

# OPTIMIZING WAREHOUSE ROI

White Paper

Automating Warehouse Processes for  
a Greater Return on Investment

Warehousing processes impact every dimension of your business, from how you maintain cost advantages to the all-important differentiators that cause customers to choose you rather than your competitors



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# Optimizing Warehouse ROI

## AUTOMATING WAREHOUSE PROCESSES FOR A GREATER RETURN ON INVESTMENT

### INCREASING VALUE FOR CUSTOMERS AND SHAREHOLDERS

With costs and competition rising faster than ever, only businesses that find ways to increase value for their customers and shareholders can thrive in today's market. Michael Porter's value chain concept holds that certain activities within a business represent opportunities for adding value to the product or service the business provides. In general, these activities are profit-generators that can be distinguished from the overhead and support functions of commercial distributors and company warehouses.

Value-adding functions often relate directly to the specifics of the individual business. Following are some value-adding functions that Porter highlights as common to most business and should be familiar to anyone who depends on their warehouse as part of their critical operations:

- Inbound logistics
- Outbound Logistics
- Production/operations
- Marketing and sales
- Services

Warehouses are traditionally seen as purely cost-centers and not a potential area for value creation. Yet progressive businesses are turning their warehouses into a significant competitive advantage. Of the value-adding functions listed above, inbound and outbound logistics relate directly to wholesalers, distributors and distribution center operators. In addition, the quality of receiving, storing, and delivering product can affect production, marketing and sales, and services both positively and negatively.

### Warehousing practices in the value chain

This white paper addresses the areas that are directly involved with the value-adds and ROI opportunities in automated warehouse processes. Specifically, this paper focuses on how progressive companies can keep mistakes at an acceptable minimum, improve efficiency, maintain compliance, maximize personnel utilization, and maximize inventory investment through effective use of inbound and outbound logistics and warehouse operations.

In a modern, automated warehouse management environment, these activities take place in a smooth, uninterrupted flow. Whether in a distributor or wholesaler model or in a dedicated distribution center serving a dispersed chain of retail stores, the process begins with receipt planning and execution.

### THE ROLE OF AUTOMATED WAREHOUSE SOFTWARE

What are the automated processes that the most competitive companies are using in their warehouses? With an advance ship notice provided by the warehouse software, warehouse personnel can prepare for the incoming shipment and delivery before the shipment arrives. Once the shipment arrives at the dock, the software establishes the staging requirements, logs the product into inventory, checks order accuracy, and directs put-away via bar-coded labels, which is critical for the outbound processes. In the put-away process, the software supports any further needs for barcode labeling and license plates that may simplify and expedite tracking throughout storage and subsequent reshipping. Finally, the warehouse software automatically updates the back office software.

Outbound, the warehouse software processes the order in reverse, receiving an order from the back-office software and issuing a pick order optimized with business logic such as the product location, disposition, ship date, and inventory status. For example, a beauty supply warehouse serving dozens of small outlets might buy in bulk but only ship one or two items to a store at any one time. Pickers may be instructed to box a single order to completion or add items to a tote and pass it down the line where more items will be added before the items are packed and shipped. Conversely, a turf supply warehouse serving high-volume users such as golf courses or developers might receive and ship bulk product in single or multiple pallet loads.

An ideal warehouse management system has the flexibility to provide the vital value-adds regardless of the nature of the business. In the first instance, the value-add is the distributor's ability to buy in bulk, manage the merchandise, absorb the carrying costs, and meter out product as needed. In the second, a critical value-add is the ability to perform the complex logistics for the end users, leaving them free to focus on their core business. Customers would rather compensate the distributor than deal with these matters themselves.

Appropriate methodology is basic to improving efficiency and adding value through process excellence and cost control. An example is the use of a radio frequency scanner that guides pickers with precise instructions as to which aisles hold which products and in which picking order. The warehouse software generates this information and transmits it to the floor, expediting the picking process and preventing wasted motion.

The final phase of the outbound process is freight spend optimization. Warehouse software should tailor solutions to precise shipper and customer requirements such as basic cost, customer preferences, regional and local shipping options, parcel carriers, and dedicated truck fleets. The software then selects the appropriate shipping alternative for each order and automates the production of all relevant documentation.

Accellos One Warehouse establishes a feature-rich environment to automate, streamline, and verify all of these warehouse processes. From the receiving dock to the shipping dock, Accellos One tracks every movement of stock into, within, and out of the warehouse.

## COASTAL SUPPLY: A DETAILED EXAMPLE OF WAREHOUSE ROI

The following case example explores key areas of warehouse operations and illustrates how warehouse automation can quickly create new value in your company.

Coastal Supply is a wholesale distributor of imported electrical supplies, serving professional contractor and retail markets. It operates a 50,000 square foot warehouse with 12 materials handlers and one manager using both unit and case pick distribution. It maintains B2B e-business relationships with large customers like Lowe's, Home Depot, and Wal-Mart, turning its inventory five times per year.

In implementing Accellos One, the company sought to address five factors impacting its success:

1. Mistakes
2. Efficiency: Inbound and Outbound
3. Charge-backs and Compliance
4. Labor management
5. Inventory and waste

## 1. Avoiding Mistakes

Coastal Supply estimated that the cost of a single mistake in their warehouse would cost between \$75 and \$200. You may see some familiar issues of your own in their cost areas:

- Overnight freight on the correct item along with the costs of an additional round of picking, packing, and shipping
- Inbound freight for the returned item and the attendant costs of receiving, inspecting, and put-away
- Lost sales on the returned item in transit, plus the potential write-off of damaged goods
- Labor and inventory management
- Lost customer confidence, which may translate to increased customer service investment and potential concessions on customers' future purchases

The reality is that every order is unique and must be treated as such, whether picked as individual units off the shelf or as a cluster of pallets that cross-docked for near-term reshipping.

Coastal Supply was running at a respectable 98 percent accuracy. Assuming 100 shipped orders each day in a work year of 220 days, a low estimate of \$100 per error yielded an annual cost of \$44,000. Due to extended automation capabilities, the elimination of paper processes, and enforced error interception, Accellos One was able to bring the accuracy rate to 99.5 percent, for an annual savings of \$33,000.

## 2. Improving Efficiency

Picking is labor-intensive, with some 60 percent of Coastal's warehouse workforce involved in moving about the facility to locate the product and put it through the shipping process. Thus, receiving and picking activities are part of a continuum, even though they may be separated in time.

Inventory accuracy is paramount to both receiving and picking. Oftentimes during receiving, SKUs arrive unlabeled or vendors mix items from multiple purchase orders into a single shipment or consolidate them on a single pallet. Receiving via paper purchase orders is time-consuming and error-prone; however, automating the receiving process accommodates containers and mixed pallets and can result in efficiency gains of 10 percent or more. With three of Coastal's warehouse employees assigned to receiving, each averaging \$35,000 in payroll annually, Coastal determined an annual efficiency savings of \$10,500.

Automating the picking process also increases efficiency. When arriving products are accurately logged and stored, with all of the information conveniently accessible in electronic files, greater accuracy and speed are

assured. Paper pick tickets are eliminated through the use of directed picking, with instructions communicated wirelessly from the warehouse system to six \$35,000 warehouse personnel. The result: a 15 percent efficiency increase, or a net annual gain of \$31,500.

### 3. Dealing with Charge-backs and Penalties

Trading partner relationships with large companies like Home Depot, Lowe's, and Wal-Mart are major sources of business for Coastal Supply, but they also present a set of challenges in terms of label compliance, electronic document exchange compliance, and inventory accuracy.

The upside is high volume business. The downside can be threefold:

- Significant penalties and charge-backs
- Refused shipments and returned merchandise, with the attendant costs
- Lowered supplier ratings and lost business

Coastal was averaging \$1,000 per month in charge-backs, penalties, and fines from mislabeling. Couple this with five shipments each month that were refused and returned because of mislabeling at a cost of \$100 each, the resulting savings is \$1,500 per month or \$18,000 per year.

The greater accuracy of Accellos' continuously updated inventory and automated pick/pack/ship processes assures that goods promised will be shipped. Automated label production assures that each carton carries the correct UCC 128 label, and automated generation and transmission of the Advance Ship Notice (856) and Outbound Invoice (810) forms provides instant, precise information to the customer.

These assurances improved compliance by 90 percent, for a net annual savings of \$16,200, while at the same time fortifying business relationships with critically important trading partners.

### 4. Optimizing Labor Management

Warehouse labor is both necessary and expensive, and is also inefficient if utilized solely to execute manual processes including:

- Order checking: validating picked orders; annotating pick tickets
- ERP system updates: receipts, picking, shipping, adjustments
- EDI preparation: rip-and-read inbound documents; manual creation of EDI documents and UCC labels
- Annual inventory counts: physical count; updating balances

In Coastal Supply's manual operating environment, these processes normally involved six employees, again at the average annual salary of \$35,000. The annual inventory count projected an additional \$10,000 in overtime and temporary wages.

Using Accellos One Warehouse, with automated order checking, reduced data entry due to automated data collection via barcode, automated preparation of EDI documents, and the elimination of annual inventory counting through continuous, automatic update as stock is picked, Coastal realized a net annual savings of \$129,350.

### 5. Inventory and Waste Reduction

Manual management of inventory is costly in several ways. Companies often carry excess inventory because they lack confidence in their records of stock on hand. This leads to over-ordering and write-offs, particularly when never-used product exceeds its expiration date. Further waste can accrue from poor handling of returned goods: inspecting and restocking, returns to manufacturers, and scraps and write-offs.

Coastal Supply reduced this waste by automating inventory management, updating stock records as stock is picked and, in turn, replenishing stock more precisely and reducing its inventory by three-to-five percent. In addition, a number of associated costs, such as cost of money, cost of insurance, and taxes are reduced.

Inventory and waste reductions through more accurate records and better processes yield an annual reduction of four percent, or \$13,500 in annual savings.

## RETURN ON INVESTMENT ANALYSIS

The following chart summarizes the annual savings for Coastal Supply described above.

Cost Reduction	Savings
Reduction in mistakes	33,000
Improved efficiency	42,000
Improved compliance	16,200
Improved labor utilization	129,350
Reduced inventory carrying costs	13,500
<b>Total Savings</b>	<b>234,050</b>

Coastal Supply's investment in its Accellos One Warehouse automated warehousing solution:

Solution	Investment
Accellos One Software	\$50,500
1st Year Support	10,100
Implementation	45,000
Handheld computers	40,000
Label printers	5,000
Wireless network	6,000
<b>Total Investment</b>	<b>\$156,600</b>

In the simplest of terms, this level of savings provides a return on the investment in only eight months. From that point on, the warehouse system makes a continuous contribution to corporate profitability throughout its life.

## ABOUT AXIS GLOBAL PARTNERS

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## ABOUT ACCELLOS

Accellos is a global provider of logistics, warehouse, 3PL, transportation and mobile fleet management solutions. Accellos addresses the supply chain management and execution market with warehouse management systems for multiple environments; Microsoft Windows-based transportation management solutions; and in-field mobile resource management solutions. Accellos' powerful supply-chain execution solutions are easy to customize and implement, providing our customers with more innovation for less investment while producing significant savings and greater profitability. Through a culture of innovation, Accellos strikes the perfect balance of customer satisfaction, employee fulfillment and shareholder value, delivering greater profitability and rapid return on investment for our customers and accelerated logistics and warehousing services for the clients they serve.