LUCAS *DYNAMIC* PALLET BUILDER

Building good pallets can be extremely complex because workers must balance speed with stability, fitting a wide variety of product shapes, sizes, and weights into a secure, stackable structure — often under time pressure and with constantly changing orders. Even small mistakes can lead to product damage, safety hazards, or inefficiencies downstream.

Lucas Systems Dynamic Pallet Builder is designed to handle the complexity of today's logistics challenges, generating optimized pallet configurations in seconds while accounting for real-world constraints like product size, weight, stacking rules, and shipping regulations.

WHAT ARE BAD PALLETS COSTING YOU?

Up to 11% of loads arriving at a distribution center show some case damage, with the average around 2%. Most of this damage is caused by compression.

Packaging Digest

WHY USE DYNAMIC PALLET BUILDER:

Cost Savings - By creating optimized groupings and minimizing warehouse worker travel distances, Dynamic Pallet Builder reduces labor-intensive activities and energy consumption, lowering overall operational expenses.

Safety – Building pallets with precision using product weight, fragility, and stackability ensures stable loads, reduces strain on material handling equipment, and minimizes the risk of tipping or collapse, protecting workers from injury and maintaining a safer warehouse environment.

Damage Reduction – Properly accounting for how products can be stacked and supported helps prevent crush damage, shifting in transit, and product breakage, lowering the likelihood of costly returns, rework, and shipment delays.

Productivity Gains – Dynamic Pallet Builder minimizes unnecessary worker travel and reduces the time spent reorganizing pallets. By optimizing picking sequences and grouping products logically, workers can complete picks faster and with less effort. This translates into higher throughput, without compromising accuracy.

Flexibility - Complex algorithms allow Dynamic Pallet Builder to adjust seamlessly to changing order volumes and complexities. Whether it's peak season or slow periods, or your order profiles, rules or processes change, dynamic algorithms adapt to these fluxuations and complexities, keeping operations consistently optimized and responsive.

Veritable Vegetable

Reduced errors by **40%**

SEAMLESS INTEGRATION. SMART, PRECISE PALLETS

Lucas Systems Dynamic Pallet Builder seamlessly integrates with Warehouse Management Systems (WMS) and other tools, analyzing vast amounts of data to create smarter, more precise order batches and pallets in real time. It can accommodate any number of warehouse and customer specific rules and requirements, making it easily tailored to your unique operational needs. Here's how it addresses the core challenges of palletization:

Order Priority and Timing - Dynamic Pallet Builder prioritizes urgent orders, ensuring they are picked and processed first while balancing the requirements of subsequent orders in the queue. This prevents bottlenecks and guarantees that critical shipments meet their deadlines.

Selection Location and Travel Costs - By strategically sequencing picks and determining optimal product placement on the pallet, Dynamic Pallet Builder significantly reduces warehouse worker travel time for workers. This minimizes unnecessary movement, improves picking speed, and lowers labor costs, while ensuring the warehouse layout is fully utilized for maximum productivity.

Product Characteristics – Dynamic Pallet Builder considers crucial factors like weight, fragility, and stackability to optimize the arrangement of items on a pallet And it's built specifically to your unique needs and specifications. This ensures that each pallet is both safe for handling and efficient for transportation and unloading.

Dynamic Pallet Builder tackles the complexities of palletization without compromising speed or accuracy, empowering warehouses to achieve an ideal balance of labor efficiency, operational safety, and customer satisfaction, and setting a new benchmark for modern fulfillment operations.

"Lucas's Dynamic Pallet Builder helps our team handle complex orders with precision and care. It intelligently accounts for weight, size, container type, and truck dimensions—whether we're building full or less-than-pallet loads. That means more secure, efficient shipments, less rework, and better support for our team. It's one more way we're investing in smart tools to move fresh, organic produce with integrity and reliability."
- Mary Jane Evans, Owner and CEO, Veritable Vegetable