LEEDers Of The Pack

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JohnsonDiversey takes LEED to bigger, brighter places in its Racine, WI-based distribution center.

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In an age of consumer and supplier pressure, resource scarcity, and mounting global competition, finding a cogent way to approach sustainable practices is something more and more manufacturers are dealing with—and despite the many reasons for doing it, the real hurdle is how, especially considering the size and complexity of many distribution hubs means that an initiative of this shape can entail a huge, ugly undertaking.

But if you asked southeastern WI-based JohnsonDiversey, they won’t give you a mushy answer: they did it because it was the smartest thing for the facility and, says Greg Bell, director of global external communications, “it has become a good strategy for us from a business standpoint."

A LEED Role

At 550,000 square feet, this mammoth distribution center is the largest in the U.S. to have earned a gold certification for LEED (Leadership in Environmental and Energy Design). This green building rating has been adopted as the standard for many sustainability initiatives, and can include certification levels of basic, silver, gold, and platinum. The idea behind LEED is to provide a relatively transparent set

of criteria to help guide and validate a company's sustainable efforts.

JohnsonDiversey began its journey with a team of experts, ready and willing to reach a silver level of LEED. This team included Liberty Property Trust, who was the developer who had won the bid, as well as other LEED-accredited professionals like the architect and consultants.

"What we found out, is as we got going, if you overlap LEED with a group meeting every week or so on decisions that had to be made on a financial standpoint, we found we were able to achieve more points by making other decisions," says regional operations manager, North America value chain, Bruce Maple. "When the dust settled and points added up, we were in the gold area. From a financial standpoint, it was very attractive too."

JD's distribution center stays bright while preserving energy. Sensors trigger lights to come on as workers manuever down aisles. Fixtures near windows stay off until sunlight no longer provides sufficient lighting.

The First Light Bulb

"It's a business-driving opportunity for us, as well as something that describes who we are as a company," says Bell. "The really simple answer is, it's been a long-standing tradition to be environmentally responsible in the Johnson family, and in the Johnson family companies. But there's an added dimension that comes with the business we're in—we're part of bringing the solutions to the marketplace that help people achieve green buildings."

By this, Bell is referring to the JD product offering. A Racine, WI-based company, its focus has been as a global provider of commercial cleaning and hygiene solutions.

"A light bulb went on when we realized—this is a real showcase for our customers because we can help them achieve green building certification with the solutions that we bring to the marketplace."

Adds Maple, “It made sense that LEED would be an extension of the company, and the family’s philosophy.”

By conducting an air exchange every hour using 19 supply fans that bring in fresh air when needed, air quality has been improved significantly.

All About Balance

“The LEED rating system avoids trying to be prescriptive, so if what you’re doing helps you achieve those goals that you’re after, then they’ll recognize that strategy,” says Bell. “And there are a whole range of strategies that will get those outcomes.

“It is about our own corporate responsibility. It also goes to the good business decision, and we’re convinced that sustainability has to have those three pillars – it has to be environmentally sound, it has to be socially responsible, and it has to be economically viable. You put those three together, and you really are living out sustainability,” says Bell.

“Your facilities are one aspect of that, your fleet is another aspect of that, your manufacturing process is another aspect of that. Your product development pro cesses, and sourcing and supply chain, is all another part of that. The way you bring products into the marketplace and what you introduce into the marketplace are all part of that. So we look at it in that very holistic standpoint, not that we just say, 'we want to do just one little off thing here, and that shows everybody we’re green.' It has to be all those things.”

JD's distribution center utilizes innovative equipment for safety, such as this tank of foam to suppress a fire from spreading.

A New Lifestyle

The process wasn't without its bumps in the road, however. Explains Maple, "What I discovered with LEED is it was mostly written for an office environment, and not necessarily tailored to an industrial." This meant lots of time meeting with consultants and determining things like what the cost implications were of bigger motors supporting the LEED-specific filters in a warehouse environment. Adds Bell, "documentation can be a huge headache because it's pretty specific," noting that part of the smoothing out of these potential problems came from the dedicated team of accredited professionals on the project.

In contrast, there were many other benefits to the initiative, such as improved operations and a decrease in employee turnover. "Approximately 170-180 employees work in the building over a three shift operation and we found that our turnover rate has declined because it's a very pleasant environment," says Maple. "We've heard people say 'it's the nicest warehouse we've ever been in.' I think our workforce has a better attitude, and turnover is down."

A **LEED-certified building** has improved the working environment at **JD**'s distribution center.

By conducting an air exchange every hour using 19 supply fans that bring in fresh air when needed, air quality has been improved significantly. “It’s a positively-pressured building. When you think of the trucks that motor in and out of here with the diesel fuel exhaust, we don’t want any of that coming in.”

Maple goes on to explain that JD’s air quality efforts are now the reverse of typical warehouse tactics: “We bring the air in, we filter it, and we push it out through the side so all those contaminants don’t make their way in. And we think it creates a cleaner environment for the air quality as well as dust collection, which is something we are always fighting because one of our businesses is for food and beverage, where we’re going to bottling plants and such, so we want to make sure all of our products are free of dust and contaminants when they go to those areas.”

Why Not?
For Maple, the benefits will certainly outweigh the struggles that come with any type of huge operational shift. “We didn’t expect that we were going to be the largest building at the gold certified level, and we didn’t expect that we’d win several awards,” he says. “This project never stops giving.”

Bell notes that it's perhaps the support system of an intelligent, accredited team

that makes the business case for LEED: “There are so many individuals out there who know what they’re doing and how to get you there, that even the up-front costs are coming way down,” he says. “Operationally, it’s going to be much more efficient at the end of the day, so why would you not build a green building?”

The Gold Standard: Cultivating Creative Change

- As part of its involvement in the World Wildlife Fund (WWF), JD is one of 18 companies who have made commitments to reduce its carbon footprint. The goal is for a reduction of eight percent by 2013—a $19 million investment with a return of $31 million.
- The company earned innovation points in its LEED construction initiative—some of which came from the use of “bottom ash” to raise the site eight inches before the foundation was laid. Bottom ash refers to a coal plant byproduct, usually sent to a landsite. “We took more out of landfill than we put into landfill when building this building,” says Bell.
- A white TPO roof reflects heat in the summer months. In addition, JD’s “summer ventilation mode” brings cool air in at night and then as the temperature rises throughout the day, supply fans shut off to try to keep the coolness in.
- Water conservation methods, including native exterior plantings which don’t require irrigation, as well as indoor waterless urinals.
- Low VOC content in paints, adhesives, and sealants.

Dock Equipment Helps Facility Achieve LEED Goals

[1]
JD utilizes an integrated system of dock equipment from Kelly and APS Resource, including Kelley® hydraulic dock levelers and APS-2000® vehicle restraints, standard dock doors and dock lights, all controlled by Kelley Master Control Panels.

An important part of JohnsonDiversey's gold-level LEED certification is the distribution center's maintenance of air quality. As a positively-pressured building, it is important that JD keeps the air in the facility as clean as possible. Although its dock equipment does not currently factor into the LEED certification criteria, the facility utilizes a unique, integrated system to help achieve its overall mission of sustainability as an efficient and safe 'closed door' facility.

"When you think of the trucks that motor in and out of here, the diesel fuel exhaust, we don't want any of that coming in," says Bruce Maple, Regional Operations Manager, North America Value Chain. "So what we did was we wanted an integrated package in order to keep our building positively pressured and keep those outdoor contaminants out. We wanted to be what's called a 'closed door facility."

The 'closed door' concept means the building's dock doors are only open when a

truck trailer is present, preventing contaminants from entering the building and energy from escaping. To manage this, JD utilizes an integrated system of dock equipment from Kelly and APS Resource, including Kelley® hydraulic dock levelers and APS-2000® vehicle restraints, standard dock doors and dock lights, all controlled by Kelley Master Control Panels.

[2]
A green-red lighting system helps workers communicate with drivers. When a green light displays inside the building, the worker can enter the trailer. On the exterior, the driver sees a red light telling them not to pull away. When the worker is done, the light turns red, the driver sees green, and the driver knows they can now pull away from the dock.

JD’s dock components work in a step-by-step sequence to ensure the process is as efficient as possible. First, a trailer must be present for the process to begin. Once the trailer is present, the vehicle restraint secures, or locks, the trailer into the dock. When the trailer is secured, the dock door opens, triggering the leveler to operate. Lights are integrated into the system to come on once the previous steps have taken place. When the truck backs out of the dock, the lights will shut off. This ensures lights are not turned on unnecessarily or left on without notice.

JD's dock equipment helps the company achieve is LEED goals on a number of levels:

- The sequence of steps keeps energy costs down by eliminating instances where dock doors are opened unnecessarily, and ensures lights are used at a minimum.
- Because a truck must be present before the process begins, it minimizes the amount of time dock doors are open, lowering contaminants that enter the building to keep air quality high.
- The automated process also helps reduce labor costs. "Anytime that we can use technical strategies that help us do that and minimize the amount of individual occupant or worker initiatives, the better it is," says Greg Bell, Director of Global External Communications at JD. "It takes less training, it's more standardized and you're really achieving the goals you're trying to accomplish."
- The integrated system improves worker safety while operating the dock equipment. The Kelley dock levelers and APS-2000 vehicle restraints exhibit safety features to ensure employees have level, secure access to trailers. Further, Maple explains, a green-red lighting system helps workers communicate with drivers. When a green light displays inside the building, it means the worker can enter the trailer. Meanwhile on the exterior, the driver sees a red light telling them not to pull away because a worker is inside. When the worker is done, the light turns red, the driver sees green, and the driver knows they can now pull away from the dock.

"That's just a small piece that speaks to our energy and a small piece that helps us to maintain our air quality," Maple says of the dock equipment. Although the dock system does not directly factor into the LEED evaluation, it is clear this system helps the facility achieve its gold-level certification, and is a small, but important, component in the facility's overall sustainable operation.

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