

The Hidden Power of the Pallet

Packaging Design, Logistics, and the Business Case for Optimization

By Lindsay White

Truth be told, pallets aren't exciting or sexy. They're typically wooden, square-shaped structures used to carry freight.

But pallets are the foundation of product distribution and storage. Today's most innovative companies are paying closer attention to pallet optimization because small improvements can create significant savings in transportation, warehouse space, and operational efficiency.

From Overpackaged to Optimized

For a consumer electronics customer, design engineers reimagined packaging for a computer product using a balance of materials science, protection requirements, logistics considerations, and user experience.

The original design relied heavily on fabricated foam. As protection issues continued, more layers were added. The result was larger package dimensions, fewer units per pallet, and rising freight costs.

The solution came through molded fiber and structural packaging engineering.

Where Geometry Meets Packaging Design

Recent advances in material technology allowed engineers to create a molded fiber solution that improved logistics performance without sacrificing protection.

By reducing overall material usage and package volume, the redesign created a tighter packout and a more efficient use of space.

21% MORE UNITS PER PALLET

57 → 69

The Power of the Pinwheel

A label-out configuration improves product identification by keeping all labels visible and easy to locate.

Safety Corner

Packaging and pallet optimization can help reduce ergonomic risks during loading and unloading.

Case Study: Herman Miller

Reusable packaging and a custom pallet design improved trailer utilization while reducing storage requirements.

Key Takeaway

Poorly packed pallets can impact profitability through wasted space, operational inefficiencies, and potential safety concerns. Sometimes the most overlooked component of the supply chain creates the biggest opportunity for improvement.