

Case Study: Green is the Theme for Pharmaceutical Distributor

Exactech increases productivity, reduces energy costs and improves the work environment at distribution center

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By *John T. Phelan, Jr., P.E.*

The initial diagnosis was for good news and more good news. Kevin Godwin had just learned that his company could increase its productivity, reduce energy costs and improve the work environment at its distribution center. And as the director of customer operations for **Exactech, Inc.**, the Gainesville, Fla.-based manufacturer and distributor of orthopedic implant devices and surgical instrumentation to hospitals and physicians, this was just what the doctor ordered.

For Exactech, the mission was simple: improve its labor-intensive handpicking system to fulfill orders faster and more efficiently, all while establishing an energy-saving, "eco-friendly" workplace for its more than 200 employees.

The initial plan was for **TriFactor, LLC**, a material handling systems integrator based in Lakeland, Fla., its senior design engineer and project manager Larry Boroff, systems sales engineer Brad Radcliffe and their team to install the new system in Exactech's 12,000-square-foot warehouse. But it soon became apparent to both companies that the best course of action would be to shift the project to a larger facility.

"We had established during our needs analysis that there was not sufficient warehouse space for handpicking," explains Boroff. "We also determined that a shift of the operation to Exactech's 25,000-square-foot facility, which it acquired in 2005, was needed so that the distribution operation could be totally reengineered and yet still be efficient in a relatively small space."

Adds Boroff: "To achieve this objective, it was necessary for Exactech to change the way it handled distribution, particularly with accuracy and speed driving the process. As a result, the larger facility would allow for more automation, which was needed to eliminate as many 'human touches' as possible."

Overcoming Congestion

Explains Exactech's Kevin Godwin: "Our distribution was being severely impaired as space to store product and shipping staging areas had become too congested to function efficiently. We were also experiencing a better than projected growth rate in the last two to three quarters, so the idea of moving to a new distribution center — an idea that had been brewing for about 30 months — was a matter of good timing. We would not have been able to handle the added volume without the new facility."

But even with a larger facility, Godwin says there were certain guidelines that had to be adhered to in order for the overall project to work. "We are a growing company and don't have unlimited access to funding; we can't keep going back to the well," says Godwin. "I needed a company that could come in on time and on budget. I really only had one shot at this. TriFactor hit it right on target."

TriFactor designed and installed a 24v motorized drive roller (MDR) type conveyor, which utilized a smaller footprint, partially because of its ability to accumulate on the inclines and declines. The conveyor system met the priorities that Kevin had placed on the project: increased accuracy, increased velocity and increased capacity.

"Stealth Conveyor"

With the new system in place, TriFactor increased Exactech's picking and replenishment efficiencies by 200 percent and the company's receiving capacity by 400 percent. The new system allowed incoming product to be segmented and sorted to four separate workstations, where it could then be transported to a pick location for distribution.

But there was another bonus. The 24v MDR conveyor is 40-60 percent more energy efficient and 45 percent quieter than traditional conveyor systems. This meant that in addition to being tremendously eco-friendly, it would save the company money over the long-term.

The environmentally friendly facility was now experiencing work-noise reduction to 55-60 decibels, about the level of the average soft rock radio station. "They should have called it the 'stealth conveyor,'" adds Godwin.

He goes on to add that one of the major impacts of the new system has been the positive effect it has had on the employees, who are now working in a fully functioning warehouse environment with the noise level of a library. "This conveyor system is insanely quiet," says Godwin. "I can walk through the warehouse and have a normal conversation with people and be heard perfectly. Verbal communication is not hampered and it does not have a warehouse/factory feel to it. The low noise levels, combined with a blend of natural and artificial lighting, makes for a very comfortable workspace. Ultimately, as focused as we are on the environment, we also value our employees and their positive work experience as well. Being able to align the two goals was the key."

Looking at Lighting

As the project evolved and additional green solutions were presented, Godwin says it made sense to look at the lighting. "The networking of our lighting system, which allows us to turn on and off lights in any configuration, has been a great feature," explains Godwin. "In the old facility you might have had one switch to turn on a section of 10 lights. Now, we can either turn on all 10 lights with a single switch or isolate some of those 10 lights by programming a switch on a touch controlled panel. This enables us to manage our energy consumption."

Adds Godwin: "Because we are always in all areas of the warehouse, motion sensors were not an option. But we also didn't want to leave our lights on at full power all the time. Now we can control the lighting in individual areas of the warehouse. We also installed skylights, which allow quite a bit of sunlight to come in during the day, where very often we don't even have to turn on the lights."

To complement the "green" aspect of the project, Exactech also installed a high-gloss floor to reflect more light, making it possible to further reduce the amount of overhead lighting being used. They also

added a whisper quiet, high efficiency compressor — all of which allowed Exactech to qualify as an environmentally friendly workplace.

Designed to Grow

Along with being eco-friendly, the new system was designed to be flexible to meet the needs of a growing business. "It was important not to have a rigid system put into place," says Godwin. "TriFactor gave us a system that was very flexible, that allowed us to actually move 10-foot pieces of track around to fit our requirements. We could pick up a section from here and put it over there if it served our needs — like the train tracks you used to play with as a kid."

Exactech says the reason it all worked out so well, from both a business and an environmental standpoint, is that TriFactor took the time to understand what Exactech was all about and what they needed to accomplish.

"Larry, Brad and the design team did a great job for us because they took the time and the effort to understand what we do as a company," says Kevin Godwin. "They fully embraced who we are, what we do, and what we needed. Our ability to handle our growth rates without any negative impact to our customers or the environment speaks to the benefits of the new facility."

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