Best Practices in International Logistics

How Top Companies Use Technology and Logistics Partners to Improve Performance

January 2006
**Executive Summary**

Business success is increasingly linked to effectively managing international logistics. Growing low-cost country sourcing and rising sales to international customers are triggering companies to seek new ways to manage the costs, complexities, and uncertainties of moving goods across borders.

In November and December 2005, Aberdeen researched companies that are transforming their international logistics operations to find out how they are achieving improvements. Eight companies were selected as best practice winners, two in each logistics management category: global inventory control, transportation spend management, import/export process management, and international logistics outsourcing (Table A). These companies are able to invest less capital in international logistics yet provide better service to customers.

**Table A: International Logistics Best Practice Winners**

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Source: AberdeenGroup, January 2006

Candidates were evaluated on: (1) the impact the logistics transformation had on corporate competitiveness; (2) the degree of improvement in logistics flexibility, cycle times,
and total landed cost; (3) the impact of the initiative beyond the logistics department (e.g., sales, purchasing, manufacturing, or finance); (4) the effectiveness of internal change management strategies; and (5) the degree of collaboration with suppliers and logistics providers. The eight winners demonstrated excellence across multiple evaluation categories.

**Key Findings and Recommendations**

Analysis of the best practice winners found that greater process automation, improved technologies, and increased reliance on logistics partners were instrumental in driving their successes. Although winners focused on different areas of international logistics improvement, they shared common views on how to achieve success. Companies seeking to improve their international logistics performance should consider these best practice tenets as they construct their transformation roadmap.

- **Envision the future, act on the foundation.** Best practice winners set the strategy for international logistics in the context of how their companies compete as businesses. However, they realize logistics excellence is a journey. As a result, they focus their actions on transforming specific, foundational components on which they can drive future improvements. Visibility, trade compliance, and transportation contract management are some of the most common cornerstones.

- **Partner for success.** Unlike in domestic logistics, it’s impossible to “go it alone” in the international arena. To drive their success, best practice winners are creating better ways to leverage the skills (and technology) of partners. They are figuring out new ways to synchronize activities and increase process visibility and control with customs brokers, freight forwarders, ocean carriers, logistics service providers, and others. Best practice winners stress that it is vital to choose partners that provide the best value, not the lowest contract cost.

- **Automate with Internet-based technology.** Without exception, best practice winners’ logistics strategies revolve around decreasing manual processes and increasing automation. Internet-based technology is enabling a new level of transaction automation and partner synchronization previously not practical or possible. On-demand global trade management platforms and data gateways are driving more electronic collaboration for significantly reduced IT costs.

- **Create visibility to create control.** International logistics is all about managing a network of third-party providers. The foundation for controlling this process is visibility. For a number of best practice winners, visibility does not stop at identifying a shipment delay or inventory issue. Rather, an alert is the first step in a structured notification, resolution, and root cause analysis process. In particular, those companies with strong Six Sigma heritage are using that discipline to create improved international logistics reliability.

- **Use inventory more effectively.** A number of international logistics leaders are focusing on extracting more value from their inventory. In some cases, this means creating better in-transit visibility so they can redirect inventory around port congestion or other bottlenecks or to higher points of demand. In other instances, the focus is on optimizing where and how much inventory to hold in the first place. Better leverag-
ing the networks of logistics partners and using multi-echelon inventory optimization tools are some of the success tactics being applied.

- **Implement transportation spend management.** Although companies have focused on spend management discipline in areas like office suppliers, travel expenses, and telecom costs, they have mostly ignored ocean and air freight costs. Two of the best practice winners focused specifically on aspects of transportation spend management to jump-start their improvement initiatives.

- **Streamline customs processes and maximize trade agreements.** Without a solid foundation of trade compliance and documentation, purchasing will make the wrong sourcing decisions, goods will be delayed clearing customs, and the business will be put at risk of regulatory infractions. Trade agreement management and integration with broker partners to avoid data keying errors and costs are among the key trade compliance initiatives for best practice winners.

- **Obsess about organizational buy-in.** Best practice winners are intensely focused on gaining and maintaining organizational buy-in for their logistics transformation initiatives. This includes gaining the CFO and finance organization’s support by focusing not just on logistics-related savings but also translating the initiatives to tangible, direct benefits for them.
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Chapter One:
International Logistics Best Practices

Key Takeaways
- Internet-based technology is instrumental to better performance.
- Outsourcing to logistics service providers can drive leaps in performance when paired with visibility and control technology.
- Spend management in international logistics is an emerging area of focus.
- Creating organizational buy-in is the most important factor for success.

The heat is turning up on logistics processes as sourcing and manufacturing activities are increasingly being done internationally. Companies going global are experiencing unexpected transportation costs, higher inventory investment, and longer and more unpredictable cycle times, while at the same time their local customers are demanding lower prices, more unique execution, and improved responsiveness. As a result, companies are seeking ways to make their international logistics processes more reliable, more flexible, and less expensive.

Aberdeen surveyed and interviewed more than 400 international logistics and trade managers in 2005 to find out how companies are coping. In November and December 2005, Aberdeen researched companies that are transforming their international logistics operations to find out the details of how they are achieving improvements. Out of this research, eight companies were selected as best practice winners, two in each logistics management category: global inventory control, transportation spend management, import/export process management, and international logistics outsourcing.

The Challenges of International Logistics

In most companies, international logistics processes mirror domestic supply chain practices in the 1970s: logistics staffs keep their supply chains moving through experience-based problem solving, and insistent phoning and faxing of logistics partners. At nearly two-thirds of companies, spreadsheets, department-built Access database applications, and emails round out the technology portfolio.

Many international logistics groups have reached the breaking point, however. As global sourcing and selling increases, so do transactions, partners, and problems to be managed. But budgets don’t allow logistics departments to continue throwing people at these issues. The current manual-intensive process of global logistics is becoming unsustainable. Companies adopting automation are starting to experience cost and speed advantages over their competitors. These companies are using automation to tackle both physical distribution challenges and cost control challenges.

Physical Distribution Challenges

Companies are seeking to improve international logistics processes because of longer lead times, greater supply chain uncertainty, and increased business risk (Figure 1). The
greatest handicap to logistics performance, according to two-thirds of firms, is the lack of visibility and metrics for managing overseas vendors and logistics service providers. (See New Strategies for Global Trade Management, March 2005.)

Figure 1: Top Pressures Driving Companies to Improve International Logistics

| Pressure                                           | % of Respondents Citing as "Very Influential"
|----------------------------------------------------|-----------------------------------------------
| Lead times inhibiting our ability to respond to local market demand | 62%                                           
| Product cost savings being eroded by unanticipated global supply chain costs | 52%                                           
| Compliance and documentation errors causing delays, cost overruns, and regulatory risk | 35%                                           

Source: AberdeenGroup, January 2006

Cost Challenges

A parallel issue is cost control. “In our domestic supply chain, we can easily attribute freight costs and even understand the impact of truck fuel surcharges at a carton level,” says a retail international transportation director. “But on the international side, we were challenged to answer even basic questions such as, “What’s the average ocean freight spend per month, by lane?” because we lacked integrated systems and normalized data.”

Companies are finding that inadequate transportation spend visibility is leading to unanticipated budget discrepancies, unexpectedly low product margins, and, in some cases, higher rather than lower total costs when sourcing from low-cost countries. As Figure 2 shows, international transportation expense is the top area for budget discrepancies.

Figure 2: Top Areas for Global Trade Budget Discrepancies

<table>
<thead>
<tr>
<th>Area</th>
<th>% of Respondents (asked to select top 3 areas)</th>
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| Transportation expenses                 | 67%                                           
| Raw materials                           | 39%                                           
| Supplier charges                        | 38%                                           
| Taxes and tariffs                       | 29%                                           
| Broker/forwarder fees                   | 29%                                           
| Inventory costs                         | 27%                                           
| 3rd-party warehousing/handling costs    | 25%                                           

Source: AberdeenGroup, January 2006

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Learning from the Top Performers

Top performers are succeeding in using international logistics transformation to drive quantifiable business benefits for their corporations, including cost and speed advantages. These companies are able to invest less capital in international logistics yet provide better service to their customers. They are arming their logistics staffs with up-to-date technology and integration-friendly logistics partners to support today’s global-intensive business environment.

Analysis of the eight best practice winners found that greater process automation, improved technologies, and increased reliance on logistics partners were instrumental in driving their successes. Although winners focused on different areas of international logistics improvement, they shared common views on how to achieve success. Companies seeking to improve their international logistics performance should consider these best practice tenets as they construct their transformation roadmap.

Envision the Future, Act on the Foundation

The strategy for international logistics has to be set in the context of how a company competes as a business. “We have a highly leveraged business model based on product leadership,” says the senior vice president of operations for a mid-size high-tech winner. “We needed a logistics strategy that supported our corporate strategy. For us, this meant outsourcing logistics to a domain expert and creating an international distribution network that was simple, visible, and accountable.”

The logistics strategy must envision the future but action needs to be taken on the discrete, foundational components. These elements include such areas as ocean contract management, trade compliance, and visibility. For instance, automating the trade compliance process lays the groundwork for better total landed costing and margin management, smarter sourcing and inventory management decisions, and fewer supply chain delays. Best practice winners seek rapid time to benefit on their logistics transformation projects, often achieving payback on their initiatives in less than a year.

The other aspect of a sound international logistics strategy is that it needs to be built for flexibility. “Expect and prepare a foundation for change,” says the vice president of global logistics for an apparel company. “C-TPAT, advanced manifest requirements, changing trade agreements and free trade zones, new partners and events to track, new distribution bottlenecks to avoid – change is constant.”

“Our next core competency,” says an appliance manufacturer’s global value chain leader, “is focusing on the speed and velocity in which we can execute the results of new logistics strategies.” Being able to flex the international supply chain quickly to avoid cost and service issues and take advantage of new productivity advances requires technology and partners built for change.

Key areas to address in building an international logistics strategy are shown in Figure 3.
Partner for Success

Unlike domestic logistics, it’s impossible to “go it alone” in the international arena. Best practice winners are figuring out new ways to synchronize activities and increase visibility and control of processes with customs brokers, freight forwarders, ocean carriers, logistics service providers, and others. These companies are leveraging the skills (and technology) of partners to achieve cost and lead time benefits. “Rather than displace our brokers, we want to automate our interactions,” says a logistics manager. “The manual process of interacting with them results in high document fees and additional errors because they are re-keying data. We want to fix that, not take over their activities.”

Two of the best practice winners embraced total logistics outsourcing. “Don’t do outsourcing for the sake of outsourcing,” says an executive of one of the winners. “Your strategy needs to take into account the complexity of your products and business model or it will fail.” For this company, logistics outsourcing was the right strategy and resulted in a 30% decrease in logistics costs.

“If you do outsource, never go with the lowest contract cost,” continues the executive. “Go with the best value proposition.”

“If outsourcing is right for you, move immediately to a single end-to-end logistics provider that can provide you with flexibility, reliability, and visibility,” urges another logistics executive. “But make sure you’re diligent in your evaluation to pick the right partner and consider not just cost but also quality and communications capabilities.”
**Automate with Internet-Based Technology**

Without exception, best practice winners’ logistics strategies revolve around decreasing manual processes and increasing automation. “Automation translates into speed,” says one best practice winner. “Manual processes translate into delays and errors.” According to another winner, “Having technology that lets you manage by exception is instrumental to boosting efficiency.”

Internet-based technology is enabling a new level of transaction automation and partner synchronization previously not practical or possible. On-demand global trade management platforms and data gateways are driving more electronic collaboration for significantly reduced IT costs. Best practice winners report very little internal resistance to using on-demand technology, also known as “software as a service” or “hosted, web-based” systems. International logistics has historically been on the bottom of the corporate IT priority list, so CIOs are generally supportive of trying on-demand models in this area rather than having to reprioritize their projects and reallocate staff for traditional software installations.

Supplementing existing enterprise systems with advanced optimization is another favored strategy of best practice winners. They realize that optimizing end-to-end inventory or optimizing lane-by-lane awards to carriers or forwarders is too complex to figure out on spreadsheets. Multi-echelon inventory optimization and ocean bid optimization are two areas driving quick, multi-million dollar savings for companies.

**Lay the Foundation for Visibility and Control**

International logistics is all about managing a network of third-party providers. The foundation for controlling this process is visibility. Some of the best practice winners have integrated their enterprise customer service and logistics systems with the visibility systems of their logistics providers to obtain automatic status and alert information.

Other winners are using on-demand visibility solutions that are independent of their logistics providers’ technology. This provides more control of how the technology can be used and also enables easier plug-and-play of logistics providers because technology does not have to be reinstalled when switching providers.

Companies that still rely on phone calls, emails, or manual web lookups to track down shipments are at a competitive disadvantage. Real-time knowledge of the location of goods throughout the supply chain makes for faster-moving inventory speeds, cash flow, and receivables, all while reducing inventory carrying costs. For a number of best practice winners, visibility does not stop at identifying a shipment delay or inventory issue. Rather, an alert is the first step in a structured notification, resolution, and root cause analysis process. In particular, those companies with strong Six Sigma heritage are using that discipline to create improved international logistics reliability.
Use Inventory More Effectively

Best practice winners also focus on extracting more value from their inventory. In some cases, this means creating better in-transit visibility so they can redirect inventory around port congestion or other bottlenecks or to higher points of demand. In other instances, the focus is on optimizing where and how much to hold inventory in the first place.

Aberdeen research shows that traditional inventory target setting practices are insufficient for situations where there is varying demand and supply uncertainty, often resulting in a company holding 20-30% too much inventory across its supply chain. Many companies use weeks of supply and rules of thumb based on past history to set raw material and work-in-process (WIP) inventory buffers. Whenever the supply base has poor performance, inventory planners ratchet up the inventory targets – but they rarely ratchet them down to account for better performance. So over time, companies can find themselves holding more and more of this just-in-case inventory.

By using multi-echelon inventory optimization, which more accurately accounts for supply and demand variability, companies can take out redundant and unnecessary inventory while improving customer service levels. (For more information on multi-echelon inventory optimization approaches and vendors, see Are Your Inventory Management Practices Outdated?, March 2005.)

Implement Transportation Spend Management

A missing discipline in many companies is transportation spend management. Although companies have focused on spend management in areas like office suppliers, travel expenses, and telecom costs, they have mostly ignored ocean and air freight costs. Yet international transportation costs can be two to three times higher than domestic costs and much more variable. Two of the best practice winners focused specifically on aspects of freight spend management to jump-start their improvement initiatives.

“Electronic contract management is the foundation for spend management,” explains an international transportation director. “We can exploit this foundation to improve product costing and margin management, automate freight audit processes, and take preemptive action on cost and allocation issues.”

Streamline Customs Processes and Maximize Trade Agreements

Another foundational focus for best practice winners is trade compliance and documentation, which drives streamlined, cost-efficient, and low-risk international logistics processes. Best practice companies that focus on trade compliance excellence are realizing improvements in a number of areas:

- Automating import/export compliance and documentation processes;
- Maximizing free trade agreement program benefits and automating certificate of origin management with suppliers;
- Creating paperless workflows with brokers to lower document costs and increase classification consistency.
(For more information, see *The New Buying Guide for Trade Compliance Technology*, December 2005.)

**Obsess about Organizational Buy-In**

Universally, the eight best practice winners are intensely focused on gaining and maintaining organizational buy-in for their logistics transformation initiatives. “Communicate and educate everyone on the costs, risks, and benefits involved – make them aware of how it personally affects them,” advises a global logistics manager. “Start with a small, manageable piece, gain success, and build on it.”

In addition to the usual executive support needed for corporate initiatives, international logistics initiatives need to focus on securing:

- **Local operational support.** Involve subject matter experts and local logistics, manufacturing, and purchasing managers early and often. Early, collaborative review of workflow, data feeds, and optimization models is vital to creating buy-in and realizing the savings of new logistics strategies. Focus on changing the culture from a “We’ve always done it this way” mentality to an innovation mentality where operations staff actively thinks of how to create better ways to do business. Intimately involving the operations staff in the transformation project is the most effective way to foster an innovation mentality.

- **Vendor and logistics provider support.** Similarly, engage vendors and logistics providers as early as possible in the process. Look for ways to leverage their expertise while laying the groundwork for paperless transactions.

- **Finance organization support.** CFOs and finance organizations increasingly realize the value of enhanced international logistics automation and visibility. Key to gaining their support is not just focusing on logistics-related savings but also translating the initiatives to tangible, direct benefits for them (e.g., improve margin management, enhance cash flow forward visibility, automate human-intensive freight audit and settlement processes, and decrease cash-to-cash cycles). (See *The CFO’s Agenda for Global Trade Benchmark Report*, September 2005.)

“To succeed, you absolutely need your finance community and the functional groups in lock-step with you throughout the process,” says one logistics manager. Other companies cite Lean and Six Sigma leadership and staff as being key centers of support for international logistics transformations.

Maintaining buy-in is just as critical as gaining it in the first place. Best practice winners are taking the time to set up key performance indicators (KPIs), track results, continually market successes, and broadly communicate resolution strategies for issues that arise.
Chapter Two: Best Practice Case Studies

In November and December 2005, Aberdeen researched companies that are transforming their international logistics operations to find out how they are achieving improvements. Eight companies were selected as best practice winners, two in each logistics management category: global inventory control, transportation spend management, import/export process management, and international logistics outsourcing.

Aberdeen evaluated candidates on: (1) the impact their logistics transformation had on corporate competitiveness; (2) the degree of improvement in logistics flexibility, cycle times, and total landed cost; (3) the impact of the initiative beyond the logistics department (e.g., sales, purchasing, manufacturing, or finance); (4) the effectiveness of internal change management strategies; and (5) the degree of collaboration with suppliers and logistics providers. The eight winners demonstrated excellence across these categories. Table B lists the eight winners, the business process they transformed, their enabling technology vendor or logistics service provider, and a snapshot of one of their transformation benefits. Following are case studies of the winners.

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Source: AberdeenGroup, January 2006
Global Inventory Control
Liz Claiborne: Avoiding Delays and Cutting Inventory Through Visibility

Liz Claiborne reduced cycle times and supply chain uncertainty by adopting an on-demand visibility solution that tightly monitors customs and other activities.

Business Challenge

Liz Claiborne oversees more than 250 million units of product sourced from over 3,000 factories in more than 35 countries. However, its existing client/server-based technology prevented the company from managing the flow of goods efficiently. Due to its diverse sourcing locations, shipment delays are common; strikes, security issues in less stable countries, weather, capacity issues, congestion, and equipment failures are some of the events that create delays.

Logistics import staff had to hand-key data into the client/server system to provide rudimentary tracking and reporting on the movement of goods. In some cases, the staff wasn’t even aware of what had to be tracked. The deployment requirements of a client/server system also meant that only a limited number of people had access to the data. This led to extra meetings and other non-value-added work as people tried to grasp the state of the supply chain.

As the company grew, the tracking process became increasingly resource consuming and error prone. Moreover, new U.S. Government regulations meant additional time required to clear customs, causing more shipment delays and making good visibility more important.

Strategy

To increase control over Liz Claiborne’s growing supply chain, the import team decided in 2001 that it needed a better way to obtain product information and shipment visibility from its logistics partners. This would enable the electronic sharing of product classification and other information with brokers and the preparation of data demanded by U.S. Customs prior to products arriving in the United States. Most importantly, it would let the company proactively manage the uncertainties of interna-
tional shipments by providing automated shipment visibility accessible to all stakeholders via their web browsers.

**Transformation**

- **Selecting a technology vendor.** Liz Claiborne began searching for a global trade management vendor that could support its shipment workflow and customs-related requirements. The selection team chose an on-demand visibility and trade compliance solution that was subsequently acquired, rewritten, and enhanced by TradeBeam. The on-demand model was attractive, says Lois Davis, vice president of global logistics, because it meant Liz Claiborne’s IT department did not have to worry about installing and upgrading software, acquiring and supporting hardware, or managing EDI connections. This model also gave the company the ability to onboard acquisitions quickly onto the system to maintain enterprise-wide visibility.

- **Managing the transition.** The import staff members had been complaining about their growing data entry tasks; they were increasingly spending their time chasing information versus managing logistics issues. As a result, the staff was receptive to a new, more automated solution. The staff was intimately involved in designing system requirements and working with the vendor to prioritize and implement them. According to Davis, this helped create further acceptance and was instrumental in fostering more innovative supply chain thinking among the staff.

**The New Operating State**

Liz Claiborne can now monitor and manage products from the time the goods come out of the factory through their arrival at the final destination, ensuring smoother product movement through its global supply chain. Each day, at least 100 Liz Claiborne users typically access the TradeBeam system. The import team has about a dozen daily users of the system. Moreover, a handful of people in each of Liz Claiborne’s 37 divisions use the system to track goods and streamline processes.

- The import team now works by exception; an automated exception report generated by the system each day becomes the daily worksheet. E-mail notifications may also be triggered for exception events, such as damaged or misrouted goods. Because of the increased visibility, Liz Claiborne’s import group is able to manage international shipments proactively to keep the supply chain moving. For instance, staff members may redirect cargo into a different transload facility or an alternative port to avoid congestion or to make up time because of unanticipated supply chain delays. Activities such as freight payment and return of empty cargo containers are also monitored through the system.

- Any stakeholder in any Liz Claiborne division can now track shipment status online, seeing events such as shipment departs supplier, leaves departure port, arrives at initial port of entry, customs entry filed, released from customs, reaches deconsolidation facility, scheduled for final delivery, and arrives at final destination. For instance, the production department can search by order, SKU, and style to understand the flow of goods across the supply chain. Previously, this group spent 40 hours a week doing
manual tracking of shipment status. Local distribution centers can now better plan
customer allocations by having full visibility to packing list details and discrepancies.

**Technology Deployment**

The TradeBeam system was deployed in stages, gradually adding more integration and
automation and reducing manual data entry. EDI integration started with Liz Claiborne’s
highest-volume products and largest logistics providers and expanded from there. Today,
Liz Claiborne has about 20 external connections with ocean carriers, an ocean consolida-
tor, air forwarders, and brokers. Truck carriers are also beginning to be integrated. Service providers
that refuse to integrate electronically will eventually lose the Liz Claiborne business.

Liz Claiborne is in the process of bringing up additional TradeBeam functionality that will help
the company manage product classification details. This on-line data repository will carry all classifications,
categories, fiber content, and requirements for the harmonized tariff schedule (HTS). The TradeBeam system will interface with the company’s ERP system, enabling quota and trade program monitoring and reporting and
simplifying many current processes. The company also plans to implement TradeBeam functionality for restricted party list screening of transshipments, calculating dutiable values, and filing customs declarations.

**Lessons Learned**

Making the import staff responsible for the requirements definition and testing for the
technology solution helped the team better appreciate what goes into technology develop-
ment, enabling them to better define their needs and what they want from technology.
This process fostered acceptance of the technology and, most importantly, helped the team become more creative and think of better ways to manage the import process.

**Business Results**

Using TradeBeam, Liz Claiborne has replaced time-consuming and error-prone manual
processes with an automated solution providing shipment visibility and supporting regulatory compliance. The import staff is now focused on solving logistics issues rather than
information problems. Key business results include:

- Import transit times reduced by 5 to 7 days through improved visibility and more proactive shipment management.
- Removal of 7 to 10 days of inventory in the first 18 months due to shorter lead times and increased certainty of the position of goods.
- New operational efficiencies that enabled the company’s global logistics organization to increase the number of shipments processed by nearly 50% with a reduced head-
count.
Global Inventory Control
Black & Decker: Removing Global Inventory

Using multi-echelon inventory optimization technology, Black & Decker achieved multi-million dollar reductions in safety stock inventory while maintaining high service levels to customers.

Business Challenge

As a market leader, Black & Decker runs manufacturing operations in 11 countries and markets its products in more than 100 countries. Business dynamics mandate a focus to achieving more with less from the Black & Decker value chain: Customers demand higher service levels and specialized executions of products and fulfillment activities, while shareholders expect increased corporate profitability. Pricing pressures translate to a lengthening supply chain that takes advantage of low-cost country sourcing, while the need to support unique retail executions causes product line extensions and SKU proliferation.

As the company’s Global Value Chain Team looked for solutions, key questions arose:

- **Where should the company manufacture products?** The market’s emphasis on China made Black & Decker question the location of its manufacturing operations.

- **How could it improve inventory performance?** Customers wanted unique execution and faster turnaround at a lower cost. Was it possible to set lower-cost, higher-service inventory targets?

- **How should it rationalize the supply chains of acquisitions?** With acquisitions, the company needed to model the best way to integrate operations and reduce costs.

Strategy

To meet these challenges, Black & Decker is following an “Operational Excellence” strategy that seeks new, innovative ways to reduce total cost while improving service to product markets. The company’s Operational Excellence program focuses on the use of Six Sigma tools for reducing variability and Lean tools for reducing waste. The Global Value Chain Team determined that using multi-echelon inventory optimi-

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**Overview**

<table>
<thead>
<tr>
<th>Black &amp; Decker</th>
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<tbody>
<tr>
<td>US$5.4 billion manufacturer of power tools and accessories, hardware and home improvement products, and fastening systems.</td>
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<table>
<thead>
<tr>
<th>Solution Provider: Optiant</th>
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<tbody>
<tr>
<td>Optiant (<a href="http://www.optiant.com">www.optiant.com</a>) provides Black &amp; Decker with a multi-echelon inventory optimization and modeling application.</td>
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<table>
<thead>
<tr>
<th>Business Challenge</th>
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<tr>
<td>Improving service, profits, cost, and ROI</td>
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<table>
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<tr>
<th>Strategy</th>
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<tbody>
<tr>
<td>Use multi-echelon Inventory optimization to set inventory targets and sourcing strategies that incorporate, demand variability and supply time and uncertainty.</td>
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<table>
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<tr>
<th>Results Summary</th>
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<tr>
<td>Multi-million dollar inventory reduction with high service levels; stopped the movement of select production lines to China by recognizing total supply chain cost.</td>
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</table>
Multi-echelon inventory optimization technology could drive improvements on both fronts. Multi-echelon inventory optimization technology would let the team model both demand and supply variability across multiple levels of the supply chain, as well as model the associated costs and interdependencies between processes.

1. **Product sourcing and manufacturing location decisions could be improved by modeling various alternatives using the multi-echelon inventory technology.** Lead times, supply uncertainty, demand variability, and stage cost options could be considered across the end-to-end supply chain to make the best end-to-end decisions. Previously, Black & Decker systems were not capable of modeling these multi-echelon interdependencies found in the company’s complex global operations.

2. **Finished goods inventory performance could be improved by including supply time and uncertainty.** Previously, the company set finished goods targets using an in-house calculation that considered demand variability and a standard lead time factor, but didn’t factor in supply performance at the unique item level.

3. **Manufacturing raw component and WIP inventory targets could be improved by incorporating the demand variability of intermediate and destination stages to capture the full benefit of demand stream pooling.** The previous raw and WIP inventory target setting methods considered supplier location, lead time, and schedule adherence but did not incorporate demand risk pooling.

4. **Models for rationalizing supply chain network design could be constructed to evaluate options for incorporating newly acquired businesses.** The previous method had limited potential to consider multiple scenarios and didn’t provide a complete understanding of the cost-service level relationship.

**Transformation**

- **Selecting a technology vendor.** The team did a comprehensive assessment of potential vendor partners and their product offerings, evaluating them on: product design and functionality, ease of use, systems integration, training, and implementation service and support. The selection group put the two finalists through proof of concept tests to measure the effectiveness of the software solutions as well as to understand more deeply how calculations are made and how well the solution supports results interpretation. The winning vendor was Optiant.

- **Managing the transition.** Black & Decker established a centralized, core strategy team, whose responsibility was to deploy the Optiant technology. This deployment was subsequently expanded across the company’s extended global operations. Thirteen subject matter experts from the functional areas of sourcing, demand planning, supply planning, manufacturing, materials management, sales order management, finance, IT, and Six Sigma were instrumental in the process of rolling out the technology. Optiant fundamentals training was conducted for the core team as a group. These members assisted in obtaining and validating data from their areas of operation, and this data was used to provide key inputs into the Optiant models. Data included lead times, processing times, value-added costs, and associated process variations, as well as data regarding demand variability, forecast accuracy, demonstrated schedule attainment, and service levels. This integration of cross-functional areas provided better results, helped ensure belief in the technology, and helped drive operational execution of the resulting inventory strategies and performance targets.
The New Operating State

Black & Decker began using Optiant’s application suite for three simultaneous initiatives: (1) determining optimal sourcing strategies for its Miter Saw and Hedge Trimmer businesses; (2) rationalizing the distribution network of its new power-tools acquisition, Porter-Cable Delta; and (3) resetting the finished goods safety stock targets for the entire product offering within its Industrial Products Group, which includes DeWalt and Porter Cable Delta brands. This was followed by a more involved analysis of the best levels and positions for raw material, WIP, and finished goods inventory across the end-to-end supply chains of the DeWalt Screwgun and Cordless power tool businesses.

Sample results from using the multi-echelon inventory optimization tool:

- Black & Decker was evaluating the move of manufacturing activity from the U.S. to China due to the labor and material cost advantages. However, the Optiant tool showed that the resulting inventory holding and other logistics costs would outweigh the product savings. As a result, manufacturing activity was moved from the U.S. plant to a Mexico facility instead of to China.

- In one part of the business, a postponement strategy was being considered to increase subassembly buffer stock at the manufacturing stage. The operations team was sure that this postponement activity was the right strategy to reduce finished goods inventory and total cost while improving service levels. However, the multi-echelon analysis identified that the optimal service level and cost-savings strategy was to maintain the existing manufacturing structure and instead resize the raw materials buffers, many of which are provided by suppliers who provide consignment inventories. Based on the analysis, considerations are now also being made to reduce the manufacturing frozen lock period for the high-flow business segment, providing even greater customer service capabilities.

- A multi-echelon analysis helped to balance materials better across a supply plant, assembly plant, and the distribution network. The results: a 99% service level, up from 78%, while simultaneously removing 12% of total inventory.

Technology Deployment

Black & Decker’s strategy is to be able to conduct rapid end-to-end integrated analysis on its changing supply chain. As a result, the company focused the Optiant implementation not just on setting up the application and conducting models, but also on creating integrated data feeds from its SAP and Manugistics systems. Data feeds were verified and carefully documented to ensure wide-spread support of the optimization results.

The strategy group is now able to complete and execute extensive complex analytic projects within approximately 30 days. “Our next core competency,” says Black & Decker’s global value chain leader, Dan Harmeyer, “is focusing on the speed and velocity in which we can execute the results.”

Understanding end-to-end inventory holding and other logistics costs prevented a potentially cost-increasing move from the U.S. to China.
Lessons Learned

In general, Black & Decker found that there was a significant opportunity to rebalance and lower raw material, WIP, and finished goods inventory safety stock using multi-echelon optimization technology. The technology also provided the methodology to evaluate complex supply chain designs, which allows the company to gain new visibility into the drivers of cost so it can align resources more effectively. The net result is better operational efficiency while maintaining high service levels to customers. “When using this type of technology, expect non-intuitive results that will make you operate better,” says Harmeyer.

A key success factor for Black & Decker was creating a process that would let it continually and rapidly tune its supply chain and monitor operational compliance to new policies. In addition to automating data feeds, it also built an Access database to track operational KPIs such as actual inventory levels vs. their optimal targets, as well as service level improvements and operational savings resulting from the multi-echelon modeling initiatives.

Business Results

By embracing the Optiant technology, Black & Decker has demonstrated that it can provide better service levels with lower inventory levels and that it can drive improvements across its entire business. Key benefits for Black & Decker from adopting a multi-echelon inventory optimization approach include:

- Multi-million dollars removed from finished goods safety stock inventory.
- Inventory reduced by 12% in DeWalt Screwgun business while improving service levels to 99%.
- Full inventory and cost modeling prevented a potentially cost-increasing move from the U.S. to China.
- Better manufacturing schedule attainment in the plants because of increased material availability through improved materials management.
Transportation Spend Management

Williams-Sonoma: Closed-Loop Transportation Spend Management

Using an integrated global logistics platform, Williams-Sonoma reduced ocean freight spend by 4-5% and established a framework for end-to-end cost management.

Business Challenge

Williams-Sonoma serves consumers from 544 stores as well as catalogs and websites. This requires sourcing products from suppliers around the world, moving goods from more than 50 overseas ports, and managing nearly $90 million in ocean freight, especially from Asia.

Like many companies, Williams-Sonoma has tight cost control on its domestic logistics and can attribute freight costs with precise measures, such as understanding the impact of truck fuel surcharges at line-item levels. But also like many other firms, Williams-Sonoma did not have this level of spend management control for its international logistics network. Without the systems capability and normalized data, the international logistics group couldn’t readily analyze and measure performance, and thus was challenged to provide answers to basic questions such as, “What’s the average ocean freight spend per month, by lane? And why did a freight cost variance occur on a product?”

Knowing accurate ocean freight cost as a component of first (landed product) cost is critical to Williams-Sonoma because of the impact on item-level margins. But projecting these costs was challenging for Williams-Sonoma because it was using estimates and averages in its calculations, not the actual ocean contract rates and accessorials charges. Moreover, no closed-loop process existed to understand if forecasted cost for ocean freight was right or wrong.

In addition, the company’s spreadsheet-based process for negotiating ocean contracts took over three months to complete each year. Once contracts were signed, there was not an efficient way to determine if agreed-upon carrier freight allocations were being followed or if the right amount was being paid for services provided.

Overview

<table>
<thead>
<tr>
<th>Williams-Sonoma</th>
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<td>$3.1 billion multi-channel retailer of home furnishings.</td>
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Solution Provider: GT Nexus

GT Nexus (www.gtnexus.com) provides Williams-Sonoma with an on-demand global transportation control solution.

Business Challenge

Insufficient spend management of ocean freight, making it difficult to calculate total landed costs and understand the origin of freight-related margin variances.

Strategy

Use multi-inventory optimization to set inventory targets and sourcing strategies that account for demand and supply variability.

Results Summary

Cut ocean freight costs by 4-5%; improve total landed cost and margin variance abilities; create foundation for freight payment and audit automation.
Strategy

The company’s strategy was not simply one of improving tactical logistics procurement. Rather, Williams-Sonoma’s international transportation organization had a larger vision of instituting closed-loop international freight spend management. This would give the company command-and-control capabilities over its global freight spend, driving benefits to three primary groups: corporate logistics, sourcing, and finance.

Each group has specific business responsibilities and requires its own unique yet similar view of global freight cost: The sourcing group needs accurate, up-to-date freight costs and the assurance that the projections they receive to support buying decisions and product margin calculations are reliable. They need to feel comfortable making commitments to the merchant that they are going to land a product very close to the estimate. Logistics needs the information to manage logistics service provider and carrier performance, track actual costs against internal logistics cost targets, and identify and quickly resolve variances. Finance needs the data to support accruals tracking, cash management, first cost, and other financial measures.

Williams-Sonoma determined that creating a cost management process to support all three groups’ needs would require an integrated system for automating ocean procurement, contract management, freight audit, and spend analysis.

Transformation

- Selecting a technology vendor. The selection team began searching for an integrated, single-architecture technology solution that would support ocean procurement, contract management and maintenance, analytics, and spend control. The team also wanted a subscription-based on-demand solution so it could get up and running quickly and pay for the system out of the operating budget. The team chose GT Nexus’ Global Transportation Control solution because it met all the criteria.

- Managing the transition. To make sure the spend management process was fully understood, the international transportation regional managers for U.S., Asia, and Europe were trained on the solution. They can establish their financial plans, gain new origin-destination cost insights, and actively manage allocations. In arming the managers with a command-and-control platform, Williams-Sonoma can now hold each one fully accountable for meeting the regional financial freight plan.

The New Operating State

With the GT Nexus solution, the international transportation organization is able to improve its abilities across the entire spectrum of spend management:

- Procurement. In the past, Williams-Sonoma’s annual ocean freight bid process used spreadsheets and word documents and took three months to complete. The resulting nine ocean carrier contracts were in nine different formats, with different risk levels and boilerplates, all on paper. The GT Nexus system allows the bid process to be standardized and performed online in six weeks, generating internal productivity benefits, staff cost savings, and significant data quality improvements.

“The sourcing group tells us what service levels they need, and we need to design the right mix of price and transit time to meet landed cost and delivery goals,” says Ed Sands, Williams-Sonoma’s director of international logistics. “Moreover, finance
wants risk spread among our carrier network and reliable metrics to analyze and project the cost and cash impacts.”

Using the GT Nexus system, Williams-Sonoma is able to conduct a multi-round bid process that optimally matches freight demand to carrier supply and business requirements on a lane-by-lane basis, including factoring in service and capacity needs unique to a lane or product. The output is a detailed allocation plan, assigning volumes by carrier to achieve the lowest-cost transportation within designated capacity, risk management, and service levels. In its first use of the bid optimization tool, Williams-Sonoma reduced expected ocean freight costs by 4-5%, which for a large shipper like Williams-Sonoma translates into millions of dollars of available savings.

- **Contract management and execution.** Translating the available savings of negotiated contracts into hard savings requires that carrier allocation plans be followed. To support the execution process, the digitized contracts produced in the bid process are automatically stored in the GT Nexus central database. The transportation staff has secure access to view rates and allocations, manage service contracts in real time, and update amendments. The system’s version tracking and change control supports back-end freight spend analysis and auditing processes.

Like most major importers, Williams-Sonoma relies on freight forwarders to execute the freight moves. Electronic feeds established between the forwarders and the GT Nexus system provide Williams-Sonoma with visibility into the “actuals” of freight execution – what containers moved when and with what carriers on which schedules. The transportation staff tracks volumes weekly to ensure capacity commitments to carriers are being met.

Using the GT Nexus system to capture freight execution data lets Williams-Sonoma measure operational actuals and compare them with the contract rates and optimized allocation plans on which projected landed costs were based. This ensures that projected savings are realized – or if not, lets the company understand why ocean cost variances occurred. The GT Nexus platform also connects Williams-Sonoma’s logistics service providers with the ocean carriers to send them electronic shipping instructions. This enabled the company to negotiate a waiver of the fee for Automated Manifest System (AMS) filings, saving $25 per transaction by sending these instructions to carriers electronically, adding up to $150,000 in annual cost avoidance.

- **Freight audit and payment.** Williams-Sonoma uses the GT Nexus contract system today to improve its manual process for auditing freight charges. Instead of using paper contracts or Excel spreadsheets, the logistics staff query the GT Nexus database, checking billed charges against online rates. In three months, using its new business process with the GT Nexus system as the foundation, the company identified and recovered $250,000 where carriers had “double billed” for container moves.

Williams-Sonoma is now evaluating extending its GT Nexus use to include automated freight audit tools. In this proposed process, carriers will send electronic freight invoices into the GT Nexus system to be matched automatically against shipment information and the contracted rates and service charges stored in the database. Williams-Sonoma will no longer have to bear the expense of its manual freight audit processes, replacing them with system-generated electronic invoice presentment and payment, using EDI-transmitted rated bills of lading.
Spend analysis and corrective action. Like many companies, Williams-Sonoma had been relying on its logistics service providers to provide raw, spreadsheet based data on freight spend activity, and to alert the company when things went awry. The problem with such after-the-fact reporting was timeliness, as well as data accuracy and completeness. Identifying a problem that occurred 30, 60 or 90 days in the past left no time for corrective action. The GT Nexus system now gives Williams-Sonoma early visibility to actual freight execution across its logistics network.

With GT Nexus, transportation managers are able to track weekly and monthly variances of planned vs. actual costs and allocations at a lane level. Actual costs can be tied back to landed cost to provide an average freight cost per ocean container (e.g., per FEU). If the actual freight landed cost is higher than forecasted, a logistics manager can take immediate action with changing allocations or logistics service provider activities to combat the overrun.

Technology Deployment

GT Nexus was selected and began working with Williams-Sonoma in February 2005. Initial implementation took 30 days. The ocean bid kickoff occurred in late March and the procurement cycle was completed by the end of April. Williams-Sonoma used structured spreadsheets to upload origin-destination pairs, projected freight volumes, current rates and fees, and other data into the GT Nexus system. The GT Nexus implementation team helped speed the data capture and upload process by suggesting shortcuts for getting in data and verifying accuracy and quality based on their implementation experience with other clients. The GT Nexus team also helped normalize and standardize semantics (such as HK=HKS=Hong Kong), which is critical to being able to take consolidated freight bills and drill into the data for specific lane costs.

Lessons Learned

“Now that we have an electronic contract management foundation for spend management, we are finding we can exploit it to improve product costing and margin management, automate freight audit processes, and take preemptive action on freight cost variance and allocation issues,” says Sands.

Business Results

Benefits for Williams-Sonoma from the global cost management initiative include:

- More accurate freight cost data for sourcing and finance, improving accuracy of overall landed cost and margin calculations.
- A 4-5% reduction in transportation spend through strategic bid optimization.
- A bid process that takes half as long, and a management platform enabling productivity improvements that will absorb significant growth in international freight volumes without needing to increase logistics management staff.
- $150,000 annual cost avoidance from providing electronic shipping instructions. $250,000 in savings recouped from invoicing errors for “double billed” containers.
**Transportation Spend Management**

**Multinational Manufacturer: Using Bid Optimization to Cut Freight Costs**

*A multinational consumer products manufacturer cut its base ocean and air transportation rates by 25% using a new freight forwarder procurement process.*

**Business Challenge**

In early 2005, the global logistics team for a multinational consumer products manufacturer examined industry rate projections for air and ocean rates and became concerned with the forecasted increases. (Because of competitive reasons, the company’s name is not being publicly identified.) The company’s current contracts with the three forwarders that moved 95% of its freight were expiring. As a result, the global logistics team began looking for ways to mitigate these expected industry rate increases when signing new freight contracts.

**Strategy**

The global logistics team’s first strategy was to ask its three incumbent forwarders to provide new pricing, giving them an opportunity to avoid having the company bid out its freight via a formal request for proposal (RFP). In total, the company was spending about $25 million annually on air and ocean freight; this encompassed goods inbound from suppliers, intra-company movements, and outbound shipments to customers, totaling more than 900 routes or “lanes.”

The three forwarders came back with a collective savings estimate of around $600,000. Each provider said it could reduce costs more if it was given the other providers’ lanes. The global logistics team realized that it might be able to reduce rates more if it could run a bidding process that enabled more expressive bidding – e.g., letting providers bundle and unbundle lanes and suggest alternate routings.

Three years ago, during its last RFP process, the company had used a spreadsheet-based reverse auction process. The bidding and awards were inflexible, generally awarding all outbound movements from a site to a single forwarder. The providers were resistant to the reverse auction proc-
ess, as it forced them to bid on destinations that might not suit their logistics networks and was perceived as solely price based.

The global logistics team was interested in better ways to run the RFP process that would let respondents unbundle lanes by mode and wouldn’t be perceived as unfair and harm the forwarder relationships. As a result, the team began to investigate using an expressive bid optimization tool. However, because ocean freight rates had been rising, some people within the company believed that using a bid optimization tool for a general RFP rather than continuing to pursue one-to-one negotiations with the forwarders risked incurring a rate rise instead of a reduction.

The decision to proceed was made because the expressive bidding tool would give providers more flexibility to bid on freight that precisely suited their networks.

**Transformation**

- **Selecting a technology vendor.** The global logistics team chose to use an on-demand expressive bidding tool that had been used successfully by the company’s procurement group for a much smaller indirect materials bid. The tool, from CombineNet, would enable much greater and faster analysis of RFP submissions than would be possible using spreadsheets. Because it is an on-demand tool, the group could move directly into the bid process without having to go through a traditional software evaluation, selection, and implementation. Moreover, CombineNet had expertise in complex global freight procurement so its system could support the intricacies of freight contracts and its staff could provide advice on the best way to run the RFP process to maximize savings.

- **Managing the transition.** The global logistics team was concerned about how to create a selection process that would result in the operational units actually using the negotiated contracts. Because logistics execution is done at the site level, local logistics managers could ignore the central contracts and use outside providers if they chose. This could result in freight cost increases as well as prevent the company from meeting its freight volume commitments for the centrally chosen providers. To prevent this, the global logistics team involved the operational units in the evaluation and selection process, creating buy-in that would result in maximum usage of the centrally contracted providers.

**The New Operating State**

The company embarked on a process to use CombineNet to collect and analyze responses for the award of roughly $25 million of air and ocean freight. CombineNet helped the global logistics team scope out how the lanes would look in the bid (e.g., mode and service level requirements) and what flexibility would be given to the respondents (e.g., let forwarders give alternate routings by providing different port-to-port options for an origin-destination pair). CombineNet’s bid experts made suggestions on how to make the process easier for the respondents and easier to administer, such as suggesting based on past experience how many alternate routings per lane to configure.
The company invited around a dozen top-tier forwarders to complete a paper request for information (RFI), which covered all aspects but pricing. Based on these responses, about 10 companies were invited to participate in the RFP process using the online Combine-Net system. The global logistics team invited these forwarders in for three-hour, face-to-face sessions that explained the bidding process and on-line tool; to insure quality responses, the team required forwarders to send the people who would be directly responsible for completing the online RFP. While some forwarders had used the CombineNet system before, others had not and were initially resistant because they didn’t want to participate in another inflexible reverse auction. Once the process and system flexibility was explained, all but one forwarder chose to participate.

**Getting Operational Buy-In Through Real-Time What-If Analysis**

The first round of expressive bidding lasted three weeks. Two days after the round closed, the team had its site managers from Puerto Rico, Mexico, and the U.S. together to help evaluate the results. Using the CombineNet analysis tools, the group was able to run an unconstrained scenario in which the system determined which lane awards would result in the absolute lowest potential cost for U.S. and Latin American freight. Then the group began interactively running what-if scenarios, such as:

- What if the results were constrained to select one provider in the region?
- What if a particular forwarder was favored because of its high-quality service?
- Which other providers would the system suggest if the top carrier was removed?
- How do supplier preferences for shipping impact costs?

The process helped the regions gain a nuanced understanding of what their options were. It was a dramatically different experience than past spreadsheet-based analysis, in which a region would ask a what-if question and then it would take weeks for the global logistics team to calculate the results and provide a response. With CombineNet, the regions can see what-if results in real time and know that no corporate politics were influencing the output. The global logistics team ran similar analysis sessions with European and Asian site managers via teleconferencing.

Based on the analysis, the three incumbent forwarders and three additional forwarders were invited to participate in a final round of bidding. In this round, the forwarders were allowed to re-bid on all elements and add additional alternate routings. In total, about 20% of lanes (accounting for an even higher percentage of freight spend) had alternate routings defined by respondents. By comparison, the spreadsheet-based reverse auction process previously used by the company allowed no alternate routings.

Analysis of the final expressive bidding round found that the optimal result was to use two of the incumbent forwarders and one new provider. Based on what-if analysis and discussions with the site managers, the company chose to award the business to just the two incumbent forwarders. By doing this, the group passed up $300,000 in additional rate savings but avoided the costs of having to onboard and manage a new forwarder.

Even with this cost trade-off, the company was able to reduce its base freight rates by $6 million, or about 25%. This was 10 times the savings that the company was offered in its original one-to-one negotiations with its incumbent vendors.
original one-to-one negotiations with its incumbent vendors. In the new award process, the forwarder that was previously the top provider lost business and the number-two vendor moved into the top spot. Moreover, while the previous practice was to award all outbound freight from a location to one provider, many more sites were now set up to use both providers. The expressive bidding process succeeded because each provider could now leverage its network more efficiently and thus offer a lower price.

**Technology Deployment**

Using the CombineNet system was straight-forward for the global logistics team as they could use the same type of data that they had collected in their previous spreadsheet process. The most intricate part was designing and configuring the RFP process so that the resulting pricing and data would enable the type of analysis that the team wanted to perform.

**Lessons Learned**

The optimization capabilities of the expressive bid tool was a critical enabler, but the real power was the ability to use the real-time what-if capabilities to involve the site managers in the decision-making process. “It’s all too easy to get a procurement solution that looks good on paper yet isn’t capable of being implemented. With this process, we’ve got something that can be implemented,” said the company’s director of sourcing and global logistics. “We have real and significant buy-in from our internal customers around the organization.”

The company was able to move directly from the award process to executing on the new contracts, eliminating the need to go through a potentially contentious post-award buy-in process with the site managers.

**Business Results**

Using an expressive bidding solution for freight procurement drove the following key business benefits for the company:

- Base air and ocean freight rates reduced by 25%.
- Achieved buy-in from diverse transportation execution groups.
- Helped logistics providers leverage their networks more efficiently.
Import/Export Process Management
Haworth: Maximizing NAFTA Benefits via Automation

The workspace manufacturer avoids $1.2 million in duties through its automated NAFTA qualification and export compliance and documentation processes.

Business Challenge

Haworth designs, manufactures, and ships a significant amount of goods within the NAFTA region, including about 85% of all Haworth exports. To gain the NAFTA benefits of reduced duty rates, Haworth needs to perform NAFTA analysis on these North American exports and maintain accurate records of the qualification of the goods. However, Haworth’s processes, systems, and resources could not support the workload volume required to achieve compliance with NAFTA regulations.

Part of the challenge: Certification data needs to be solicited and managed annually across more than 1,000 Haworth suppliers worldwide for over 43,000 purchased parts. Because Haworth’s product lines are highly customizable (e.g., different fabrics or materials), each customer item ordered can have a unique bill of materials, which requires a separate NAFTA qualification.

Although Haworth had outsourced the NAFTA qualification process to an outside services firm, the costs and volume of ongoing work proved impractical. Because of data and process complexity, the provider performed analysis on only about half of Haworth’s roughly 16,000 NAFTA export products while about 1,000 new parts requiring analysis were being added each month. Haworth determined the outsourcing process was too difficult to manage and too expensive to be a long-term solution. Likewise, the internal process was too labor intensive to manage with existing staff.

Strategy

The complex NAFTA qualification calculations for each item became so onerous that Haworth was faced with four options:

1. Outsource most of the NAFTA qual-

Overview

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<th>Haworth</th>
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<tr>
<td>$1.2 billion manufacturer of adaptable workspaces, including raised floors, movable walls, technology, lighting, seating, and storage.</td>
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<tr>
<th>Solution Provider: Management Dynamics</th>
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<tbody>
<tr>
<td>Management Dynamics (formerly NextLinx) (<a href="http://www.managementdynamics.com">www.managementdynamics.com</a>) provides Haworth with compliance and documentation technology and trade content to manage the NAFTA process.</td>
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<tr>
<th>Business Challenge</th>
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<tbody>
<tr>
<td>How to gain NAFTA benefits of reduced duty rates when certification data has to be managed across 1,000+ suppliers worldwide.</td>
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<tr>
<th>Strategy</th>
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<tbody>
<tr>
<td>Move from using a costly third-party certification service supplemented by a manual internal process to an internal, automated qualification of goods with electronic workflow to suppliers, logistics partners, and brokers.</td>
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<table>
<thead>
<tr>
<th>Results Summary</th>
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<tbody>
<tr>
<td>Cost savings of $225,000 a year; increased regulatory compliance; continued ability to avoid $1.2 million in duties.</td>
</tr>
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</table>
2. Perform analysis on representative samples of groupings of parts to qualify product lines (which wouldn’t be as thorough or as compliant with customs regulations).

3. Forgo NAFTA preferences, resulting in $1.2 million in additional duties each year.

4. Automate the NAFTA program and qualification process.

Haworth’s trade compliance organization had a vision of creating an automated in-house process (option 4) that would ensure compliance with customs regulations, enable the company to continue receiving the financial benefits of reduced duties and taxes via NAFTA, and streamline the compliance process to remove manual activity, paper document costs, and third-party outsourcing costs. Executing the strategy would involve implementing an integrated software solution that would provide a single global trade database, export documentation and compliance, and NAFTA program management.

Transformation

- Selecting a technology vendor. With the in-house automation project approved in June 2003, Haworth evaluated six technology vendors. It sought a vendor with a fully integrated solution for export compliance and documentation that would provide true automated NAFTA analysis – rather than just a data repository to post data qualification results. Management Dynamics (formerly NextLinx) was selected because its solution met these criteria and it had just introduced a web portal for automating the solicitation and management of qualification data from suppliers. Because Management Dynamics also offered import management capabilities, its platform could serve as an integrated, expandable, long-term solution for Haworth.

- Managing the transition. The compliance team reengineered its internal business processes to make the new system work effectively. As the beta customer for the portal, the team worked closely with Management Dynamics to incorporate and test additional features. Significant change management was involved in educating suppliers on how to use the portal, including how to provide harmonized tariff schedule (HTS) classification numbers and certify the country of origin for Haworth’s purchased parts. Supplier acceptance of the portal was critical, as the portal would eliminate a large amount of workload for Haworth and ensure compliance.

The New Operating State

Under the old process, NAFTA analysis was separately managed and results were uploaded into the export documentation system. Paper NAFTA certificates were created for parts on each shipment and sent daily via courier to Haworth’s brokers. Creating the export documentation required Haworth staff to manually consolidate shipments and enter a great deal of repetitive data for each transaction. With the integrated, automated Management Dynamics system, Haworth manages NAFTA certificates, qualifies parts for NAFTA duty preferences, and generates trade documents more accurately and in a fraction of the time:

- Maintaining certificates. The NAFTA analysis module automatically tracks when certificates need to be added or updated. Haworth has configured the portal to send automatic emails to suppliers twice a month for any new or outstanding purchased part information. Suppliers log onto the portal and enter or upload the requested data. The result: faster updates of certificates and more complete data because the portal
forces suppliers to fill in mandatory data fields that might be overlooked in a manual process. Suppliers are also able to print a hard copy NAFTA certificate to sign and send to Haworth at the time they enter their data, simplifying their process and fulfilling Haworth’s record-keeping requirements.

- **Qualifying parts for NAFTA.** The NAFTA qualification process runs nightly using any new data updated in the system. Previously, it took about 10 minutes to manually perform a NAFTA analysis on one part. The automated nightly process with Management Dynamics now analyzes over 16,000 export parts in under 10 minutes.

- **Executing NAFTA transactions.** Haworth now sends its brokers automatic daily data files with NAFTA qualification data and shipment transaction information, helping streamline customs clearance and entry processes. The Management Dynamics system also lets Haworth email documents to customers or trading partners as requested, instead of sending paper documents via courier or fax.

**Technology Deployment**

Haworth integrated the Management Dynamics software into four different internal systems – order management, warehouse management, and two manufacturing (ERP) systems. Information is pulled automatically from these systems into the Management Dynamics system, greatly streamlining and automating the compliance and documentation workflow.

**Lessons Learned**

When Haworth first began implementing the Management Dynamics system, the project team did an initial data load of what was identified as “active” purchased parts numbers. However, what the team found was that this included many obsolete parts and outdated supplier information. Based on this experience, the team suggested a better approach would be to let the new customer orders drive the process of identifying bills of materials and purchased part numbers to be solicited. The system is configured to support this and the NAFTA qualification process is then performed on those active parts. As more orders are processed over time, the parts lists in the system incrementally grow.

**Business Results**

The trade compliance automation strategy eliminated the need for Haworth to perform NAFTA and other export-related tasks manually or outsource them. Key benefits for Haworth include:

- A $225,000 annual savings from eliminating outsourcing costs as well as paper, fax, and courier charges.
- Ability for Haworth’s compliance team to manage larger volumes of transactions with no additional personnel.
- More complete information from suppliers via the Management Dynamics portal, enabling 96% of Haworth’s North American exports to qualify for NAFTA and therefore receive preferential duty treatment.
- Improved compliance by ensuring auditable records for NAFTA qualification and export compliance, as well as timely updates of denied party lists.
Import/Export Process Management

IBM: Re-engineering the Import Process with Brokers

IBM streamlined its import process by giving more flexibility to its brokerage partners while implementing a set of management controls to increase visibility and performance.

Business Challenge

IBM’s Integrated Supply Chain (ISC) group is responsible for all IBM supply chain management activities, including worldwide logistics activities that involve managing a physical distribution network of over 100 locations in 61 countries. More than 2 billion pounds of machines and parts move annually through the network, comprising more than 78,000 products with over three million configurations. ISC’s challenge is keeping goods moving reliably, cost-effectively, and flexibly. ISC needed to enhance its import process to meet this challenge:

- **Reliability.** ISC sought to increase the visibility of import transactions so that it could fix data errors before they delayed shipments, identify aging shipments, and better understand total landed cost and cycle time variances.

- **Cost-effectiveness.** ISC was concerned that its current process, which in some cases involved customs brokers using IBM applications, was duplicating IT costs, since brokers had similar functionality in their in-house systems. ISC also wanted to decrease EDI costs with suppliers and logistics partners, as IBM was paying those messaging charges.

- **Flexibility.** Given the fast-changing nature of the IT market, ISC wanted to be able to plug-and-play the capabilities of its internal operations, suppliers, forwarders, and brokers. This would allow ISC to flexibly “in-source” or outsource parts of the import process, such as classification or entry clearance.

Strategy

ISC designed a strategy to transform its different import management processes and systems in each country into a single, unified approach that flexibly supports local requirements while enabling global report-
ing and performance monitoring. This strategy has a number of principles, including:

- **Leverage broker skills and technology.** ISC wanted to move away from having brokers use IBM applications for customs clearance and begin to let brokers take advantage of their own IT systems instead.

- **Manage through the power of information.** Because brokers would now have more IT responsibility, IBM needed a new way to manage broker quality and efficiency to make sure goods moved across borders smoothly. ISC wanted to put a set of integrated management controls in place that would increase the visibility and efficiencies of import transactions and enable global reporting and metrics.

- **Interface via specialized middleware.** ISC wanted to optimize the use of electronic data feeds such as XML and EDI to maximize efficiency and avoid manual data entry errors. Its vision was to create a “data services gateway” that would let each IBM supplier maintain one interface with IBM instead of having to maintain multiple interfaces to brokers, forwarders, and multiple IBM systems.

**Transformation**

- **Designing technology.** IBM began developing a seamless system to manage global import transactions. The solution’s three main components are: (1) an electronic customs application for commercial invoice receipt and import entry management, (2) a global classification database for customs classifications, and (3) a global data warehouse for import metrics management. The base solution contains standard functionality needed by most countries worldwide and can be modified based on country-specific needs. In addition, IBM-built middleware technology was used to set up a data services gateway, which translates, standardizes, and manages data, presenting the appearance of one interface to external and internal systems.

- **Managing the transition.** For some countries, the new strategy of leveraging partners’ systems and expertise as much as possible created the option of more outsourcing. In these instances, process transformation had to be managed as new business models were developed and integrated management controls put in place. This change also affected ISC staffing and skills requirements, which now shifted toward compliance management skills instead of data entry management. New key performance indicators were created to support this shift.

The strategy also required changes at the brokers. Brokers were engaged early in the planning process to ensure they were aware of the process changes and project timelines so that issues around broker resource availability, technical limitations, and process reengineering could be addressed. In general, brokers liked the new strategy because it enabled them to maintain a consistent process across their customer base rather than having to manage a separate process for IBM transactions. It also improved staff productivity because brokers no longer had to use only IBM system-trained workers to process IBM transactions, and in some cases it eliminated having to double-key data into both an IBM system and an internal broker system.

**The New Operating State**

To provide import visibility, all commercial invoices enter the electronic customs application prior to customs entry and all transaction data is fed back to electronic customs application after customs clearance. Interfaces built via the data services gateway auto-
automatically route data to IBM’s internal systems for payment of goods, freight, duties, taxes, and brokerage fees.

With this solution, brokers now use their own systems, better capitalizing on the brokers’ import processes and skills. ISC still maintains oversight of the process through its integrated management controls. For instance, the system confirms if a harmonized tariff schedule (HTS) code is missing or doesn’t match the global classification database and either corrects the data or prompts the user that additional data will be needed for the final submission. Using the solution’s central data warehouse, ISC can also monitor forwarder and broker performance, such as aging shipments and commercial invoices that still need HTS classification. Cycle times for import events can be tracked, such as how quickly brokers complete entry tasks and how fast freight clears customs. ISC users can also run reports on duty amounts, total landed costs, expected arrival times, and so on.

**Technology Deployment**

The electronic customs application was initially developed and combined with the other systems to create a global import management solution in Argentina. After the solution was implemented and tested in Argentina, other South American countries confirmed its value by migrating to it as well. Shortly thereafter, India and Australia implemented the solution and today Brazil, Canada, and the U.S. are in the process of installing it. Most countries can implement in six months; more complicated installations can take up to a year. The global data warehouse provides views of performance across all these regions.

As part of this process, IBM’s brokers and more than 33,000 suppliers have been electronically connected to IBM via the data services gateway. Forwarders, carriers, and government agencies are also connected. In addition, the gateway integrates to hundreds of internal IBM applications across manufacturing, global logistics, worldwide procurement, worldwide fulfillment, and finance.

**Lessons Learned**

“Improved logistics costs and performance will not be obtained by technology alone,” advises Dipan Karumsi, the ISC Supply Chain Program Manager. “Ensure focus on process design and subject matter expertise.” Where possible, phase suppliers onto new systems so that system glitches or process issues don’t risk slowing or stopping all import activity.

**Business Results**

IBM has achieved its key goals of improving reliability, cost-effectiveness, and flexibility across its worldwide import process. Key benefits include:

- Electronic integration costs reduced from $0.35 per transaction to $0.03 per transaction via the data services gateway. IBM has accumulated over $400 million in savings in six years with the data services gateway.

- Increased flexibility of software to adapt to new models of outsourcing of import tasks. Increased flexibility to plug-and-play suppliers and vendors. And lower overall software costs related to leveraging broker systems better.

- Better visibility of import transactions and global performance.
International Logistics Outsourcing
Redback Networks: Cutting Costs via Outsourcing

The mid-size networking equipment manufacturer cut logistics costs by 30% by outsourcing its logistics operations.

Business Challenge

Redback Networks competes on the high reliability of its broadband networking equipment. Because its equipment is mission-critical for broadband operators, it must support stringent service level agreements (SLAs) to deliver service parts to customers in as few as four hours. The company wanted to better meet its SLAs while reducing the number of global service parts depots, the amount of inventory it had to carry, and the number of people needed to manage the facilities and fulfill orders.

Part of the operational challenge was that Redback had no centralized, real-time visibility to inventory levels at its 50 depots around the world. Instead, depot visibility was managed on spreadsheets and disparate databases.

Strategy

Redback competes on product leadership—the ability to provide the best and most reliable products. Its corporate strategy is to run a highly leveraged business in which it uses external experts manage functions that don’t directly impact or influence customers’ buying behavior. For instance, it outsources manufacturing and IT operations to external subject matter experts while maintaining internal strategic competencies around product design, branding, selling, and customer satisfaction.

Redback’s in-house logistics operations were out of step with this corporate philosophy. The company’s customers did not care who managed parts inventories or delivered their goods, just that the goods arrived on time.

To align its logistics strategy with its corporate strategy, Redback decided to outsource its entire logistics network to a single logistics service provider with high-quality service and strong visibility technology. It wanted a single provider to keep the process simple, visible, and accountable.

Solution Provider: D.W. Morgan

D.W. Morgan (www.dwmorgan.com) manages all of Redback’s global logistics operations and provides the company with inventory visibility.

Business Challenge

Meet stringent customer SLAs while reducing the associated cost structure of depots, inventory, and workers.

Strategy

Outsource its logistics network to a single logistics service provider with high-quality service and inventory visibility technology.

Results Summary

Reduced logistics costs by 30% and inventory deployed in the field by 50%.
Transformation

- **Selecting a single logistics service provider.** Redback used three primary decision factors for selecting the most appropriate provider:
  
  - *Logistics and technology capabilities.* Redback didn’t want to have to buy software, employ people, or manage processes for its logistics activities. Choosing a provider with full-service logistics capabilities and supporting logistics technology was critical. Inventory visibility technology was especially important to Redback because control is derived from visibility. “If you don’t have visibility, then you don’t have control,” says Ebrahim Abbasi, senior vice president of operations, information technology, and customer service. “As a result, you’ll have higher costs because you’ll have to invest in fixed assets and inventory to compensate.”

  - *Agility.* Because the networking equipment market changes rapidly, Redback needed a logistics service provider that was responsive and flexible enough to deal with the maverick nature of the business.

  - *Mindshare.* Meeting customer SLAs is critical to Redback’s reputation. Redback wanted the assurances of the provider’s executives that issues would be personally managed at the highest level of the company.

Weighing these factors, Redback selected D.W. Morgan in 2002 as its global logistics service provider. Although the chosen provider had to be cost competitive, Redback was not looking for the low-cost bidder. “The lowest price sometimes can result in the highest total cost,” continues Abbasi. “We were looking for the total best cost and best value proposition.”

- **Managing the transition.** The transition impacted staff and facilities. As part of the contract, existing Redback logistics staff became employees of D.W. Morgan. In addition, Redback found that D.W. Morgan’s logistics network could use fewer facilities to meet the four-hour SLA requirements demanded by some customers; as a result, 22 of Redback’s 50 depots were closed. Moreover, rather than hold all parts in all locations, D.W. Morgan was able to use a hub-and-spoke system, supported by the web-based inventory visibility application. Four hubs were established: one each in San Jose, Atlanta, Amsterdam, and Hong Kong. This enabled the number of Redback SKUs held at each location to be reduced significantly, cutting total inventory in the field by 50%. Staff transitions and depot closings were completed in the first three months of the D.W. Morgan relationship.

**The New Operating State**

When a customer such as Verizon or Bell South has a Redback card that requires replacement, D.W. Morgan now is fully responsible for meeting the SLA. As soon as a customer reports a card failure to Redback’s technical assistance center, a return material authorization (RMA) is issued that initiates the part replacement process. The RMA is simultaneously sent to D.W. Morgan’s web-based system that provides inventory visibility across every location. The system determines the optimal location for fulfilling the order, instructs the location to pull the item, and dispatches it to a carrier selected to meet the SLA delivery deadline. When the service part is delivered, the failed part is picked up and forwarded to the designated contract manufacturer or repair vendor. In rare cases, the part is sent to Redback for analysis.
D.W. Morgan’s web-based technology supports a tracking function within Redback’s enterprise portal so a customer will know exactly where the part is and when it will arrive as well as such details as the serial number, whether the part is new or rebuilt, its revision numbers, and so on. The only direct involvement Redback now has is to issue the RMA to the customer.

**Technology Deployment**

To streamline the repair process, Redback’s Siebel system, in which RMAs are created, is interfaced directly with D.W. Morgan’s web-based application. Integration has also been done to Redback’s financial system to update warranty information, freight costs, and so on. Eligibility of parts under SLA contracts is easily determined, eliminating warranty replacements for non-covered customers and creating new sales opportunities.

D.W. Morgan’s technology enables customized, web-based interfaces to be used by all parties in the Redback service and returns area. The international hubs in Europe and Asia have the same information as the local warehouse staff in San Jose. With instant access to shipment and delivery information, each location can better manage its inventory and transportation requirements. Third-party repair personnel (who are managed by Redback’s contract manufacturer) also have browser access so they can see part status, expected arrival times, and other information. In addition, Redback’s failure analysis group also has browser access to the system.

**Lessons Learned**

Aligning the company’s logistics strategy with its corporate strategy was the critical success factor. “Don’t do outsourcing for the sake of outsourcing,” warns Abbasi. “Outsourcing can be deceiving. Have a clear understanding of your core competencies and the complexity of your products and business model, and make sure that outsourcing fits into your broader operational strategy.”

**Business Results**

Since outsourcing its entire logistics operation to D.W. Morgan, Redback has gained the following benefits:

- Total logistics costs (personnel, facility, and freight costs) are now 30% less than when Redback managed them.
- The total number of depots needed to serve Redback’s customers has been cut from 50 to 28 while maintaining a four-hour SLA capability.
- Overstocking has been minimized and the total value of inventory in the field has dropped by 50%.

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End-to-end logistics outsourcing drove the closure of 19 depots and cut the total value of inventory in the field by 50%.
International Logistics Outsourcing

Royal Philips Electronics: Collapsing Order Cycle Times via Outsourcing

Philips Semiconductors Europe dramatically reduced lead times and costs by moving to a single end-to-end logistics service provider.

Business Challenge

As one of the world’s leading providers of silicon system solutions for consumer and communications applications, the Royal Philips Electronics’ semiconductors business has to manage a complex international supply chain. Philips Semiconductors includes 20 manufacturing and assembly sites throughout Asia-Pacific, Europe, and the United States, and a sales organization that delivers to and within 60 countries.

Philips Semiconductors was finding it more challenging to compete because its order lead times were longer than many of its competitors. The business had multiple logistics partners in each region, with different partners managing inbound, outbound, and distribution center activities. This prevented end-to-end streamlining of logistics movements and made global visibility challenging. Manual processes contributed to an eight-day average order-to-delivery time for European customers, for instance, and a 118-day procure-to-delivery cycle time from factories in Europe to Asian fabrication and assembly facilities to final customer delivery.

Strategy

To create a faster supply chain, Philips Semiconductors set out to build a best-in-class physical distribution infrastructure. The project called for a total distribution network redesign, with an aim to improve flexibility, reliability, and global visibility – including reducing order lead times to 48 hours regardless of a customer’s location.

Analysis showed the best way to achieve this was to simplify down to one warehouse per region and one logistics service provider per region. Restructuring was done

Royal Philips Electronics

$36 billion diversified electronics, lighting, medical systems, and semiconductor manufacturer.

Solution Provider: UPS SCS

UPS Supply Chain Solutions ([www.ups-scs.com](http://www.ups-scs.com)) is the sole provider of inbound and outbound logistics management and warehouse services for the European Philips Semiconductors business and its Asian factories. Technology used includes UPS’s Flex Global View supply chain visibility system.

Business Challenge

Insufficient flexibility, reliability, and visibility in its international supply chain. Manual processes and multiple, unsynchronized logistics service providers led to lengthy order-to-delivery times and order errors.

Strategy

Move to one end-to-end logistics service provider that could deliver flexibility, reliability, and visibility.

Results Summary

Order turnaround for European customers dropped from eight days to 48-72 hours; logistics cost reduced 10-15%.
first in the United States, then Asia-Pacific, and lastly in Europe. Following is how the European transformation was achieved.

Transformation

- Selecting a single logistics service provider. To identify a single provider to handle the European region’s end-to-end logistics requirements, Philips Semiconductors invited nine logistics service providers that had international logistics capabilities to respond to a Request for Information (RFI) and provide their service and quality capabilities. A selection committee composed of representatives from operations, IT, corporate supply chain management, finance, and administration reviewed the providers’ capabilities. The committee also evaluated the providers’ past performance serving Philips or the providers’ key performance indicators (e.g., performance on meeting designated service times) for non-Philips contracts. Using this information, which did not include pricing, the selection team narrowed the field to four contenders. The next step was a formal Request for Quotation (RFQ) process in which price was also factored.

The RFI/RFQ process took six months and culminated with the selection of UPS Supply Chain Services to be Philips Semiconductors’ single logistics service provider for its European region. UPS SCS was chosen because of its quick grasp on what the business was striving to achieve and how to execute it. UPS SCS’s global capabilities and its information architecture also were key decision factors.

- Managing the transition. Change management was important to project success: The European region had been using the same distribution center service provider for 10 years and the same transportation service provider for seven years. By comparison, UPS SCS had not been used before by the European business, so its capabilities were not well understood by Philips Semiconductors staff. Two dedicated implementation managers, one from UPS and one from Philips Semiconductors, helped smooth the transition and gain acceptance by the business.

The New Operating State

With UPS SCS operating as the single end-to-end logistics service provider, Philips Semiconductors Europe has seen significant improvements in cost, speed, and service.

- Streamlining logistics process. Orders of semiconductors assembled in Philips’ five industrial warehouses across Asia are pre-labeled for final destination and consolidated from each origin for shipment. UPS has staff on-hand at the Asian facilities to do the physical labeling of shipments and resolve any logistics issues that arise. Shipments are flown to Amsterdam or Frankfurt, where UPS supervises the customs clearance process. UPS then transports the goods to the UPS SCS multi-client facility in Herkenbosch, the Netherlands, where it performs shipment deconsolidation, warehousing, cross docking, and pick and pack of all incoming goods. From there, Philips Semiconductors packages are shipped via UPS’s package and LTL network to over 1,500 customers throughout Europe. The process is more automated and less manual than before, resulting in fewer order errors and delays.

By using a single end-to-end logistics service provider, Philips has been able to lower costs while providing faster service to its customers.
• **Increasing DC bypass.** Because of enhanced network flexibility and visibility, Philips Semiconductors has increased the amount of orders that bypass the European distribution center (DC) and go straight from the Asian assembly locations to the customer. Direct shipments now account for 60% of orders, up from 20% before the transformation, creating speed and cost benefits.

• **Lowering transportation costs.** UPS SCS has been able to lower costs by closely monitoring order due dates and appropriately moving shipments from fast air service to slower but less expensive ground service while still meeting customer dates.

• **Streamlining communications.** Philips Semiconductors now has one point of contact for all logistics issues, streamlining communications and eliminating finger pointing and other hassles.

• **Simplifying logistics payments.** Billing for customs brokerage, freight and package services, duties, and taxes all happen via UPS SCS through one consolidated bill rather than via multiple service providers. This has reduced administrative costs by simplifying invoicing and streamlining bill reconciliation.

**Technology Deployment**

To provide Philips Semiconductors with supply chain visibility, UPS SCS deployed its Flex Global View system. The solution includes tracking, flags, and alerts integrated into Philips Semiconductors’ SAP system. This enables the customer service department to quickly view order status using the SAP user interface and purchase order number rather than having to look at different systems. Key events monitored include goods packed for air freight, arrived at airport, offloaded and trucked to cross-dock, cross-docked, customs clearance, and shipped through final destination network.

**Lessons Learned**

Moving to a single logistics service provider has resulted in tremendous benefits for Philips Semiconductors, according to Monique Achterberg, the company’s Global Supplier Manager, who led the project. Key to success was the in-depth study of potential logistics service providers that allowed the most appropriate provider to be selected using both cost and quality comparisons. Because the selection and transition process is time and resource consuming, the global supplier manager advises companies to re-evaluate their logistics service provider choice once every three years rather than more frequently. However, rate reviews with the chosen provider should be done annually.

**Business Results**

UPS SCS has given Philips Semiconductors a single point of accountability and transparency that simplifies the supply chain. Key business results include:

• From an industrial warehouse in Asia to a customer in Europe, the entire order fulfillment process now takes as little as 48 to 72 hours, down from eight days. This has made Philips Semiconductors a more competitive provider for customers.

• Logistics costs have been reduced by 10-15%, driven by process efficiencies, more DC bypass, and increased mode shifting from parcel to ground for final delivery.
Author Profile

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Beth Enslow is vice president of enterprise research for AberdeenGroup. Enslow benchmarks and advises companies on how they can reshape their supply chain, global trade, and transportation processes and technology strategies to drive business value.

Prior to joining AberdeenGroup, Enslow was senior vice president of strategic development for Descartes Systems Group, a global supply chain software company. At Descartes, she led initiatives in such areas as RFID, wireless-enabled delivery, and inventory performance management. Before that, Enslow was research director at Gartner, Inc., where she ran its supply chain planning and logistics advisory practice on a global basis. She has worked for a number of other research and consulting organizations, including the Conference Board, a leading business think tank and economic forecasting organization. Enslow is also a lecturer on transportation technology at the Center for Supply Chain and Logistics Management at York University’s Schulich School of Business in Toronto.
Appendix A:
Related Aberdeen Research & Tools

Related Aberdeen research that forms a companion or reference to this report includes:

- The CFO’s Agenda for Global Trade Benchmark Report (September 2005)
- Grappling With Globalization: A Blueprint for Global Trade Management (August 2005)
- Low Cost Country Sourcing Success Strategies (June 2005)
- New Strategies for Global Trade Management (March 2005)
- Are Your Inventory Management Practices Outdated? (March 2005)
- Be Nosy with Your Suppliers If You Want to Be Best in Class (August 2004)

Information on these and any other Aberdeen publications can be found at www.Aberdeen.com.
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