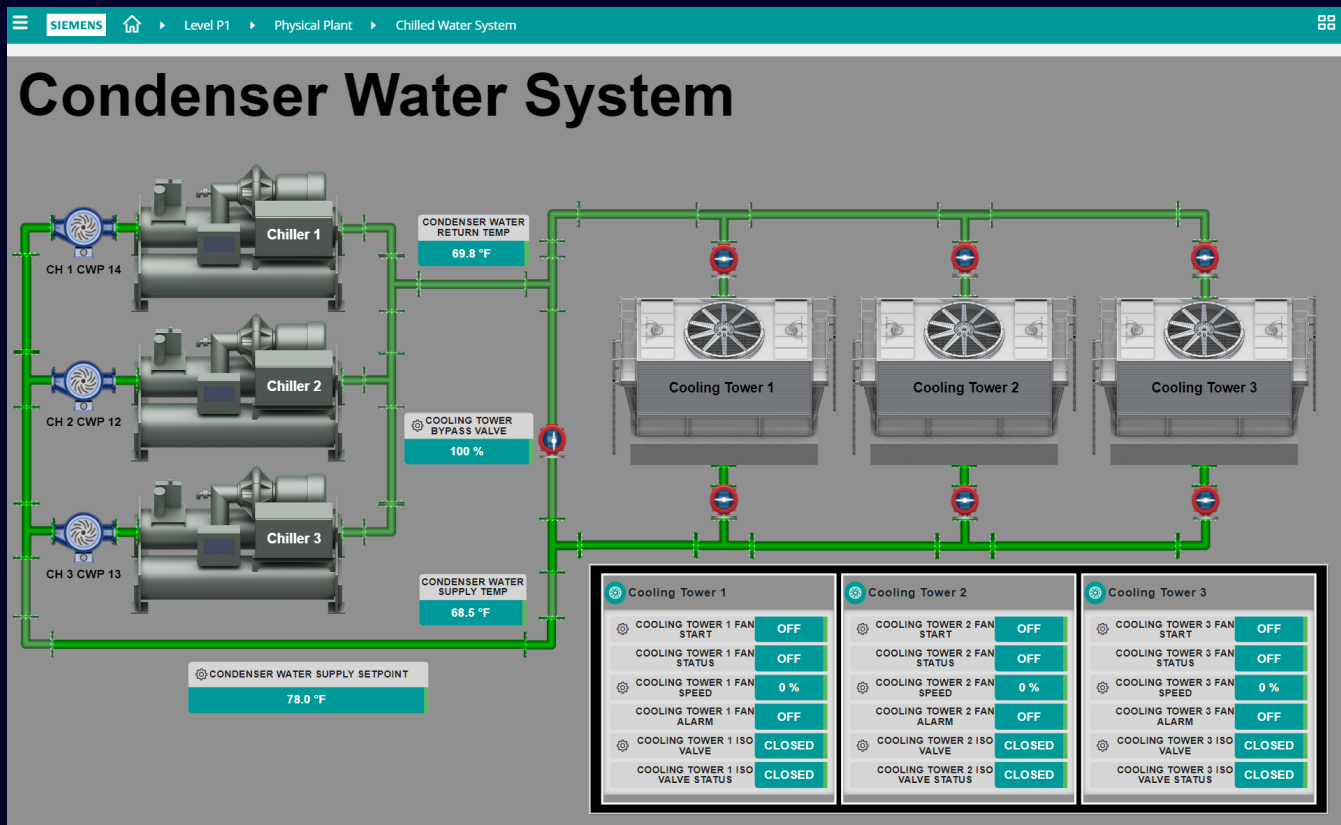


**30% reduction**  
in chilled water  
requirements



We used to spend more than a third of our day trying to control building comfort in some way. But today, thanks to Desigo Optic, this takes 15 minutes at most; it's just a few keystrokes on the computer."

**Darrell Jones, Director of Operations,**  
Memphis' Renasant Convention Center



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I've been around a lot of controls systems over the years, but I've never found one I like any better than Desigo Optic."

Darrell Jones, Director of Operations,  
Memphis' Rensant Convention Center







Photo credit: Creation Studios

## Streamlined implementation with Desigo Optic open framework

Desigo Optic's full implementation of Project Haystack semantic tagging significantly improves implementation workflows for providers like EJK Automation. Whereas manually tagging requires the same multi-step process for each piece of equipment, Haystack semantic tagging uses cloning to distribute standardized tags across similar devices.



**20% reduction in time** to build out databases and finish commissioning

With this more efficient and consistent process, Edwards says that he experienced a 20% reduction in time to build out databases and finish commissioning. "One of the things we really like about Desigo Optic is that we can set up templates that allow us to clone and link equipment to the database and graphics a lot smoother and faster – it allows us to do this work quickly and seamlessly," he notes.

At Renasant Convention Center, three of the chillers are older models. EJK Automation applied direct digital controls to those panels and integrated them into Desigo Optic, so all the equipment's data would be visible, which illustrates how important the openness of Desigo Optic has proven to be.

"On the old platform, all we could do was get start/stop and temperature in/out data. But now, you can pull up the graphic and it's like you're standing directly in front of the chiller. You know everything that's going on, right from your tablet," he explains. Edwards goes on to say that the ability to make changes to the setpoint, for example, from the tablet is especially useful, particularly when you're getting faults and alarms in real time. "You don't have to visit the equipment to manually change setpoints; you can do that remotely, which is a credit to the ease of operation and enhanced user abilities within Desigo Optic."

Once inside the chiller plant, facilities engineers can rely on Desigo Control Point – a building management interface that lets them operate and monitor the plant's equipment and automation from a convenient, wall mounted touch panel. "If you head down there without your tablet, you still have that touch screen to see what's going on in the building or plant and make any changes from there," says Edwards.

Jones concludes with a strong recommendation of Desigo Optic for other buildings like Renasant Convention Center: "It boils down to ease of controls and ease of operations. Desigo Optic is the easiest platform I've used; anyone can learn it quickly. I love it."

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