

## Case Study:

# CROPP COOP. / ORGANIC VALLEY

### Cashton, Wisconsin USA



In mid-2007 Westfalia Technologies, Inc. installed a high density Automated Storage & Retrieval System (AS/RS) for CROPP Cooperative/Organic Valley Family of Farms's new 80,000 square feet distribution center in Cashton, Wisconsin. CROPP Cooperative/Organic Valley Family of Farms is America's largest cooperative of organic farmers, and is known for their cheese, milk, eggs, butter and meat products. To keep the refrigerated and frozen warehouse running smoothly and efficiently, Westfalia also sup-

plied their Savanna.NET® Warehouse Management System (WMS). The new distribution center gains environmental and operational efficiencies made possible by automation and consolidating distribution under one roof, rather than multiple locations.

Due to their phenomenal growth, and projected growth, Organic Valley needed a logistics solution offering increased storage capacity and efficiency in their material handling processes. Central to Organic Valley's core beliefs

is caring for the environment and people by growing healthy organic food. Westfalia's high density Automated Storage and Retrieval System (AS/RS) meets both these core concerns.

"The new Organic Valley Distribution Center is a symbol of our co-op's growth and its ongoing commitment to creating sustainable communities through organic farming," said George Siemon, CEO for Organic Valley at their grand opening event.

- **AS/RS**
- **Savanna.NET®**

## The Challenge:

# Maximizing Cold Storage While Caring for the Environment



Organic Valley's tremendous growth in the preceding decade presented them with a distribution problem: renting warehouse space at five separate warehouses was a costly and inefficient method of distribution. This, plus the expectation of future growth as organic foods became mainstream foods, lead to the conclusion a new company-owned centralized warehouse was needed.

The location would need to be close to the co-op farmers and major highways, in order to reduce transportation costs. The facility would need to be large enough to store 10,000+ pallets of product, and be able to handle projected future storage needs. And of course, it must be financially viable.



A small team led by Louise Hemstead, Organic Valley's Chief Operating Officer began investigating warehousing options and locations. They were impressed by the space maximization and cost savings offered by an Automated Storage and Retrieval System (AS/RS). They selected Westfalia's high density multiple deep AS/RS and WMS, according to Louise Hemstead, as "This AS/RS allows this facility to have a smaller footprint than typical warehouses. We want to use as few land resources as possible. We also expect the system will enhance our inventory management and virtually eliminate product loss due to expiration dates."

Westfalia proposed a high density automated warehouse of 66,000 sq. ft, which is 40% smaller than the 110,000 sq. ft. conventional warehouse originally proposed. The taller, denser warehouse means less impact on the environment around the facility, in addition to lower construction costs for a smaller building footprint. The proposal benefited Organic Valley with a 30% reduction in their energy costs, as the cooler and freezer AS/RS sections utilize cooling energy much more efficiently than traditional warehouses. They gain another 10% in energy savings from other green features of the facility, such as demin insulation, white roofing, waterless urinals and automatic faucets.



After meeting with state and local officials, and appreciating their 'can do' attitude, Cashton, WI became the designated site. The promise of some state funding based on the "green" features of the building and the targeting to a rural location, helped the project along.

# The Solution:

## Go Green High Density AS/RS and *Savanna.NET*® WMS

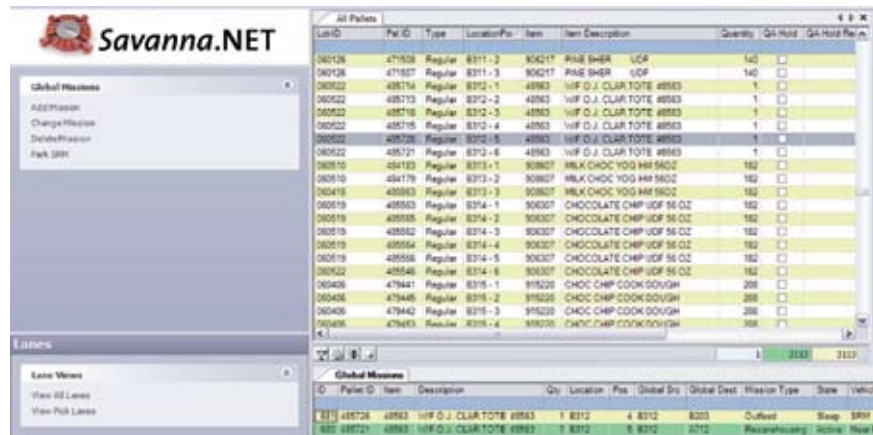
Organic Valley chose to build a new rack supported warehouse – their first automated facility -- based on Westfalia’s denser storage design. Westfalia’s automated storage system consists of three Storage / Retrieval Machines (S/RMs) with two servicing the refrigerated area (35-40° F) and one servicing the frozen area (-10° F). Products having a variety of specific temperature requirements, such as produce, are stored in a conventional storage area located adjacent to the AS/RS. *Savanna.NET*® controls both the conventional and the automated areas. The AS/RS measures 80 feet tall, has 11 levels, and has the capacity to store 12,000 pallets of Organic Valley products. Flexibility is a key feature of the Westfalia design as this installation has the capability to store anywhere from 1 to 6 deep on the upper 10 levels.

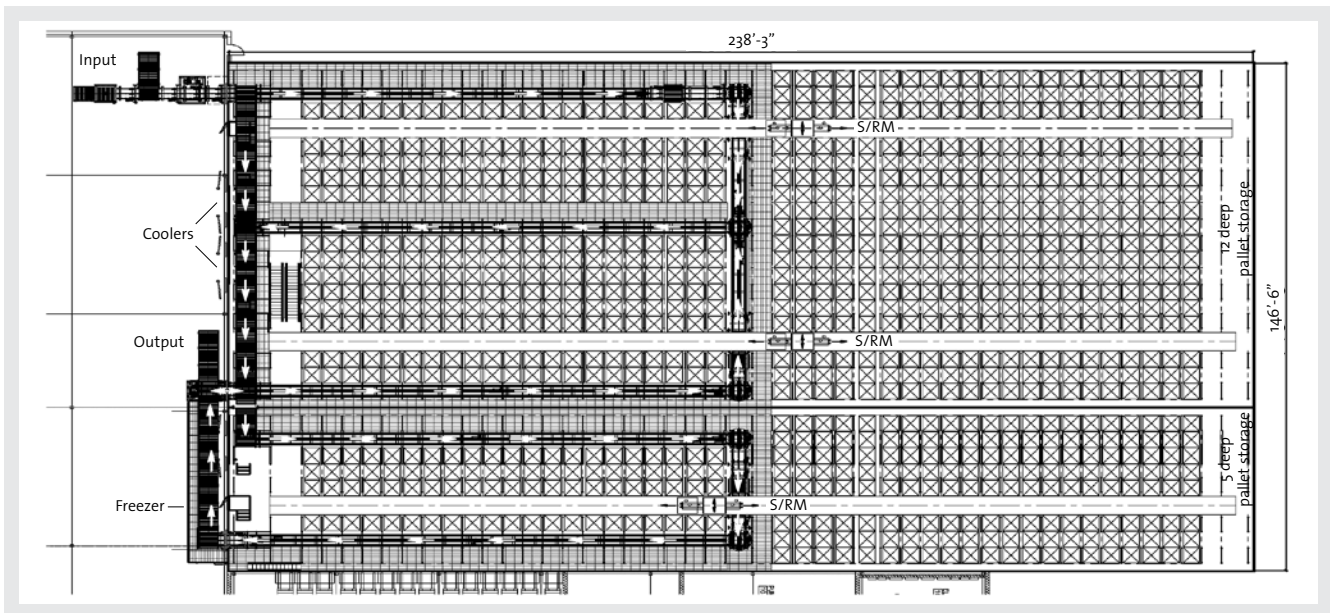
The bottom level of the rack structure has integrated order picking tunnels where order selectors pick cases to a pallet jack. Products flow from the AS/RS to the picking lane, and fork lift trucks pick up pallets in designated areas. Organic Valley products food safety inspections occur on the lower level, as one case from each lot is taken away and tested. The second level has over 900 linear feet of conveyors – airchain, roller, lift and right angle transfers – to keep the products moving throughout the distribution center.

System Features	
Size	238’ long, 146’ wide, 77’ high
Capacity	<ul style="list-style-type: none"> <li>■ 12,000 pallet storage positions</li> <li>■ 11 levels - variable depth lane storage from single to 11 deep</li> </ul>
Technology	<ul style="list-style-type: none"> <li>■ 3 Storage/Retrieval Machines (2 cooler, 1 freezer)</li> <li>■ Conveyer System: 16 airchain, 31 CDLR, 1 Lift, 10 3-Strand and 6 Right-Angle Transfers</li> </ul>
WMS	<i>Savanna.NET</i> ® with integrated order picking
Green and Building Features	<ul style="list-style-type: none"> <li>■ Racks made of recycled steel</li> <li>■ White roof to reflect heat</li> <li>■ Recycled denim for interior wall insulation</li> </ul>

The entire facility, both the automated and conventional areas, is controlled by Westfalia’s modular Warehouse Management Software, *Savanna.NET*®. Among the functions performed by *Savanna.NET* are internal system operations, operator transactions, food safety inspection transfers, and all shipping and receiving of pallets and cases. In addition to controlling and merging product orders from storage

and picking areas to shipping, the WMS allows for pre-picking and temporary buffering of orders in the AS/RS until needed, and tracks all pallets – of particular concern for food safety inspections. *Savanna.NET*® is able to stage products on the conveyor system prior to truck arrival for quick loading and turn-around, and fully integrates the three conventional warehouses with the automated warehouse.





Organic Valley's new Cashton, WI distribution center consolidates their storage and distribution in much more efficient manner. The selection of the 66,000 sq ft. automated warehouse instead of a 110,000 sf conventional warehouse minimizes the environmental impact and building costs. A 30% reduction in energy costs results in tremendous financial savings now and continuing into the future. All product flows are controlled and efficiently managed with the Savanna.NET® WMS, resulting in less product waste. Order picking lanes are built right into the AS/RS, and both conventional and automated warehousing are incorporated into the facility.

Employee productivity and working conditions improve due the AS/RS too. With the frozen area separated, the building can be kept at more comfortable and moderate temperatures.

## Benefits

- 40% increase in storage density with a Multiple-Deep AS/RS
- 40% reduction in energy costs, 30% due to efficiencies of AS/RS systems alone
- Go Green with High Density design protects the environment – taller building design utilizes less land, less environmental impact
- Efficient movement of all products within facility controlled and tracked by Savanna.NET® WMS = less waste and product loss
- Integrated picking lane on lower level in rack structure
- Increase in employee productivity and safety
- Handles current storage needs, and leaves more space to accommodate projected growth

Employee safety is improved since employees are not moving heavy loads overhead as they would in conventional warehouses. With the AS/RS, Organ-

ic Valley also benefits from using only 8 acres of a 40 acre site, leaving open the possibility of future manufacturing and storage facilities at the site.



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