

FACT SHEET

SCS Network Optimization Package

Maximizing Efficiency and Cost Savings with Supply Chain Suite (SCS) *Network Optimization*

The Supply Chain Suite (SCS) Network Optimization Package is a toolbox that enables the evaluation and optimization of supply chain networks by using digital analysis and simulation tools. It empowers customers to find practical solutions for their supply chain and logistics networks, tailored to real-world conditions. Would opening another distribution center reduce overall logistics costs? Where would the best location for a new warehouse be? Are current network locations and customer assignments structured in a cost-effective manner? SCS Network Optimization answers these questions and many more relating to both existing and new what-if scenarios, and provides customers tools to balance service levels, capacities, CO2 emissions, and costs within their complex networks.

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Challenges:

- Supply chain complexity: Managing the intricacies of modern supply chains with multiple parties and locations.
- Scalability and flexibility: Designing a supply chain that can adapt and grow with the business while remaining resilient to disruptions.
- **Dynamic market conditions**: Adapting logistics networks to rapidly changing consumer demands, economic fluctuations, and geopolitical events.
- **Cost management**: Balancing cost efficiency and service level requirements, including transportation costs impacting warehouse storage costs.
- Shifting customer expectations: Meeting rising demands for faster and more reliable deliveries, especially in the last-mile stage.
- Lacking network transparency: Achieving real-time visibility and monitoring of the entire logistics network.

SCS Capability Packages

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



Included SCS Components

- **Customer Assignment**: Assigns customers to cost-optimal locations with restricted capacity (e.g. warehouses, distribution centers).
- Flow Optimization: Solves multi-commodity flow problems within a given network while respecting user-defined constraints and costs.
- Inventory Monitoring & Optimization: Simulates inventory policies based on historical data, enabling the optimization of policy parameters and KPI evaluation
- Location Planning: enables users to determine the best locations for warehouses or distribution centers considering capacities and service conditions, ensuring the supply of several customers from several shipping locations as efficiently and cost-effectively as possible.
- Matrix Designer: generates freight matrices with condensed logistics logic to organize reference costs in a standardized format.
- **Routing**: simulates transportation routes within a given network considering factors such as time slots, routing rules, hub processes, and more.

Applicable Use Cases

The included components enable users to perform a variety of use cases such as:

- Supply chain digital twin simulation: runing simulations to re-design the supply chain network and optimize for sustainability, costs, and service quality.
- Location optimization: determining the optimal position for a new or existing network location.

- Assignment optimization: assigning various parties such as customers or suppliers to the cost-optimal locations for deliveries, pickups, etc.
- **Greenfield network design**: designing a new supply chain network structure from scratch.
- Brownfield network design: optimizing an existing supply chain network with established locations, customers, suppliers, transportation structures, etc.
- Logistics consolidation: consolidating transportation flows using cross-docks, distribution centers, depots, and hubs.
- Network flow optimization: evaluating and optimizing multi-level supplier networks to improve the flow of goods and materials through the network (i.e. direct delivery vs. consolidation).

Customer Value

- **Cost savings** from optimized network locations and streamlined network flows.
- Improved service quality with more accurate delivery schedules.
- **Decreased delivery times** through strategic transportation routing and customer assignments.
- Increased network transparency and visibility with performance monitoring.
- Data-driven decision support using the supply chain network digital twin.
- Improved supply chain sustainability with a scalable and agile network structure.

Prerequisites

SCS Core Package

Add-Ons

- SCS Cloud Component Package
- SCS Optimization Booster

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