FACT SHEET

SCS Transportation Optimization Package

Streamline your logistics flows & reduce costs with the Supply Chain Suite (SCS) *Transportation Optimization*

Companies managing both inbound and outbound logistics often lack the visibility and ability to optimize their transportation network by improving efficiency through shipment consolidation, increasing speed, or reducing costs. How do transport costs change when delivery intervals are shortened, and how does this compare to the reduction in storage costs? What's the most efficient way to plan orders and pack shipments? How can changing suppliers help streamline transportation? What are the best routes for shipping materials or goods from point A to point B? The SCS Transportation Optimization Package is a toolbox designed to answer these questions and many more!

Challenges:

- **Transportation channel efficiency**: optimizing transportation by balancing costs, service, emissions, and other factors.
- I**nventory and delivery optimization**: Scenario modeling and cost analysis for minimizing transportation and storage costs while balancing delivery frequency and warehouse utilization.
- **Consolidated shipment planning**: Optimizing order planning and shipment consolidation for increased efficiency.
- **Supplier impact on transportation**: Evaluating how supplier selection can improve overall transportation efficiency.
- **Route optimization**: Identifying optimal routes considering restrictions like time slots, capacities, and driving times.
- **Strategic fleet planning**: Determining the ideal fleet size and composition for effective transportation management.

SCS Capability Packages

- SCS Core
- SCS Network Optimization
- SCS Intralogistics Optimization
- SCS Rate Optimization
- SCS Transportation Optimization

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Included SCS Components

- **Flow Optimization**
  Solves complex transportation scenarios involving multiple goods, routes and restrictions within a defined network.
- **Tour Optimization**
  Optimizes vehicle usage based on customer demands, capacity limits, delivery windows and loading times. It ensures efficient use of available vehicles while minimizing overall tour costs. It can further determine the ideal size and composition of the fleet.
- **Periodic Vehicle Routing**
  Designs delivery patterns that minimize overall costs and balance workload at distribution centers.
- **Pickup and Delivery**
  Solves the pickup and delivery problem by finding cost-minimal tours that transport shipments between loading and unloading locations.
- **Routing**
  Simulates transportation within a network, considering factors like timetables, routing rules, and hub processing times to ensure realistic and efficient route planning.
- **Matrix Designer**
  Creates realistic and cost-effective freight matrices (zone or distance-based), tailored to specific logistical contexts

The Transportation Optimization package, together with the SCS Core package, enables scenario simulation, real-time data analyses, performance tracking and reporting, and more. The included components enable users to perform a variety of use cases such as:

Applicable Use Cases

- **Pickup and delivery optimization**: streamline first and last mile transports with your own fleet.
- **Fleet optimization**: determine the right size and composition of your fleet.
- **Material flow optimization**: determine ideal flow of goods and materials through existing network considering relevant constraints, costs, service requirements.
- **Transportation mode optimization**: assign and consolidate shipments to different transportation modes such as full-truckload, less-than-truckload, or groupage.
- **Transportation frequency optimization**: determine the optimal pickup and/or delivery schedule while balancing warehouse utilization.
- **Freight rate design**: select optimal rates while considering cost structure, network volumes, and revenue targets.

Customer Value

- Reduced transportation costs via scenario simulation and optimization
- Optimized resource utilization
- Improved on-time delivery accuracy
- Shipment consolidation and channel optimization
- Balanced warehouse and fleet utilization
- Data-driven decision support based on supply chain digital twin
- Increased supply chain sustainability and agility

Prerequisites

- SCS Core Package

Add-Ons

- SCS Cloud Component Package
- SCS Optimization Booster

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