THE WESTFALIA

Satellite

MATERIALS HANDLING TECHNOLOGY NEWS AND INFORMATION FROM WESTFALIA TECHNOLOGIES MARCH 2004

Shorter Hours for Truck Drivers Is Increasing Pressure On DCs

Truck drivers began working fewer hours starting January 4, 2004, under the new Hours of Service (HOS) rule. And from what I'm hearing, distribution center managers are already feeling pressure to improve their ability to get drivers in and out as quickly as possible.

Under the new rule, drivers are allowed to drive up to 11 hours followed by a 10-hour break, versus the current 10 hours followed by an eight-hour break. They can remain on duty for 14 consecutive hours versus the current 15 and are required to go off duty for 10 hours instead of the current eight.

Productivity threatened, penalties loom

Although this may not sound like a huge change, trucking companies and truck drivers alike are gearing up for a major hit in productivity. To help overcome this hit, trucking company executives are pointing their fingers at the distribution centers to take additional responsibility for reducing turnaround time.

The new rule places a higher value on the time the driver is spending on the road. Every hour they are not on the road is a loss of productivity. As a result, distribution centers are being expected to do everything they can to get the drivers in, out and on their way with as little elapsed time as possible.

If distribution centers fail to comply, shipping costs can be expected to rise. Most trucking companies track how quickly drivers get in and out of their customers' facilities. Distribution centers that don't prevent turnaround delays could face financial penalties.

Incentive for improvement

So, distribution center managers have significant incentive to improve their operations. Westfalia can help.

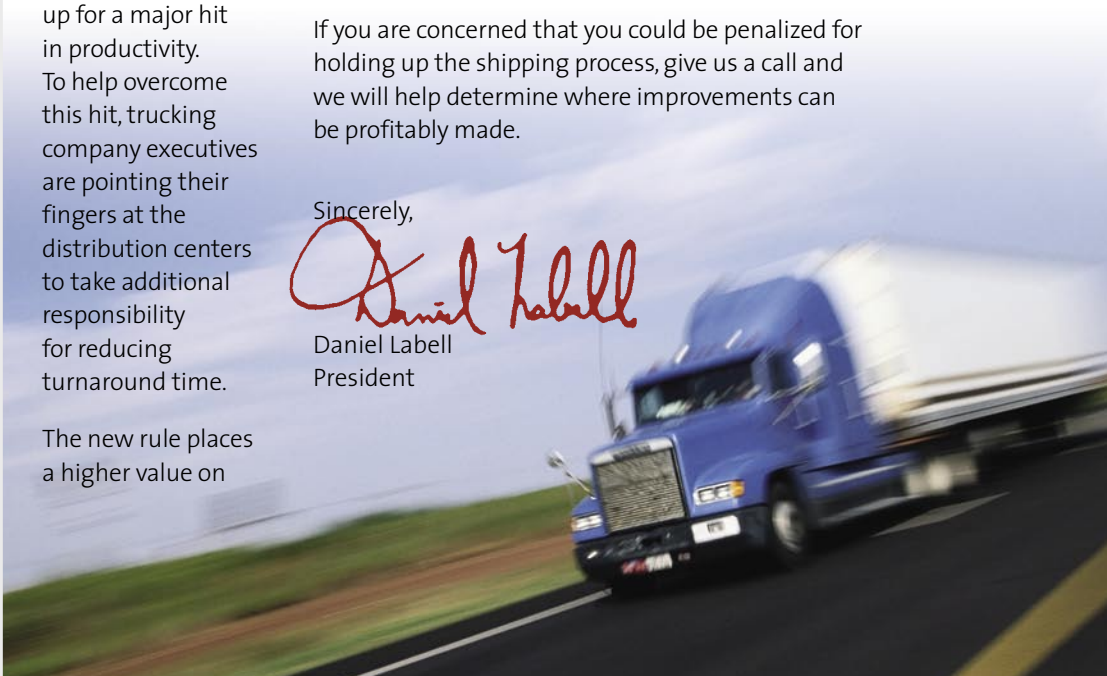
We are the industry leader in providing custom Automated Storage and Retrieval Systems, Gravity Flow Systems, Warehouse Management Systems, Palletizers and Case/Bag and Pallet Handling Equipment. We have extensive experience in helping companies determine what it will take to make their distribution centers as efficient as possible.

If you are concerned that you could be penalized for holding up the shipping process, give us a call and we will help determine where improvements can be profitably made.

Sincerely,

Daniel Labell

Daniel Labell
President



Inside

Westfalia Technologies

DeepLane: More warehouse productivity to keep up with a growing manufacturer

Cumberland Dairy has been in business for 70 years processing and packaging a variety of dairy beverages including milk, flavored milk, milk shake, dairy creamers, organic milk, and most recently, soymilk products. With continued growth of their soymilk products, Cumberland Dairy needed to expand.

Cumberland initially planned to design a facility with static racks providing a substantial 2,245 pallet positions. But after working with Westfalia's in-house experts, Cumberland chose Westfalia's DeepLane™ System to dramatically increase storage density and to provide automatic FIFO (first-in, first-out) product rotation.

The refrigerated warehouse has been designed to accommodate Cumberland's inventory characteristics including:

- High volume storage – 2,560 storage locations in 20-deep pallet flow lanes
- Medium volume storage – 486 storage locations in 2-deep and 3-deep push back lanes
- Low volume storage – 148 storage locations in 1-deep selective rack

The 20-deep pallet flow lanes are positioned immediately adjacent to manufacturing, so that when pallets are loaded at the infeed, they automatically convey and accumulate in 80'-0" deep lanes towards the shipping dock.

Cumberland ships 20 pallets per truck, so each pallet flow lane equates to one truckload of finished product.

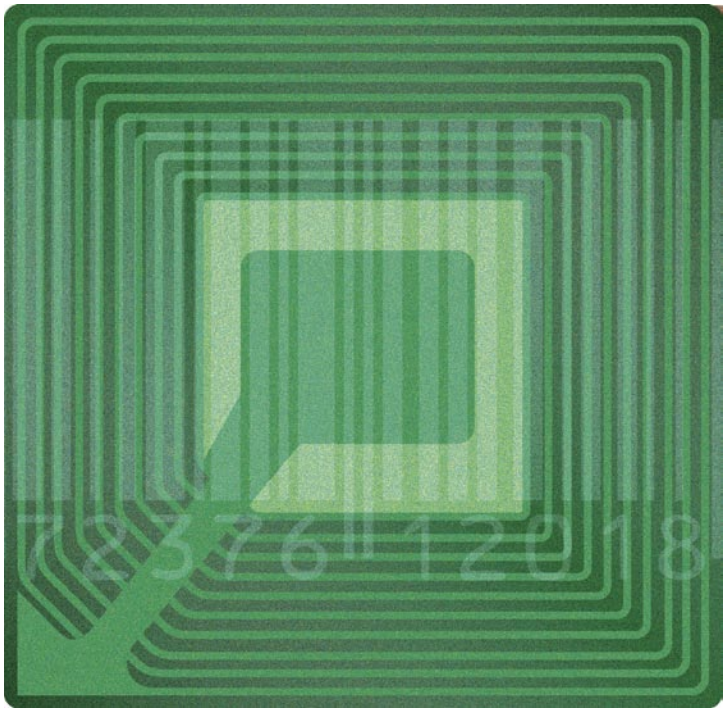
The end result includes a 42% increase in storage density over the original design, with the added benefits of reduced labor and automatic FIFO (first-in, first-out) product rotation for Cumberland's high volume SKU's.

The high performance characteristics of this refrigerated warehouse will provide significant cost savings as privately held Cumberland Dairy continues to extend its reach in the market.

Customers are starting to demand RFID compliance. Are you ready?

Here's a 'head's up': Companies such as Wal-Mart and government agencies, such as the U.S. Department of Defense, have announced that all their suppliers must have control systems that are Radio Frequency Identification (RFID) compliant by 2005.

Even if you haven't yet heard from your customers, the trend has begun. So, it's not too early to evaluate your warehouse management systems and to start searching for a supplier of RFID technology.



Most likely, your warehouse controls will have to be overhauled because most WMS were designed to work with bar codes and not with RFID data collection systems.

These data systems have significantly different requirements. The standard UPC barcode is typically very short, and only identifies what the product is. A typical pallet barcode will only identify what the product is and when it was produced. Some RFID tags are capable of identifying every unit or case in the system with a unique number.

Being RFID compliant means that your WMS must be able to track and cross-reference multiple unique identification numbers for the same product: perhaps a pallet barcode in one part of the system and an RFID tag in another part of the system.

The increase in complexity is clear: Most current warehouse management systems are designed to track inventory by the number of pallets of each product in the warehouse and where they are located. Tracking each individual case within the warehouse poses quite a different challenge.

A system, which formerly scanned one pallet at a time, now will have to accommodate data from conceivably 200 cartons on each pallet...without slowing down your handling and delivery... and without the need for investing in major changes in the warehouse layout.

Westfalia has been working with warehouse management systems for years. We design our systems to be flexible, so that incremental gains can pace continuous growth. It is critical that your new system be flexible enough to change as your business needs and your customers' demands change.

Give us a call and we will help you determine where improvements with your tracking system can be profitably made.

Here's one for the books: Westfalia's End-Effector helps publisher cut costs

For over 100 years, Maple-Vail has crafted books which have entertained and educated readers throughout the world. Maple-Vail prides itself on shipping 99 percent of its orders within 48 hours while maintaining quality, accuracy and consistency. To help keep costs in line, the company was looking for additional opportunities to automate.

Maple-Vail's production process is multi-stage: First, the pages are printed and bound. Covers are added in a subsequent step, and unfinished books are often stacked and stored as part of the automated process. Maple-Vail operates two manufacturing and two distribution facilities, totaling more than 350,000 square feet and handling more than 30 million books and book related products.

A Maple-Vail production line creates up to 16 stacks of unbound books per minute. The stacks range in height from 6 to 13 inches and in size from 4 x 6 inches to 9 x 12 inches.

Formerly, these stacks were being palletized by hand, adjacent to the stacking machine. The manual palletizing process required two people per shift. The goal was to automate the palletizing of these stacks, and Maple-Vail chose Westfalia Technologies' robotic palletizer with a unique end-effector.

Book stacks coming off the binding line are presented to the robotic palletizer in a row, justified to one side of the in-feed conveyor. The row of book stacks is held in place by a pneumatically controlled pressure plate.

The robot's specially designed end-effector has the capability of picking up 2 or 3 stacks at a time, depending on the stacking pattern and book size. The end-effector extends an adjustable fork assembly that can support a 36-inch-long row of stacks. The fork assembly moves into position, places the stack on the pallet, and then retracts.

The fork assembly is powered and controlled by a DC servo motor which provides precise, flexible positioning at a rapid speed. This capability is critical because the forks may not extend further than the book width.

The height of each layer is measured by a laser to provide precise height adjustments to the robot. Height is critical as the books may not fall more than a quarter inch as they are placed on the layer beneath. The end-effector has the ability to place a slip sheet between each layer to protect the books and to ensure a stable load.

An automatic pallet dispenser feeds empty pallets to the robotic palletizing cell as full pallets are ejected.

The end effect of Maple-Vail's new robotic palletizing process is a more fully automated system that maintains production speed and quality while helping to keep operating costs under control.

In the October 2003 issue of* Satellite, *Maple-Vail was incorrectly spelled Maple-Veil. The editors wish to apologize for any confusion this may have caused.

An expanded line offers higher throughput, latest technology

A new concept in bag palletizers--the Newtec G4 Palletizer, which can handle up to 40+ bags per minute and has a modular design that fits in easily for throughput upgrades--is the latest expansion in the broad spectrum of materials handling equipment from Westfalia Technologies.

The G4 Palletizer provides a patented pallet lift device that keeps the stack stable, easy-to-use dialog terminal and intuitive diagnostic programming.

Most recent technology incorporated

Westfalia is manufacturing the G4 Palletizer under license from Newtec International, which is one of the major suppliers of palletizing systems worldwide. The design concept for the G4 Palletizer grew out of experience with more than 1,000 palletizing installations, and incorporates the most recent technology available.

Variety of palletizers available

Westfalia first offered palletizers in 1997 with the introduction of the Model 860 palletizer. In 2001, the line was expanded with the Model 870 which could handle up to 30 bags per minute with a smoother and more flexible operation. In 2003, the company partnered with Fuji to integrate their robot with Westfalia's experience in bag handling, palletizing, end effectors and material handling, and a Generation 3 machine was manufactured for Morton Salt.

Now, the G4 Palletizer adds 30 to 40+ bag per minute handling capability. It also offers such unique features as a patented four-chains-supported elevator for better load stability, a stripper plate design that avoids pushing bags into each other, more timing belts, lower noise levels, a new dialog terminal with intuitive diagnostic programming and multiple bag orientation.

Demonstrations available

Send us your product and we will test it for you on our Layer Forming and Robotic Palletizer Demos. Westfalia will help you determine which system gives you the best results – even if it is not one of ours! You can take that promise to the bank.

Features of the Newtec G4 Palletizer:

- New dialog terminal, friendly and easy to operate
- Robust mechanical construction
- Intuitive diagnostic programming
- Instant change-overs
- New patented pallet lift device insuring a better stability of the stack
- Modular design for output upgrades
- Throughput levels of over 40+ bags per minute

Other Westfalia palletizers offer:

- Overlapping bags but retaining square, flat layers
- Throughput levels of more than 70 bags per minute and 100 pallets per hour

Which automated storage system is right for your company's warehouse?

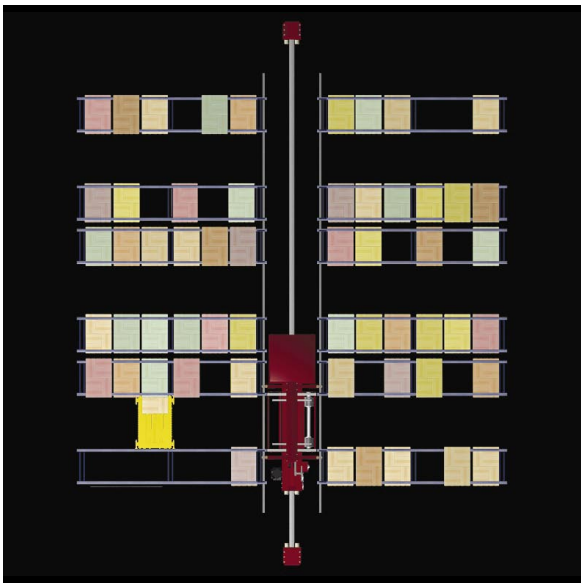
Speed and accuracy of a company's warehouse is of great importance in keeping operating costs down while meeting customer needs. So, many manufacturers are looking toward automation as a way to improve accuracy - up to 99.9% - and to double or triple throughput rates.

Choosing the right type of automation is an important decision. Criteria may include the number of stock keeping units (SKUs), batch sizes, operating and maintenance costs and the available space.

Choices include high density storage with Westfalia's Satellite® technology, and automated single deep storage, with or without Satellite® technology. There are both performance and financial benefits to selecting correctly.

Standard Single Deep AS/RS

If it is necessary to have direct access to each individual load, then a standard single deep AS/RS should be considered.



If direct access to each individual load is necessary, a single deep storage solution should be considered.

In a standard single deep AS/RS, there is one Storage/Retrieval Machine (SRM) in each aisle. A typical single deep system might have three to four stacker cranes operating in three or four storage aisles.

The standard single deep storage system has higher investment and operating costs, but also can handle higher throughputs.

Single Deep with Satellite® Technology

The single deep AS/RS with Westfalia's Satellite® technology provides a less expensive alternative. But performance capacity must be assessed and adjusted for accordingly.

A single deep system using the Satellite® technology can be operated with as few as one SRM covering as many aisles as necessary. So, the total investment for an automated warehouse can be dramatically reduced.

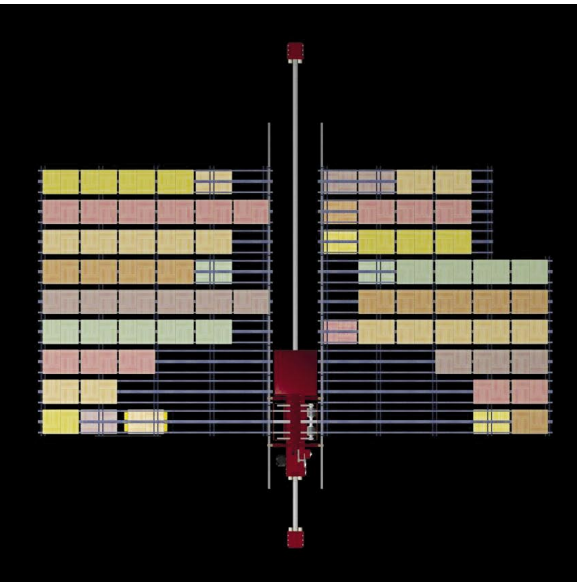
In a Satellite® system, the SRM runs within the main aisle, while a Satellite® integrated with a telescoping fork enters the corridor/storage aisles located perpendicular to the main aisle. Once the Satellite® is in position relative to the pallet, the forks are extended to access the load and retract back to the Satellite®, which then returns to the SRM.

Where throughput performance is the critical factor, a single deep system utilizing Satellite® technology would be designed with sufficient SRMs to handle the expected volume.

High Density Storage

If direct access to all pallets is not absolutely necessary, a high density warehouse with Satellite® technology will create a compact and cost effective way of storing goods. Compared to the traditional storage system with multiple cranes, investment and operating costs of a Satellite® system are generally lower.

High density storage is applicable where multiple pallets of the same SKU are being stored in one warehouse. Depending on the sizes of the batches produced, the storage lanes are individually dimensioned and the unit loads are stored one behind the other.



ABOVE: Storing pallets behind one another as with High density storage, optimizes the use of available space.

LEFT: Examples of innovation: High Density Satellite® storage system with integrated order selection tunnels that are replenished by the SRM.

Advantages of dual access to a central block

One of Westfalia's specialties is dual management of a central block of products using two storage/retrieval machines. In this setup, pallets stored between two S/RM aisles can be accessed by the SRM in either aisle.

Dual access provides a redundancy safeguard to the operation. If one SRM is being serviced, the other crane can reach all the pallets in the rack, regardless of from which lane the pallet was stored.

Creating the optimum design

With choices like these available, final recommendations are normally made after a detailed analysis of a company's products inventory statistics.

Automated storage systems offer a high level of flexibility. High density storage utilizes space very efficiently, which can reduce the cost of both warehouse construction and technology. Innovative concepts such as central block management, and the management of mixed aisles or even order selection tunnels, are all possible advantages of a high density Satellite® system.

For more information on which system would be best for you, call the experts at Westfalia. We will work with you to come up with the best design, and show you when you should be able to expect to recover your investment.

Meet the publisher...

Meet Allison Kapalka, Westfalia's marketing manager and publisher of this newsletter.

For Allison, ***Satellite*** is an important way of reaching customers for Westfalia's many warehouse automation lines. As marketing manager, she is responsible for developing, designing and implementing programs to introduce and explain these products to companies that need to improve their productivity.

"Westfalia's broad range of products enables us to tailor warehousing automation systems that fit each customer's special requirements," she says. "What has impressed me most about our company is the real commitment I see to satisfying the customer, even after the sale."

To become a premier provider of material handling systems is not an easy challenge, Allison points out. "But with the technical support of our mechanical, electrical and manufacturing groups, we have the skills and experience to provide the customer with the best system for their warehousing needs."

Allison joined the Westfalia team after receiving her BA in Communications from Salisbury State University and then working several years in various marketing positions. Previously, she was responsible for developing, designing and implementing marketing programs for an international development agency, and a health care provider.

"In these jobs, I had the opportunity to work with many different types of companies," she recalls. "It was a great foundation for understanding what companies need and are looking for when it comes to material handling."

"I hope you enjoy reading ***Satellite***," Allison says, "and I look forward to hearing your comments, questions or suggestions for future issues".

Look for us in May

- **International Powder Bulk Solids Conference and Expo 2004**

  May 4-6, 2004

  Donald E. Stephens Convention Center, Rosemont, Illinois.

Visit us at booth number 1149 where we will be showcasing our latest technology for our conveyor and palletizing lines.

- **Distribution/Computer Expo**

  May 18-20, 2004

  Navy Pier, Chicago, Illinois.

Visit us at booth number 730 where we will be showcasing our complete line of AS/RS, WMS and palletizing products.

Contact Allison Kapalka for more information about these important event: 717-764-1115.

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