



Are You Trending With the Future?: 5 Major Changes in Warehousing

Through-put, best practices, return on investment — these are all major concerns for the material handling professional. Considering that the current economic climate is tenuous at best, the concerns over these topics are now even greater. There are many tools used in materials handling management, and they change as our business changes. But what tools are changing the most? How can you best leverage the latest technology and gain the most out of your material handling operations?

Changes affect material handling processes on a regular basis. Additional SKUs, expanded geographical coverage, desire to lower inventories—all these require process review to ensure productivity maximization. Material handling processes and the tools used to execute them have changed a great deal in recent years. Several of these tools are evolving well ahead of the technological curve, and they could make the biggest impact on profitability.

Forklift Battery & Charging Technology

There has never been a better time to consider converting from traditional, internal combustion forklifts to electric forklifts. Today's electric forklift battery and charger combinations are providing more power for longer periods than ever before. Today's electric forklift line-up provides higher capacities and longer run-times than in previous years. These changes in battery and charger technologies are paving the way to greener warehouses around the globe.

Lithium-Ion Batteries or Li-ion batteries are changing the landscape of electric forklift usage. While still in the infancy stage, Li-ion batteries represent the wave of the future. They can be produced in much smaller sizes and hold as much as six times the charge of typical lead acid batteries. They are virtually maintenance free and have zero memory, which is a necessity to maximize opportunity charging.

There are four battery charger technologies leading the way to energy savings in the United States right now. They are: Ferro Resonant, Silicone Con-trolled Rectifier (SCR), Hybrid and the new transistor controlled High Frequency Chargers. These battery technologies provide more alternatives for charging forklift batteries and help keep production at peak performance, while minimizing non-productive tasks like charging and battery exchange. They also are helping to reduce the amount of energy it takes to charge your batteries, thus reducing your facility energy costs.

Automated Storage Retrieval Systems

The recent recession caused many companies to review the way in which materials are picked, packed and transported. Some found that the changes in AS/RS would fit their operations and offer cost savings lost through traditional material handling methods. Carousels allow more products to be stored



vertically, which better utilizes the space of your facility. The need for expanding outward is eliminated. Carousel systems can also offer up to two-thirds of labor savings and improved through-put plus increased security for more valuable products. Mini-load carousels can shoot more than eighty feet into the air, providing significant space/cost savings. And the speeds of these carousels has improved dramatically as well—up to 25 feet per second. Moreover, the use of horizontal “pod” type picking is on the rise. Using one picker to work with up to seven different carousels dramatically decreases labor costs while maximizing productivity.

For facilities utilizing Unit-Load AS/RS (those moving pallets of materials at a time), heights exceeding 170 feet are possible. These systems also minimize inventory and maximize space and order control, with increased tracking.

Conveyor Systems

Conveyor systems have been used for many decades. But the way they are viewed, built and utilized has changed dramatically.

Materials used to construct conveyor equipment have been improved to decrease resistance, improve rolling, reduce noise and reduce horsepower requirements. Also, the power supplies (motors) for conveyors have improved dramatically, requiring less power consumption.

One of the most significant changes in conveyor technology is the move from mechanical sensors to electronic sensors. This change has been driven by the conflicting demands of higher speed versus increased sensitivity for handling smaller, lighter weight cartons. Additionally, conveyor systems processes and equipment are no longer considered to be stand-alone. Warehouse Management Systems incorporate conveyor systems to manage the entire process of moving materials through the facility. This development has led to improved material handling by providing a holistic solution, rather than adding up many parts of a materials handling process.

Electronic sensors have many advantages. They allow for higher speeds, reduced noise and lesser need for maintenance, because there are no moving parts to wear out. They also extend the range of items that can be handled via conveyor. Typically, cartons need to weigh several pounds to trigger a mechanical sensor. The new electronic sensors, by contrast, can be tripped by the cartons physical presence alone, thus eliminating the weight factor.

Ergonomics

In recent decades, there has been an increased emphasis on employee safety and comfort. Rotating job functions to reduce repetitive task injuries and Kaizen programs to reduce and improve workplace safety and comfort — these are just a few of the many activities manufacturers and distributors have



undertaken to reduce workman's comp claims and increase employee safety, comfort and morale. Material handling equipment manufacturers have adopted equally impressive steps.

Forklift manufacturers have prioritized operator comfort and safety by striving to develop forklifts that are more comfortable and safe than ever before. Reducing noise and engine/powertrain vibration are goals as well, as are placement of operating levers, steering comfort, visibility and overall operator comfort. Many manufacturers are making significant progress in providing forklifts that are easier to operate, cause less fatigue during operation and provide a climate conducive to improved productivity.

RFID tags have been employed to control forklift speed and record damage or accidents immediately. A forklift can be shut off immediately if it is involved in an accident, allowing management to obtain information as to what caused it, and what can be done to eliminate similar accidents in the future. The goal is a more productive and safe work environment with constant improvement.

Manufacturers of conveyors and AS/RS systems aim to provide products that are quieter and lower-maintenance, because both improve the safety and comfort of those that work with or near such equipment. Minimizing walking, bending, picking and carrying are goals that material handling equipment companies wish to achieve, since these minimizations decrease the chances of long-term injury.

Warehouse Management Systems

Thanks to technological advances in GPS and RFID, warehouse management systems have reached new levels of control and efficiency. These tools have also come with lower adoption costs, allowing smaller companies to take advantage of them. In the past, they were only affordable for companies with larger budgets.

RFID (Radio Frequency Identification) allows material handling professionals to get a better idea of how their forklift fleets are being used, not used, or abused. The data supplied by RFID provide a plethora of information that can assist in making fleet and warehouse product decisions, as well as personnel decisions. Knowing how products flow through the warehouse, where they sit, how long they sit and how long the process times are allows the warehouse manager to make more intelligent decisions regarding capital expenditures.

Using RFID provides more security for each product and ensures that inventory is accounted for at all times. Products that are damaged, including lift trucks, can be reported immediately, allowing for quick reaction time and, ultimately, better assessments to prevent future similar accidents, theft, or damage to products.

Feature Article

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To avoid information overload, reports from most WMS can be tailored to the user's specific operation and need. This provides the professional with just the right amount of information needed and eliminates "analysis paralysis", leading to quicker and better decision-making.

Through-put and profitability in a warehouse setting is changing dramatically. Needs change quickly as markets change and grow and as demand increases. Will you keep up with these mandatory changes? You can count on us to help you stay on top of many facets of Warehouse Management. We want to help YOU build a better and more profitable material handling operation.

Have any questions about this article or any other warehouse management topic? Give us a call at 410-344-1801 or visit us on the web at www.matthaimaterialhandling.com.

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