

MODUSLINK SOLUTIONS

Optimized Configuration Solution



THE MOST TRUSTED LINK IN YOUR SUPPLY CHAIN


ModusLink

Technology Companies Trust ModusLink for the Design and Execution of an Optimal Performing Supply Chain

“Go-to-Market” Challenges Drive Change in Supply Chain Strategies

Price and margin erosion, high logistics costs, increasingly shorter product life cycles, and the proliferation of product innovation and personalization, are driving change in supply chain strategies.

As SKUs multiply and brand owners accelerate new product introductions globally, the strain on the supply chain is building and the challenge to optimize efficiency and operating flexibility, becomes increasingly more complex. Even the lower labor costs and tax benefits of regions such as China, have failed to produce results for many companies, often due to a failure to reconcile all necessary factors throughout the extended supply chain network.

Typical “push” based distribution strategies — which rely heavily on the sales forecast to drive production volume — neglect the demand side of the value chain. With high levels of forecast inaccuracy and longer, more variable manufacturing and logistics lead time, the typical manufacturing to distribution strategy can result in:

- Idle, excess and obsolete inventory
- Excessive rework
- Lost sales opportunities
- Poor customer service experiences

Sensing demand accurately is difficult enough, but meeting demand efficiently, timely and profitably requires the use of demand-driven, product configuration strategies — such as postponement and deferred configuration.

ModusLink’s Optimized Configuration Solution Improves Supply Chain Efficiency and Profitability

ModusLink’s Optimized Configuration Solution helps clients design and execute a more flexible global supply chain, leveraging the best time and place in the supply chain to perform final configuration, packaging and distribution of products. By executing these key processes in-region, and later in the cycle when demand is more established, clients can improve time-to-market, lower costs and optimize component and finished goods inventory to better meet global demand.

This design optimization requires comprehensive analysis of all the critical supply chain cost factors — and the trade-offs among them — while taking into account the impact of a wide range of key operating variables.

To rapidly deliver the most, detailed and precise analysis, ModusLink offers clients a comprehensive Network Optimization and Simulation Service, which couples our proven expertise and methodologies with the industry’s best tools in network optimization, discrete event simulation and inventory management. Based on your specific objectives, we can optimize the supply chain for cost, profit, revenue, lead time, or a customized mix of these priorities.

This integrated, end-to-end solution includes a number of core services and capabilities to ensure optimal design and ongoing execution of a more flexible supply chain capable of adapting easily to shifts in demand, rising costs and other challenges that erode profitability.



Design for Success

The complexities of the network design process place a heavy burden on manufacturers today. Whether you are dealing with highly configurable or personalized products, offering a wide array of product options and SKUs, or simply looking to improve the efficiency, cost or time-to-market for your supply chain, ModusLink helps you design for success. Where supply chain models previously served company needs for at least a three to five year period, they can now require optimization as frequently as every quarter.

Product and Strategy Alignment

ModusLink helps clients take advantage of key product configuration and direct ship strategies to better align supply and demand as the preference for highly personalized and customized products continues to increase.

By deferring configuration and/or postponing kitting, packaging and localization—so it can be done in-region, closer to the customer base and/or closer to the time an order is placed—component inventory and finished goods availability can be optimized, reducing excess and obsolescence and minimizing the need to rework when the sales forecast falls short. The added flexibility, coupled with direct shipping when appropriate, enables you to meet demand quickly and with less inventory and capital investment.

In addition, regional tax treatments can vary between a fully configured and/or packaged product versus the individual components. Significant savings can be recognized, if managed correctly within the global supply chain network.

Understanding the implications of regional assortments and operating practices, requires extensive expertise and ModusLink has more than 25 years of experience helping clients successfully maneuver these waters with the proper mapping of products, customer needs and strategies.

Optimized product configuration is not a one-size-fits-all strategy.

Execution of this late-stage configuration is particularly well suited to being outsourced . . . by outsourcing this function companies are free to work on marketing, innovation, and new product development.

AMR Research, Supply Chain Outsourcing: Opportunities in Postponement

Network Optimization and Simulation

To design the right global supply chain network for each product or product line for clients, ModusLink conducts in-depth analysis of the complete range of physical supply chain cost trade-offs, including materials, conversion, logistics and inventory; while taking into account critical operating variables, such as location, capacity, taxes and lead time.

To enhance this analytical process and further improve decision making, clients can opt to utilize **ModusLink's Network Optimization and Simulation Service**. This Service, which combines our knowledgeable experts and proven design methodologies with the industry's leading Network Optimization and Simulation technology, expedites the design process and ensures even more granular and precise evaluation of large amounts of critical data and operating variables to determine the optimal-performing supply chain network. These robust tools also facilitate simulation and testing to predict how well the suggested network design will perform in real-world environments, providing valuable metrics for inventory levels, cycle-time measurement, and warehouse fill rates, as well as, detailed costing.

The result is implementation of a more flexible global supply chain network capable of addressing your specific challenges in such areas as sourcing, transportation, logistics, inventory management and customer service, on a continuous basis as dynamics change.

Benefits of ModusLink's supply chain design services include:

- Improved breadth, depth and accuracy of analysis for more informed decision making
- Detailed, real-world metrics to facilitate better planning and implementation
- More rapid design for faster time to implementation and profitability
- Tailored optimization capable of solving specific challenges and addressing your top priorities
- Reduced risk of inefficiency and waste by maintaining network optimization



Execution Excellence

The End-to-End Experience

As companies continue to globalize their operations, each successive step in the supply chain adds a layer of complexity.

In addition to ensuring that the network design is optimized at all times, ModusLink establishes proven repeatable business processes that standardize the day-to-day execution of a complete range of services and solutions across the end-to-end supply chain, including:

- Network Optimization and Simulation
- Sourcing and Supply Base Management (with optional VMI)
- Materials and Content Management
- Light Manufacturing and Optimized Configuration
- Fulfillment and e-Business
- Returns Management and Inventory Asset Disposition

With an integrated, end-to-end solution from a single provider and dedicated account management, technology companies can minimize redundancy, waste and administrative management and focus their internal resources on their core competency — their products.



We Are Uniquely Positioned to Help you Succeed...

Unmatched Global Footprint

With ModusLink's numerous integrated facilities available in 13 different countries throughout the key economic regions of the Americas, Asia and Europe, final configuration and distribution can take place in any location(s) that best suits your needs — from point of manufacture, in a regional solution center near your customer base, or in a lower-cost production region such as Eastern Europe, Mexico or China.

ModusLink offers a global footprint that is unmatched in the supply chain outsource industry and has the global presence required to meet any supply chain objectives, from helping clients enter new geographic regions, get closer to their customer base, and/or leverage the benefits of lower-cost production destinations. In addition, we consistently evaluate our footprint to identify expansion opportunities that generate additional value for our clients.

Trust the ModusLink Advantage

For 25 years, the world's leading technology manufacturers have trusted ModusLink to provide innovative supply chain processes and solutions that solve their most difficult go-to-market challenges. With a proven track record for delivering measurable results, we have earned our reputation for excellence and are quickly becoming the supply chain partner of choice for companies in a number of key markets, such as Consumer Electronics, Computing, Storage, Communications and Software. Our vertical market expertise, world-class technology infrastructure, unmatched global footprint and award-winning services, differentiate us in our industry and can help differentiate you in yours, to ensure the highest levels of competitive advantage and operating success.



Client Benefits

ModusLink's Optimized Configuration Solution ensures that the most efficient, flexible and cost-effective global supply chain network is developed and executed on an on-going basis, providing clients with a competitive advantage in their market and measurable benefits, including:

- **Faster time to market**
- **Improved inventory management with less rework, excess and obsolescence**
- **Increased sales potential and customer satisfaction**
- **Reduced inventory levels, capital investment and risk**
- **Lower total supply chain costs**

CASE STUDY

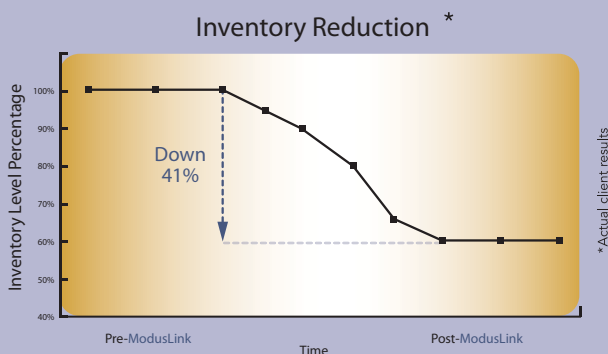
ModusLink's Optimized Configuration Solution Improves Global Supply Chain Performance for a Leading Manufacturer of Consumer Storage Products

After initial savings, ongoing optimization reduces total costs by another 24%

A leading manufacturer of consumer electronics storage products turned to ModusLink after rapid growth began to overwhelm its global supply chain infrastructure and put service levels at risk to its high-priority retail sales channel.

Leveraging our expertise, footprint and comprehensive services and solutions, ModusLink helped the client shift from a single point of global distribution to a regional model that deferred configuration until demand was more established. The new supply chain network utilized strategically located solution centers in North America, Europe and Asia, as well as facilities in the lower-cost regions of China and Czech Republic, for certain longer lead time products. This helped maximize finished goods inventory, lowering excess, obsolescence and rework when the forecast falls short.

The new model resulted in a reduction of total supply chain costs by \$32 million and enabled the manufacturer to deliver the highest possible service levels with 41% less inventory.



Ongoing optimization is critical for maintaining flexibility and efficiency as shifts in demand and market dynamics occur. After a subsequent design analysis project a year later, leveraging our Network Optimization and Simulation Service, we determined that further costs savings could be achieved by making a location change in the global network and implementing a number of proposed initiatives, including new packaging and creation of a new online procurement system. This optimization resulted in a reduction in total costs by 24% for the manufacturer.

For more details, please view our case studies at www.moduslink.com.

CHALLENGES:

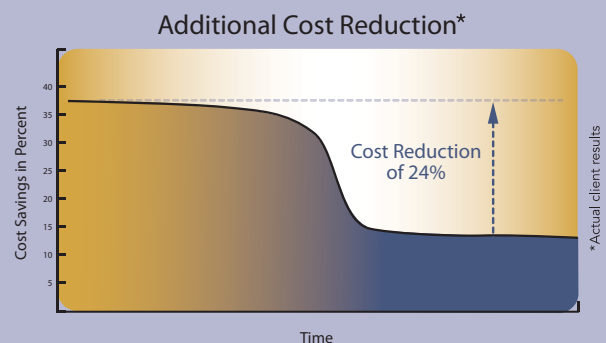
- Inadequate single-site global distribution network hampered growth, putting service levels and customer satisfaction at risk
- Difficulties with demand planning and forecast inaccuracy resulted in inventory excess and substantial rework
- Infrastructure and process constraints, coupled with rising costs, reduced margins and profitability

SOLUTION:

- Leveraged best of breed technologies and design methodologies for comprehensive analysis tailored to achieve specific objectives
- Utilized advanced simulation tools to test model performance in a real world environment
- Implemented new global supply chain network adding sites in-region, as well as in lower-cost production destinations for some products
- Utilized world-class demand planning and inventory management to lower costs, excess and rework
- Implemented new processes for sourcing, order management and reverse logistics

RESULTS:

- Increased materials planning accuracy and component availability from 65% to a consistent 99%
- Improved on-time shipping rates to 99%
- Decreased inventory levels by 41%
- Initial redesign yielded a reduction in total costs by \$32 Million
 - A subsequent design optimization project a year later, lowered total costs by another 24%



Technology and Infrastructure

Globalization adds complexity and risk to supply-chain processes making seamless integration all the more critical for efficient management of products across geographies. As supply chains become more dispersed, visibility, control and productivity can begin to erode. ModusLink offers an un-paralleled operating and technology infrastructure that serves as the backbone of a client's fully integrated global supply chain. ModusLink's services and solutions infrastructure is comprised of:

- Globally Integrated Operations
- Global Technology
- Supply Chain Expertise
- Supply Chain Planning and Execution
- Managed Logistics
- Account Management

This highly efficient infrastructure provides the visibility and control needed for better decision making, quicker response to customer and global market dynamics and more effective asset utilization across services and across geographies. By leveraging its robust operating infrastructure, ModusLink proactively delivers continuous process improvement to clients enabling them to gain accolades with customers, a competitive edge in their industry and operating advantages in the global marketplace.

GLOBALLY INTEGRATED OPERATIONS

With numerous ModusLink sites strategically located around the world, our global footprint and operating efficiency is unmatched in the industry. Our world-class infrastructure leverages an integrated global systems platform, standardized process execution, industry expertise and local market knowledge to provide clients with more effective global operations management.

With Solution Centers around the world executing common high-quality processes, clients benefit from a single, standardized view of operations, assets and inventory. Clients can seamlessly manage and migrate inventory between multiple Solution Centers and across services functions for maximum asset utilization and minimal waste, excess and obsolescence.

GLOBAL TECHNOLOGY

Our state-of-the-art, globally integrated information technology platform is a key differentiator for ModusLink and its clients. At the core of ModusLink's operating infrastructure is its world-class information technology platform which combines the leading ERP system with best of breed technology applications, seamlessly configured and integrated across the globe, to execute your supply chain processes for maximum

efficiency. Additionally, ModusLink has extended the core functionality of its ERP system by integrating the industry's best technologies for business intelligence, standardized messaging, CRM, logistics management, e-commerce, financial management and client reporting — delivered via your desktop in real time.

SUPPLY CHAIN EXPERTISE

Clients benefit from a professional services organization that includes subject matter experts in all key supply chain disciplines with multi-geography and vertical market experience that helps reduce the complexities of global supply chain management. The result: a differentiated, top-performing supply chain.

SUPPLY CHAIN PLANNING AND EXECUTION (SCP&E)

Using a combination of proven, internally developed tools, vertical industry knowledge, VMI techniques and standard MRP and planning methods, our innovative SCP&E solution improves materials availability and inventory turns with lower investment. Our solution helps clients determine appropriate replenishment levels and production models, and accurately factors in the impacts of migrating parts of the supply chain inventory to new geographies when shifts in global demand arise.

MANAGED LOGISTICS

Our world-class solution integrates the capabilities of leading 3PL organizations from a single platform available on the client's desktop. This flexibility enables clients to leverage cross-carrier route and mode selection for optimal service performance at the best possible price points. We provide proactive, event-driven shipment exception reporting; customer-specific packaging and labelling specification; retail shipment compliance; volume shipment consolidation; multi-vendor route selection; export compliance processing; delivery track and trace capabilities and more for the best price and fastest time to market.

ACCOUNT MANAGEMENT

We provide our clients with a team of resources responsible for being the on-site voice of the client in our operations. Because of our unique position in our clients' supply chains, the Account Management function typically becomes a valuable member of our clients' organization; advising on opportunities to improve service, cost, and quality performance to deliver greater shareholder value within our clients' organizations.



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