

# Perspectives in Productivity

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FOR MANUFACTURING, WAREHOUSING, & DISTRIBUTION PROFESSIONALS

**GROSS  
& ASSOCIATES**

## TECHNOLOGY DEVELOPMENTS AND NEW TRENDS TO WATCH FOR IN 1999

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As the penultimate year of the century begins, new trends continue to develop and become a critical part of the warehousing and distribution segment demand chain. Below are some of the important new technologies that you should be aware of.

### The Internet

In the future, the Internet may become the primary technology used for supply chain communication. There are several factors that could drive this transition.

One of these factors is the Value Chain Initiative (VCI), which is a Microsoft led consortium whose purpose is to develop standards for sending shipping and business information across the Internet. The VCI messaging infrastructure is being built around a Microsoft technology known as the "Commerce Interchange Pipeline" (CIP). The CIP allows software developers to exchange data between applications

The Voluntary Interindustry Commerce Standards Committee (VICS) is involved in a program called Collaborative Planning Forecasting and Replenishment (CPFR). The purpose of this program is to exchange information among the trading partners in retail distribution channels. The goals of the participants in the program are to improve the following functions:

forecast accuracy, store in-stock percentage, combined inventory for the retailer and manufacturer and cost.

One area where the Internet has already gained popular acceptance is in shipment tracking. People in various areas of the supply chain are tracking the status of the trucks, ships, and planes carrying their products.

### Supply Chain Software Standards

The Open Applications Group (OAG) plans to create standards for interfaces between Enterprise Requirements Planning (ERP) and supply chain software to avoid the need for writing custom interfaces in order to exchange information. The OAG, which is an association of ERP vendors and users including SAP and Oracle, plans to develop Application Programming Interfaces (APIs) to permit information to be exchanged between different pieces of software. The group's first set of goals are interfaces for advance planning and scheduling applications.

### Low Cost Satellite Based Truck Dispatch System

Qualcomm Inc. has announced plans for a new service called "Truck Mail" which is scheduled to be available this fall. The new

service is a satellite based system which uses the Internet to reduce the cost of mobile communications.

The service is targeted at fleets with less than 100 trucks currently using traditional dispatch methods. Drivers will be able to send and receive real-time, free form messages of up to 1,900 characters. The service will also include the capability to provide position reports on request or on an hourly basis. The on-board hardware will cost less than \$3,000 per vehicle. The Windows-based software cost is \$2,500.

### RFID "Smart" Labels

Texas Instruments "Tag-It" Radio Frequency Identification Devices (RFID) are small enough to be laminated between layers of paper or plastic and used like consumable labels. However, the transponders will not require line of sight access. Another feature is that the transponders have read/write capabilities which permits continuous updating.

### Demand Driven Supply Chains

The sophisticated forecasting techniques used to reduce lead time and increase fill rates in the supply chain are being replaced in some leading edge companies by demand driven data. This technique requires that retailers

*(Continued on page 2)*

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and other end users share their actual sales or consumption rates in real time with their manufacturing supply chain partners. Sophisticated production and information technologies are required to deliver product on demand based on real time sales or consumption data.

### **New Bar Codes**

Aztec Code, published in February of 1998, is a two dimensional alphanumeric symbology with a data range of 6 to 1,914 bytes. Characteristics include: encodable character set, orientation independence and selectable error correction.

MicroPDF417, published in June of 1998, is a multi-row symbology which evolved from PDF417. This bar code is designed for applications requiring improved area efficiency without PDF417's maximum data capacity.

UCC/EAN Composite is a new class of symbology currently under development. The purpose of this new bar code is to address supply

chain requirements not satisfied by current solution sets.

### **"Smart" Pallets**

Its 11:00 A.M. do you know where your pallets are? New technology based on the Global Positioning System (GPS), cellular communications and RF can report the location of a single pallet anywhere on the globe in real time. RF has been used to track assets and personnel within a facility for some time. This extension of the technology combined with single flat-rate communications fees enables cost effective long distance tracking.

### **WMS Packages**

The number of WMS packages is now up to 375 according to a survey by the Council of Logistics Management (CLM). The breakdown of platform types according to Automatic I.D. News is as follows: 17 mainframe, 78 client/server, 113 microcomputer, and 167 minicomputer. The number of PC based packages continues to increase with Windows NT

emerging as the dominant operating system.

A recent emphasis among the WMS companies is to integrate with the user's enterprise system. Among the target ERP systems are SAP, Oracle, Baan and PeopleSoft.

With so many packages, how do you decide which one is right for your business requirements. The basic criteria are: size of your business, transaction volume, number of users, functionality requirements, and of course, price.

### **Wireless LANS**

Wireless base station protocol enables linking a series of base stations to a network using a wireless interface. However, at least one base station needs to be wired to the network controller. This technology is available for narrow band, 902 MHz and spread-spectrum systems. This type of configuration can be used to extend your network to remote sites and through RF barriers like metal walls and freezers.

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## **GROSS & ASSOCIATES NEWS**

Gross & Associates will be exhibiting at ProMat at McCormick Place in Chicago on February 8th - 11th. This will be a great opportunity to meet our staff as 16 of our 22 consultants, engineers, computer scientists, and analysts will be attending the show. Please visit us at booth # 132. Bob Silverman, President, will be speaking at the ProMat Conference on the topic of 'Small Parts Picking and Storage Operations.'

Vice President Don Derewecki's recent speaking engagements included the Parcel Shipping &

Distribution Magazine Expo in Chicago in October and the American Wholesale Booksellers Association in August. Derewecki also wrote an article for the special summer edition of Parcel Shipping & Distribution Magazine.

Larry Shemesh, Vice President, spoke at the Texas Logistics Education Foundation's Annual Conference in Fort Worth on the topic of Computer Simulation Modeling for Warehousing Operations Design.

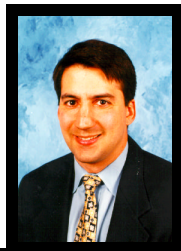
Bob Silverman and Larry Shemesh have participated in a joint venture with Warehousing Management Magazine. The project included the development of an evaluation matrix for the "Warehouse Management Magazine/Gross & Associates Warehouse of the Year" award. Nominations from readers, editorial staff, and Gross & Associates were reviewed, and the

prestigious award was presented to the Amway Corporation's Northeast Service Center in Robbinsville, NJ. Gross & Associates has hired three new staff members. Eric Miller is a 1998 graduate of Rutgers University with a B.S. in Environmental Policy, Institutions and Behavior with a concentration in Environmental Business Economics. Tushar Patel is a recent graduate of Louisiana Tech University with a B.S. in Industrial Engineering. Chris Emrick is a 1998 graduate of Lehigh University with a B.S. in Industrial Engineering. Eric, Tushar and Chris are all contributing to the continued success of the firm.

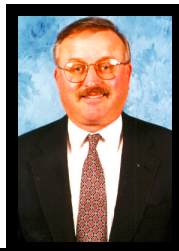
Several hundred people visited the Gross & Associates open house on September 11th. A catering tent was erected in the parking lot to comfortably house the crowd and served as the focal point of the event. Good food, drink, and conversation

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# MEET THE PRINCIPALS



**Robert Silverman**  
President



**Don Derewecki**  
Executive VP



**Jack Kuchta**  
Executive VP



**Geoff Sisko**  
Vice President



**Larry Shemesh**  
Vice President



**Roy Strauss**  
Vice President



**Todd Richter**  
Vice President

**Robert Silverman, CMC**, has been with Gross & Associates for over 15 years, and President since August, 1998. Bob has managed hundreds of projects in areas such as warehouse sizing and design, operations improvement, warehouse slotting, location network modeling and computer simulation

One of the pioneers in the field of Computer Aided Design, Bob has trained dozens of people in using CAD to design distribution operations, and has written numerous articles on designing distribution operations with the aid of CAD and simulation. Bob is the National Secretary/Treasurer of the Warehousing Education and Research Council.

**Don Derewecki, CMC**, started his consulting career in 1978 after spending six years in both military and civilian logistics operations. He joined Gross & Associates in 1986.

Don has been active in various logistics and consulting organizations. He has served as: President of the NJ Roundtable of CLM, President of the NY/NJ/Conn. WERCouncil, and President of the NJ Chapter of the Institute of Management Consultants.

**Jack Kuchta, CMC**, joined Gross & Associates in 1984 as a way to use his background in plant accounting and materials management, along with his MS in computer science.

For the past 15 years, Jack has worked with small clients as well as Fortune 10 companies. Jack is an active member of both WERC and IMC.

**Geoff Sisko, CMC**, spent 24 years in operations and two years in consulting prior to joining Gross seven years ago. His career included experience in manufacturing, distribution, production, and inventory control. He founded Operations Resources Unlimited as a sole practitioner consultant, serving small businesses in a variety of industries.

Geoff is a member of the IMC and past President of the NJ chapter. He is a Board Member and past President of the NJ Business Network, a member of APICS and WERC. At Gross, Geoff has undertaken assignments in a variety of industries including soft goods, toys, chemicals, pharmaceuticals, food ingredients, and marine supplies.

**Larry Shemesh** joined Gross in 1996, bringing 10 years of experience in material handling systems design, integration, and implementation. He is a Director & Past-President of the Material Handling Society of NJ. Additionally, he has served on a subcommittee of the NJ Science & Tech Commission. Larry is President of the Southern Middlesex County Chamber of Commerce and is on the Executive Board of the Middlesex Regional Chamber of Commerce. He is Secretary/Treasurer of the NY/NJ/CT WERC chapter.

Several of his latest projects involved development of WMS requirements and computer simulation modeling in parallel to the analysis/design of distribution operations.

**Roy Strauss** started his consulting career in 1981 after spending ten years working in staff and line management for a privately owned company. He had his own consulting firm for thirteen years before joining Gross in 1996 and becoming a partner in 1998.

The scope of Roy's projects have included: Planning move vs. changeover strategy, design of automated systems, developing user based information systems, and project implementation. He has been active in various professional organizations including: CLM, WERC, IMC, and MSHNJ.

**Todd Richter** joined Gross & Associates in 1992 after graduating from Lehigh University with a computer science degree. His projects have included



**MANAGEMENT**

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OUR SERVICES**

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Software Requirements & Specifications  
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**Computer Simulation & Modeling  
Location Modeling Analysis  
Bid Analysis & Vendor Selection  
Budget Projections  
Needs Analysis & Alternatives  
Project Management & Implementation  
Training Programs**

V O L U M E 1 3 N O .

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**OSHA Forklift Regulations Available Online!**

The Occupational Health and Safety Administration (OSHA) has finally released its industrial truck operator training regulation. This Federal Document was released on December 1, 1998, after fifteen years in preparation.

**Pursuant to the regulation, every current industrial truck operator must be evaluated by December 1, 1999.**

The Gross & Associates web site, <http://www.GrossAssociates.com>, has a link to the page on OSHA's site which has a complete set of the regula-

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