

**THE DISTRIBUTION EXPERTS**<sup>™</sup> Fortna Thought Leadership Series

# Nine Things to Consider Before Starting a Retrofit Project



# 



eCommerce, omnichannel, speed, changing order profiles and new customer requirements – your business has changed. The distribution center (DC) you designed several years ago may not be the one you need today. Over time, even small changes in your operations can erode efficiency. It may be time for a retrofit to take advantage of newer technologies, process changes and systems advancements that will optimize your operation for the needs of the business today and prepare your company for future growth. But how do you do that without crippling your current operations?

Doing a DC retrofit is a little like having heart surgery while running a marathon. The operation has to keep running while you make changes. Tear-outs and cut-ins take time. But there is often limited time in the day for work that requires processing of orders to be put on hold. You often have a lot of activity happening in a short period of time (overnight/off-shift) which requires strong team organization and project management. And once you start the work, you often don't have a "go back" solution. When you turn the equipment on, it has to work or operations suffer until you get it running. The time limitations also apply to testing, which is a critical aspect of any retrofit. How do you test in an operating facility without giving up some productivity?

Here are 9 things to consider before beginning a retrofit project:

- 1. Map your processes to determine whether upstream and downstream equipment and processes are sized to handle the impact of the new equipment. In an automated environment, when you change any piece of equipment, there are conveyors leading to and from the equipment that will be impacted. The speed of the conveyor has to be matched to the equipment in place. Existing processes may require additional work stations or additional labor. Can these be accommodated in the new design? All of these can be limiting factors when considering new equipment.
- 2. Consider the maintenance and rehab costs of re-using older equipment. There has been a lot of merger and acquisition activity among material handling equipment suppliers over the last few years. Is the equipment still supported by the original manufacturer

# FORTNA

## Fortna Thought Leadership Series

or the company that acquired them? What is the cost of that support? Can you still get spare parts when you need them? Equipment warranties can also be voided by changes made during a retrofit. Make sure you fully understand the warranty and support of any equipment impacted by the retrofit.

3. Dedicate time and resources to change management as part of the solution to mitigate resistance to the new processes. Process changes can be more difficult than equipment changes. New processes standards must be taught and measured. Educating and training associates on the new processes is necessary no matter what, but change management helps to lower resistance and ensure a smooth transition. Retrofits often require new operating methods used and procedures. The adoption of new methods requires getting staff involved early in the process and asking for their buy-in. Prototyping is a great way for the associates to "try-out" the new design in order to gain their buy-

the new design in order to gain their buyin. You need associates to take ownership for the change from the lowest levels of the organization all the way up through leadership. It's best to roll-out changes slowly through a series of town hall meetings and trainings to ensure that everyone is on board and ready for the change.

4. Prepare for software systems changes and the need for upgrades, especially in the controls software. The systems piece can become the biggest area of cost and complexity. In facilities with a well-defined systems architecture and understanding of the functionality that falls to each system (ERP, WMS and controls software), it's easier to add equipment and make updates to systems. This is often the case with newer buildings. But over time and for any number of reasons, operations change and move away from the planned architecture. You end up with multiple systems in a single warehouse with overlapping capabilities and no clear architecture. There's always some level of risk around equipment controls and the handoff from one system to the next. Ask yourself: Is the I/O scheme (wiring of the equipment) to be connected together similar? Can they talk to each other? The way to mitigate the risk is by implementing a warehouse control software solution to make the equipment work together.

"The adoption of new methods requires getting staff involved early in the process and asking for their buy-in."



#### **Case Study: Planned Expansion**

A leading apparel distributor planned their retrofit as part of an overall strategy to expand operations when they moved into their current facility. During the site selection and design process, they made decisions with expansion capability in mind. Through tipping point analysis, they were able to identify when it would be



necessary to add capacity to their operation and when it would make sense to consolidate operations under a single roof. Rapid growth combined with the cost inefficiencies of operating out of two facilities drove the decision to consolidate and expand. The building was new construction with a new lease. The operating method was similar to the existing operation so they were able to quickly bring talent up-to-speed as the expansion came online. The retrofit allowed the client to:

- Consolidate management into a single DC
- Reduce complexities and costs associated with
  inventory balancing and transfer of overflow volume
- Improve service levels for small retail customers by combining multiple categories into the same shipping carton
- Reduce fulfillment cost per unit
- Nearly double the number of units stored through increased cube utilization
- Support 25% sales growth and 40% unit volume increase

# 

## Fortna Thought Leadership Series

#### 5. Plan for extensive testing at production volumes

because that's where you find the issues. The testing plan is critical to success. You want to set your testing time for a time when the operation is not running production, but be sure to use production-like volume to properly stress test the system. Simulation software can help with testing capabilities before you start moving equipment.

A simulation will help you understand the overall flow and look at downstream impacts before you do a full volume production test. WMS testing is another critical area. Suppliers often do functional, technical and stress tests on their individual pieces of the solution, but a fully integrated operational readiness test (ORT) is necessary to ensure various components of the solution work together and that you are ready for full production.

- 6. Augment your existing resources. Project management is often a full-time job on complex retrofits; but even on smaller retrofit projects, it can require significant time and energy. But companies rarely dedicate full-time resources to this critical role, and instead they add the responsibility for the project to a leader who already has a full-time job to do daily. Where possible, consider off-loading some daily responsibilities from your project manager to other resources for the duration of the project, so that they are able to give their full focus where it is most needed. When going from manual or low-level automation to more complex automated environments, be sure that a maintenance team is in place to support it. New software may also require additional technical resources or skill enhancements to support.
- 7. Budget for contingency where there are known areas of risk. What will you do if it doesn't work the first time you turn the solution on? The timing and sequencing of changes to the building, equipment, people, processes and systems must be clearly understood and agreed upon by all parties. You may want to seek outside help to gain a better understanding of some of the risk areas (controls, certain equipment types, etc.) and the long-term implications of the decisions you'll be required to make. Alignment of all stakeholders both within your organization and those with whom you contract for work on the project is one of the most challenging aspects of any retrofit project.



"The timing and sequencing of changes to the building, equipment, people, processes and systems must be clearly understood and agreed upon by all parties."

### 8. Thoroughly document site conditions before you

**begin the design work** with both structural design plans from the architect (where available) and extensive field measurements. Make sure that the slab and any existing mezzanines or platforms can handle compressor pneumatics and are to sustain the additional load requirements, and ceiling joists can support the additional weight of hanging conveyor and other equipment attached to them. Take the time to measure accurately in multiple locations. Don't measure the distance between two columns of a platform and assume that the rest are placed uniformly throughout. If they're not, your design can be way off or require significant re-work.



A footwear distributor made a different choice. Even though the building was older, the lease was close to its end and a business case could be made for a new DC, the company felt vested in the community and its current employee base so they decided to expand the existing facility. When using the same talent in the operation, it's easy to overlook the importance of training; but this company found it was still necessary to bring them into the training process early to avoid challenges. The primary drivers for the project were growth and omnichannel customer requirements. The retrofit was one of the most complex and challenging in the company's history due to:

- The precise timing required to change equipment and systems in a fully operating facility with limited clear space
- Tie-ins to and re-use of older and used equipment, which required repairs and hard-to-find parts
- Lack of documentation of controls systems in the older facility
- Multiple instances of WMS software that had to be converted to a single system

The retrofit was justified by the opportunity it offered for the company to enhance its service level agreements with customers across all channels (wholesale, retail and eCommerce), enable faster order fulfillment and support a broader assortment of the latest styles with a 30% increase in inventory storage.



9. Choose a partner who will take responsibility for the entire solution, rather than just their piece of it. If you

have multiple equipment suppliers, it can be hard to find one who will step up and take responsibility for the solution when the problem lies outside their own equipment. And you want a partner who will be there to support you and your team after the solution is up and running. A partner who demonstrates they are in it for the long-term is one who has significantly invested in their controls software, provides a clear technology roadmap for development and provides 24/7/365 support for the entire solution.

### SUMMARY

Retrofits are more complex than ever because technology is advancing rapidly. Solutions are more complex. And the stakes are high when making changes in a facility that's operating at or near capacity already. But a retrofit doesn't have to set you back if you carefully plan and manage it well. Doing so can buy you several years in your existing facility and save you significant capital investment while addressing the changing business requirements of the operation.

For more information, contact The Distribution Experts at info@fortna.com.

### THE DISTRIBUTION EXPERTS<sup>™</sup>

Fortna partners with the world's leading brands to transform their distribution operations to keep pace with digital disruption and growth objectives. Known world-wide as the Distribution Experts, we design and deliver intelligent solutions, powered by FortnaWES<sup>™</sup> software, to optimize fast, accurate and costeffective order fulfillment. Our people, innovative approach and proprietary algorithms and tools, ensure optimal operations design and material and information flow. We deliver exceptional value every day to our clients with comprehensive services including network strategy, distribution center operations, material handling automation, supply chain systems and warehouse software design and implementation.

### **CONNECT WITH US**

Visit fortna.com

Contact info@fortna.com

in 🎔 🕩

© Fortna All rights reserved.