



# CSO™ Carton Space Optimization

*Dynamic Cartonization Logic, Powered by Machine Learning*



Cartonization provides a powerful opportunity for cost reduction and process improvements that is often overlooked. For high volume packing and shipping operations, even a small reduction in cost per order can deliver significant savings directly to the bottom line. By harnessing the power of Machine Learning, CSO eliminates reliance on guesswork and tribal knowledge by systematically recommending the most cost-effective configuration, every time.



## Intelligent

CSO identifies the optimal packing proposal through a dynamic fill algorithm that considers item volume, dimension and multi-axis orientation. But CSO's Dynamic Fill Cartonization logic doesn't stop when the optimal configuration is identified. Instead, it harnesses the power of Machine Learning to improve calculations over time via historical data and observations about a shipper's unique preferences and practices. This results in faster recognition of frequent configurations, enhanced carton and dunnage recommendations, and even the recommendation of new carton additions.



## Comprehensiveness

In addition to considering a comprehensive range of item variables, CSO also considers a multitude of other data points pertaining to cartons, dunnage, and your unique business realities. CSO cross-analyzes all of this data in real-time to make the most intelligent recommendation for the optimal carton and configuration. This comprehensive, Dynamic Fill Cartonization logic also scales seamlessly, empowering shippers to optimize both cartons and pallets.

## Key Benefits

- Identify the optimal packing configuration, 100% of the time
- Realize substantial shipping cost savings
- Streamline and speed the pick and pack process
- Minimize cartons per order and maximize orders per truckload
- Improve customer satisfaction by delivering products faster and ensuring they are protected during transit
- Continually improve efficiency and effectiveness through Machine Learning

## Core Functionality

- Dynamic fill algorithm with multiple configurable control parameters
- Advanced machine learning accounts for factory-specific needs over time
- Full dimension visualization of optimized configurations
- Real-time freight calculation across multiple carriers
- Scalable cartonization logic for cartons and pallets
- Built entirely in SAP® using standard tools and framework
- One click packing with the optimal proposal
- User-controlled proposal acceptance or rejection
- Integration with standard SAP® transactions



## Integrated

For added cost savings and efficiency, users can leverage CSO with XPS, SCT's multi-carrier parcel shipping and manifesting solution. Used with XPS, CSO has the ability to compare freight charges for various packing proposals from preferred carriers, service and mode. CSO is the only SAP-based Cartonization solution to provide this functionality, giving the end user the most cost-effective packing proposal.



## Value

CSO's optimized packing proposals can be used to automatically create handling units in the system, allowing users to directly pick-to-carton. Companies that consistently leverage CSO to identify the lowest freight cost packing proposal while streamlining the pick and pack process consistently exhibit substantial year over year savings. In fact, CSO can save 20% percent or more per shipment, when the shipment is optimally packed.

## Control parameters include:

- › Carton fill factor
- › Product specific dunnage
- › Material incompatibilities
- › Inclusion / exclusion between material and packing material
- › Split line items between cartons, or banding of item quantities together
- › Consideration of pre-packed shippable units

CSO also takes into account the cost of accessorial charges for oversized items and additional handling to ensure that the proposed packing option is optimized to its specific shipping scenario.



## About SCT Software

SCT Software is a leading provider of innovative logistics execution software servicing the SAP® user community. SCT software solutions are used globally by manufacturers and distributors to streamline the logistics process. The company's products give customers increased visibility ensuring supply chain efficiency. Using SCT solutions, customers gain a competitive edge by reducing overall operational cost, improving customer service levels and increasing profitability. Focused exclusively on complementing SAP® logistics capabilities, SCT solutions enable customers to leverage the investment in their SAP® landscape while providing best-of-breed functionality.



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