



SUCCESS STORY

# Dimensional Weight Optimization Cuts Shipping Costs and Drives Sustainability

## Custom Packaging Redesign Reduces Shipping Costs and Boosts Efficiency for a Global Brand



A leading sporting goods brand faced a significant challenge in its fulfillment operations. New FedEx regulations imposed a surcharge on packages exceeding 48 inches in length, and their existing boxes were over that limit.

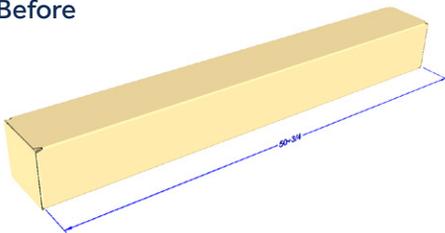
Given its high-value products, a strong retail presence, and a growing share of e-commerce sales, the company could not compromise on product protection or the unboxing experience. However, even small increases in parcel costs would result in tens of thousands of dollars in unnecessary shipping fees.

In addition to shipping concerns, the existing box design created fulfillment inefficiencies and made mid-cycle modifications difficult. The packaging team needed to move quickly without disrupting operations, retail readiness, or brand integrity.

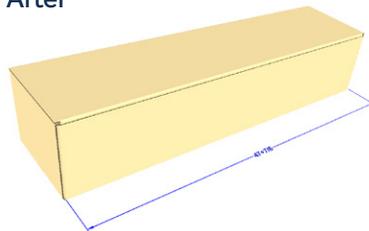
Smurfit Westrock Packaging Solutions addressed these needs. Packaging engineers and sales specialists partnered with the customer and redesigned the boxes, focusing on shipping cost optimization and operational integration.

The structural redesign reduced the box length and slightly increased the width, enabling the product to sit diagonally while maintaining visual appeal and product safety. Our engineers set the new box dimensions to reach exactly 48 inches, avoiding the surcharge without compromising function or branding. Right-sized packaging also improved how parcels flowed through small-parcel carrier networks, supporting faster, more predictable home deliveries for online orders.

Before



After



### Challenge

A global sporting goods manufacturer set out to redesign oversized packaging to avoid a new FedEx surcharge, enhance conveyor performance, and maintain a premium brand experience within a tight timeline.

### Solution

Smurfit Westrock Packaging Solutions re-engineered three boxes (small, medium and large blanks) to meet the 48-inch size limit, accommodated late-stage design changes, and enhanced structural performance through close collaboration between engineering and sales teams.

### Results

The redesign eliminated costly shipping surcharges, increased fulfillment efficiency, and upheld the brand's premium presentation. It directly contributed to sustainability goals by reducing material waste and led the customer to recognize Smurfit Westrock Packaging Solutions as a top supplier.



From initial concept through rollout, Smurfit Westrock Packaging Solutions delivered engineering prototypes, managed timelines, phased out existing inventory, and coordinated a smooth packaging transition. The packaging redesign delivered measurable, strategic benefits. The company avoided shipping surcharges, resulting in significant cost savings. Additionally, the new design improved conveyor performance, preserved the premium unboxing experience, and reduced material waste.

### Key Outcomes:

- **Shipping cost savings:**  
Redesigned boxes met size limits to eliminate surcharge fees
- **Improved efficiency:**  
Optimized structure performed better on conveyor systems
- **Brand integrity:**  
Maintained premium packaging feel with improved end-cap visibility
- **Sustainability gains:**  
Reduced material use, improved recyclability
- **Strategic partnership:**  
Recognized as a top-performing supplier by the client
- **E-commerce performance:**  
Protected margins on direct-to-consumer shipments while preserving the premium unboxing experience

With new Extended Producer Responsibility (EPR) regulations emerging, this project positions the company for future success by reducing material use and enhancing recyclability. Looking ahead, initiatives such as RFID integration and sustainability tracking are planned as Smurfit Westrock Packaging Solutions continues to support evolving operational and regulatory requirements.

This partnership demonstrates the value of a full-service packaging provider. The project was not only a box redesign, but also a rapid response, proactive problem-solving, and effective collaboration that transformed a compliance challenge into a competitive advantage.