In 1998, Tillamook County Creamery Association devised a 10-year plan to maximize efficiency and new technologies, resulting in a new cheese processing plant in Tillamook, Oregon and an automated warehouse supplied by Westfalia Technologies, Inc., which was part of an overall $23 million dollar plant expansion.

THE CHALLENGE

Operating since April 2000, the Automated Storage and Retrieval System (AS/RS) was upgraded in 2007 by Westfalia, to keep up with advances in technology. The improvements included upgrades to the facility’s Storage/Retrieval Machine (S/RM), programmable logic code (PLC) and new drive and positioning technology.

While the existing AS/RS performed as required, Tillamook’s sales growth was placing increasing demands on their system. Once they became aware that advances in technology could improve the AS/RS operations, Tillamook decided to upgrade their automated warehouse. Upgrading the S/RM controls would make it work faster, and smoother. Updating the WMS would improve the speed, accuracy and reliability of the warehouse product flows.

Tillamook’s automated warehouse is 12-levels, 66 ft. high and holds 15,040 pallet positions to hold 35 million lbs. of block cheese and finished products. A wall divides the facility into two sections, with 40 lbs. blocks stored on the north side, and finished products stored on the south side.
THE SOLUTION

As part of the AS/RS upgrades, the controls on the S/RM were replaced with an Allen-Bradley ControlLogix solution, which can be accessed remotely via VPN for easier troubleshooting by Westfalia’s Service Department. Horizontal and vertical drive systems were upgraded to SEW Eurodrive, while mechanical encoder positioning devices were replaced with a SICK laser positioning system on the horizontal and vertical axis.

Westfalia’s Warehouse Management System (WMS) controls and optimizes the product flows throughout the facility. Products are tracked by bar code for easy identification and pallet storage. This results in a controlled, paperless environment that coordinates order picking and processing with the host computer. Westfalia’s WMS at Tillamook, a predecessor of our recent Savanna.NET® WMS, has proven its ease of use, reducing training time, and resulting in faster more efficient product flows. Westfalia updated the communication infrastructure between the S/RM, Warehouse Management System (WMS) and Conveyor System, replacing an infrared and a second hardwired interface with a Wireless LAN, thereby eliminating electrical interference issues due to mechani-

BENEFITS

- Multiple Deep AS/RS maximizes storage capacity - a 30% increase over conventional warehousing
- Increased S/RM speed 10% with upgrades of control panels, PLC’s, drives & laser positioning
- Up-to-date WMS technology accurately & efficiently controls faster product flows
- Remote access via VPN to WMS
- S/RM design provides more easier access to parts

FEATURES

- 330’ long x 89’ wide x 66’ high
- 15,040 pallet positions
- 12- level rack system
- 1 Storage Retrieval Machine
- 770 Linear feet of conveyors
- WMS upgrades including remote access via VPN®
cal wear. In addition, all conveyor PLC and WMS communication interfaces have been brought up to the most recent Westfalia standard.

**RESULTS**

Westfalia updated the communication infrastructure between the S/RM, Warehouse Management System (WMS) and Conveyor System, replacing an infrared and a second hard-wired interface with a Wireless LAN, thereby eliminating electrical interference issues due to mechanical wear. In addition, all conveyor PLC and WMS communication interfaces have been brought up to the most recent Westfalia standard.

According to project manager Markus Franke, key factors contributing to the success of the project and its shorter-than-expected down time included single-source supply and open lines of communication between TCCA and Westfalia in the weeks and months leading up to the eight day shutdown. Substituting the complete control cabinets instead of just individual components reduced downtime of the system, allowed for a smooth start up due to extensive pre-installation testing of hardware and software, and allowed for bringing all controls equipment up to date.

As Jack Mulder, Tillamook’s Director of Engineering stated, “We are already seeing the benefits of the upgrade through easier trouble-shooting, and through more crane capacity due to faster alignment. Close coordination, coupled with thorough planning and preparation on both sides, laid the foundation for success.”