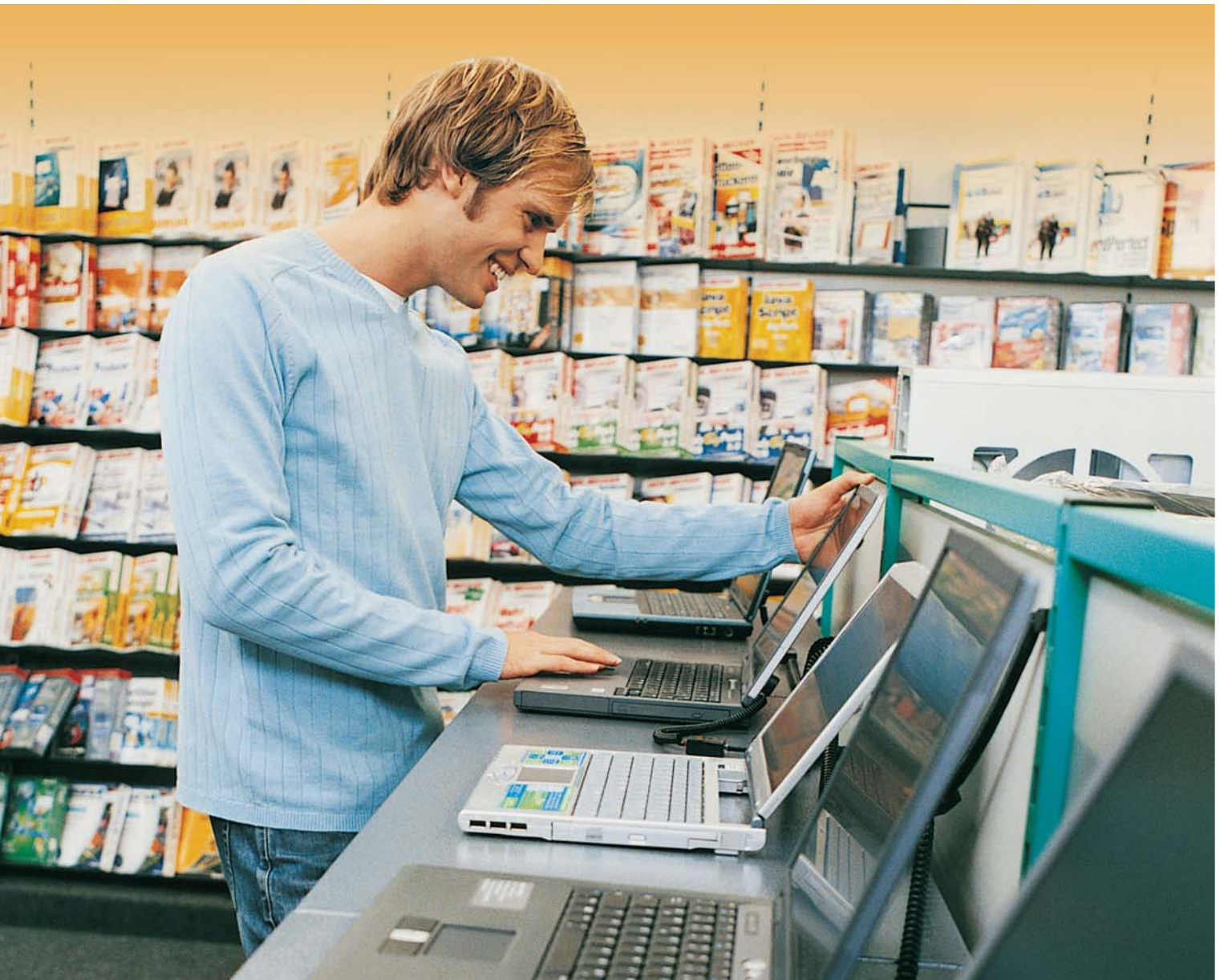


# CUSTOMIZED COMPUTER ACCESSORY KITS

Product Completion Case Study



# EXECUTIVE SUMMARY

RR Donnelley Global Turnkey Solutions provides the European operations of a leading hardware manufacturer with an integrated solution that delivers efficiencies throughout the entire supply chain. The solution involves a direct-line feed of customized accessory kits for all of the company's computer product lines and includes managing more than 60 worldwide component suppliers — consolidating what was a fragmented supply chain and logistics function.

The result is an efficient, flexible, and highly integrated solution that meets strong growth forecasts, better manages material availability, increases supply chain visibility, accurately merges customized accessory kits within the assembly line, and enables the client to offer its customers:

- Price reductions
- More customized product configuration
- Faster product delivery times
- Improved customer experience

## Client's Key Reasons for Choosing RR Donnelley

- Innovative postponement model
- Global presence
- IT infrastructure and expertise
- Flexibility
- Track record of ongoing innovation
- Financial stability

**Scheduled reviews maintain communications as well as an environment of continuous improvement.**

## BACKGROUND

The client's meteoric rise to the top of the PC market results partly from its innovative concept of allowing customers to create highly customized products through its Web store, then receive the orders within a matter of days. This successful approach and resulting growth in sales, nevertheless, put pressure on the existing manufacturing structure. The company developed a strategy to focus on its core competencies — providing the highest quality build-to-order computer — while turning to an outsourcing solution to manage the complex aspect of procurement, order fulfillment, and distribution.

## CHALLENGE

In order to support its successful European Web store and build-to-order manufacturing strategy, the company needed a flexible and innovative turnkey partner that could support strong growth forecasts as well as deliver a steady flow of process improvements and cost reduction ideas. This single partner would need to manage more than 60 suppliers (now 75) and consolidate the existing but fragmented supply chain and logistics function.

An efficient, flexible, integrated solution was needed to produce customized accessory kits on a 24/7 basis for all of the company's product lines including notebooks, desktops, and servers with 100 percent serialization of all kits — a 1-to-1 match with the customer's CPUs.

Further, the company's increasing global sales would require expanded production capacity and flexibility within its current facility. The customer initially required a 30,000+ per day kitting capacity (now 50,000) with each kit requiring an average of 16 touches. The peak

to average volume requirement was 10:1, with significant quarter-end skews. To achieve this, existing processes would need improvements, efficiencies, and IT integration. Thus, a turnkey vendor was needed that could provide strong engineering, technology and operations expertise, in addition to world-class supply chain management.

## SOLUTION

The customer selected RR Donnelley as the single source, European turnkey provider because of its expertise in integrating and managing its customers' business requirements. The process began with an important supplier consolidation initiative, which involved managing all documentation, software kits, and components — 2,300 unique items in all — including:

- Microsoft kits
- Tech sheets/guides
- Third-party software
- Keyboards
- Mice
- Modems
- Mouse pads
- Cables & power cords
- Print & packaging

*(Please see Premanufacturing Support Model on page 3.)*

The RR Donnelley team also streamlined the assembly process by managing material availability and its location on the assembly line, overseeing the sequencing and tracking of kits, interfacing with its customer's IT systems, and generating automated reports (e.g., activity, performance and KPI reports). While the customer configures PCs, RR Donnelley prepares everything else in the form of a unique order "kit" and integrates it in-line to the customer's facility just-in-time for the PC

to be dropped in and shipped to the final customer — custom built for each individual.

The RR Donnelley facility receives notification when a PC is in its final stage of production and then shuttles the order-specific kits between facilities for final order preparation and shipment. The turnaround is efficient and dynamic, accommodating customization dictated by factors such as the destination country of shipment, power systems, cables, instruction booklets, etc. RR Donnelley manages on average 350 engineering changes, 350 new parts per quarter and 2,300 total parts across the supply base.

### Enabling Supply Chain Visibility

Providing superior supply chain visibility is one of the key features of the model. Forming the foundation of the RR Donnelley IT solution is IViewXT™, which provides visibility for demand-driven supply models across the key product completion stages:

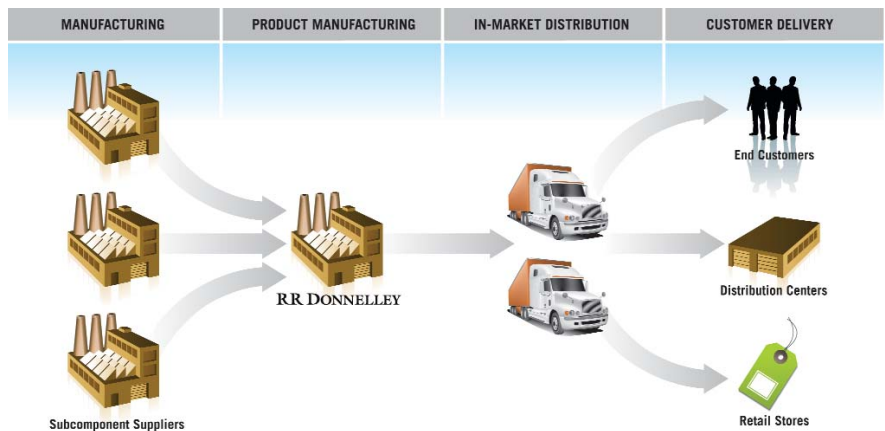
- Sourcing/Procurement
- Inventory Management
- Assembly
- Configuration
- Customization
- Testing
- Packaging
- Fulfillment/Distribution

In this case, IViewXT enables supply chain visibility of the complex sourcing/procurement process and inventory management. The system provides a vital communication link among the Tier II supplier network, RR Donnelley, and the logistics partners, with daily tracking updates available. Further, RR Donnelley accomplished rapid setup and implementation of this unique IT solution. The system provides a live continuous data flow consisting of 1 million electronic

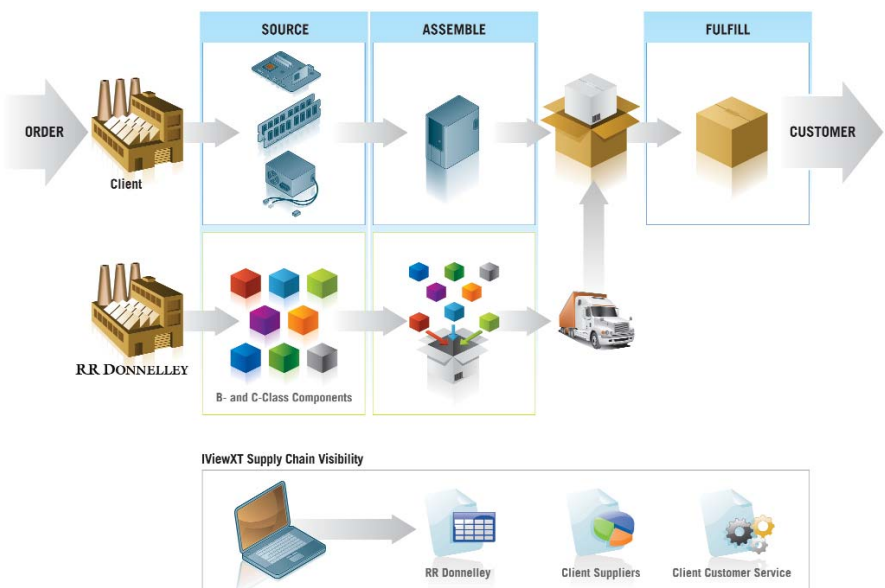
transactions per day and 3.5 GB of data. System redundancy — LAN, WAN, and Systems — provides high availability along with automated monitoring, 24/7 support, and automatic failover.

Today, IViewXT provides online Web access to 615 customer users and 75 suppliers (33 worldwide suppliers) who can receive real-time inventory and transaction reports, gain supply pipeline visibility, and request customized reports. *(Please see Greater Throughput chart below.)*

### PREMANUFACTURING SUPPORT MODEL



### GREATER THROUGHPUT AT LESS COST AND IMPROVED CASH FLOW



## RESULTS

By consolidating its entire PC kit supply chain through one turnkey vendor, the computer hardware manufacturer was able to offer its customers price reductions, more customized kit configuration, and faster product delivery times. Working collaboratively, RR Donnelley and the customer first reduced the order release to factory-merge cycle time to 80 minutes and then to just 50 minutes. Our two companies also continue to work at compressing new product life-cycles — providing faster time-to-market at lower conversion costs — in a continuous improvement process of sharing information and ideas.

Key advancements over the nearly 10-year relationship include:

- Significantly improved velocity within the customer's facility that resulted in a 52 percent increase in line throughput from less than 250 units per hour (UPH) to more than 400 UPH
- A net space reduction of 200,000 square feet with consolidation of three facilities into one
- A kit inventory decrease from more than 30 days to less than 10 days, with zero days at the customer's facility
- Greater quality increase, from more than 1,100 defective parts per million (DPPM) to less than 50 DPPM
- Support of a Malaysia Direct Ship model
- Improvement in the customer's cash flow by moving to a pay-by-consumption model for accessory kits
- Reduction of materials savings by 21 percent and total costs by 12 percent

RR Donnelley's performance excellence resulted in being awarded further business when the customer elected to make RR Donnelley the sole turnkey supplier of customized accessory kits for a new manufacturing plant in Eastern Europe.



**RR Donnelley Global Turnkey Solutions is a technology and segment leader in supply chain management services focused on product completion. We provide a wide range of outsourcing capabilities to some of the world's largest companies. Services range from materials sourcing, product configuration, and testing to customized kitting and global fulfillment.**

## **WHO WE SERVE**

### **Medical Products**

- medical devices
- pharmaceuticals

### **Technology**

- computer hardware
- peripherals
- software

### **Communications & Networking**

- networking systems & components
- telecommunications

### **Retail**

- consumer electronics
- private label

## **GLOBAL PRODUCTS AND SERVICES**

books  
business communication services  
business process outsourcing  
catalogs  
commercial print  
direct mail  
directories  
distribution, logistics, print fulfillment & kitting  
document outsourcing & management  
e-business solutions  
financial printing & communications  
forms, labels & office products  
magazines  
premedia technologies  
product usage documentation & in-box materials  
retail inserts  
RFID & bar coding  
supply chain management solutions

We serve many of the leading computer hardware and peripheral manufacturers, helping them apply sophisticated demand-driven technologies to achieve superior process control, thereby increasing capacity while reducing costs, cycle times and inventory requirements. RR Donnelley also specializes in complex, multiversion in-box material production, transforming how technology manufacturers produce and manage their documentation materials.

The services we offer include: strategic sourcing, light assembly, testing, packaging/kitting, and global fulfillment. Our creative solutions generate value by delivering products cost-effectively, on-schedule, and by providing customers with an avenue to outsource noncore functions and expand capacity without adding assets.

Global Turnkey Solutions' demand-driven approach helps companies create more customer relevant products through customization and by bringing production, fulfillment, and distribution as close to end markets as possible. Our local facilities serve major geographic regions and allow companies to customize products and information for individual customers and markets without sacrificing speed or cost-efficiencies.

**To receive more information about our services for technology products as well as case studies from other segments including communications and networking, retail, and medical devices, please contact your RR Donnelley representative or send an e-mail request to [gtsinfo@rrd.com](mailto:gtsinfo@rrd.com).**

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