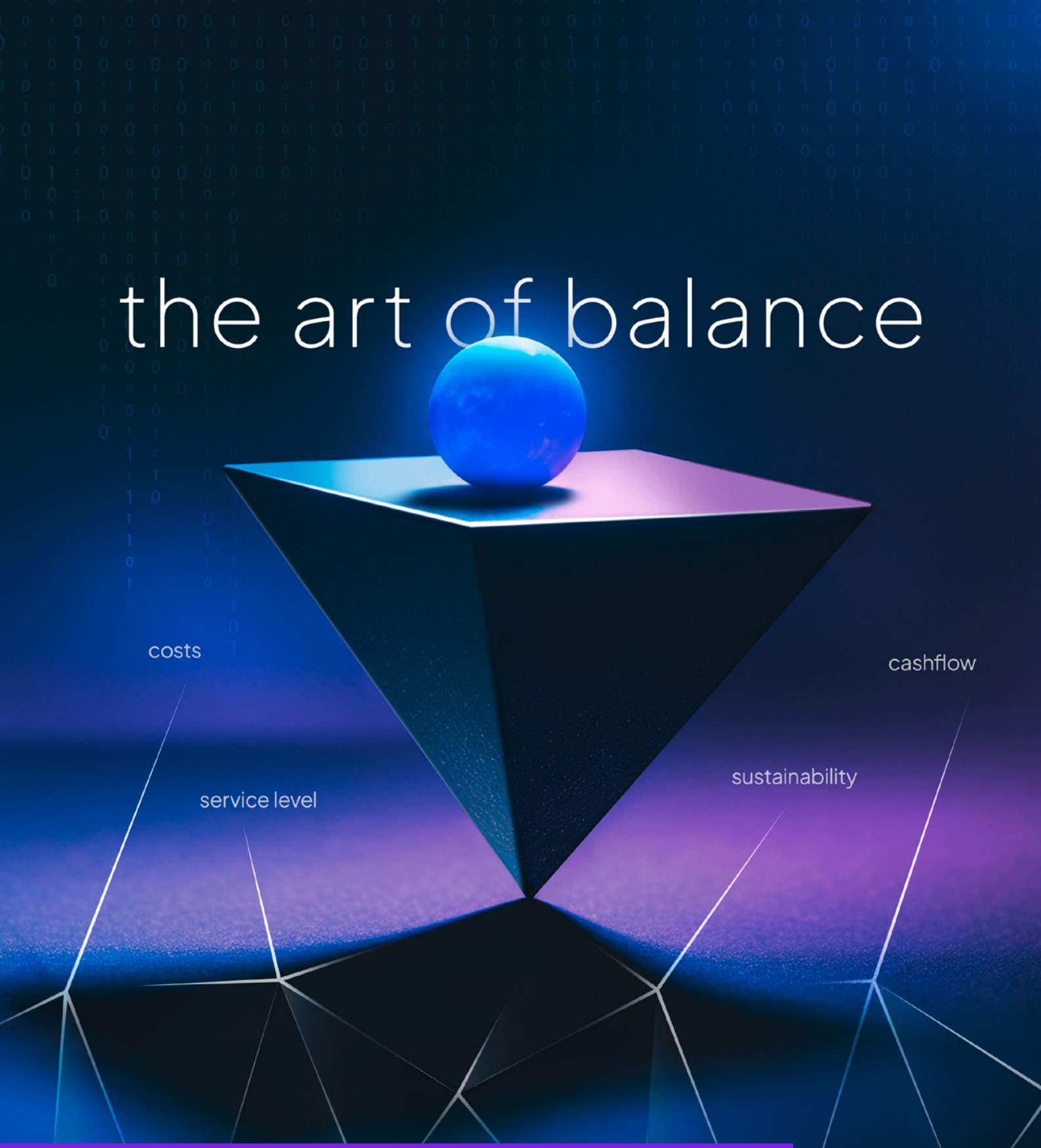


THE ART OF BALANCE

Find the optimum balance between service, cost, cash and sustainability with the Supply Chain Triangle.

OPTANO
a KEARNEY company

the art of balance



the art of balance

Not every tension is a problem
– **balance** is the art of managing opposing forces.

For us, supply chain optimization means finding an optimal balance between service, cost, cash and sustainability.

THE ART OF BALANCE & ITS IMPACT ON SUPPLY CHAINS

See the impact of OPTANO on supply chain efficiency and sustainability. By referencing past successes, we showcase how OPTANO can reduce costs, improve service quality, enhance sustainability, and optimize cash flow. These real-world examples highlight how OPTANO's intelligent planning software can manage the complexities and trade-offs in supply chain management. The subsequent sections of this factsheet will explain the methodologies and strategies behind these optimizations, offering a comprehensive guide to leveraging OPTANO for superior supply chain performance.

OPTANO achieved a **50% reduction in lead times** for a **retail company** by reallocating the distribution footprint, while simultaneously reducing logistic costs by 12%.

OPTANO saved a **global automotive supplier 25% in outbound logistic costs** by optimizing volume planning and flow paths, as well as by relocating export warehouses.

Service

Costs



Sustainability

Cash

OPTANO's approach **reduced greenhouse emissions by 10%** for a **global manufacturer** through shorter distances, improved load utlization, and a partial shift to more sustainable means of transportation.

OPTANO saved **$350 million in working capital** for a large **retail company** by enhancing the flow-through of products and minimizing product storage needs.

COMPLEXITY & TRADE-OFFS IN THE SUPPLY CHAIN

The complexity of the supply chain often creates conflicting goals.

Recognizing and managing trade-offs is difficult.

A company's success is deeply rooted in the efficiency of its supply chain, as it influences customer satisfaction, cost management, and financial stability. Therefore, optimizing the supply chain is paramount for sustained success.

It is essential to recognize that a supply chain consists of interconnected systems, each with its own dynamics, such as procurement, inventory management, production, and distribution.

The resulting complexity creates an environment prone to inefficiencies and conflicting goals, often leading to sub-optimal decisions. Thus, the focus of supply chain design is on meticulously coordinating and balancing objectives. Well-founded decisions require consciously weighing competing objectives. These trade-offs are often not obvious, making them difficult to manage.



Sound network planning requires coordinating all dimensions of the **"Supply Chain Triangle Plus"** with a company's specific requirements. Each change to one dimension impacts the others.

BALANCING COSTS, SERVICE, EMISSIONS & CASH FLOW

This is where the Supply Chain Triangle comes into play - a framework that emphasizes the trade-offs inherent to supply chain planning by mapping the relationship between service, cost, and cash flow. Recognizing the growing relevance of sustainability, we expand this framework to incorporate a fourth dimension, thus creating the "Supply Chain Triangle Plus".

Effective network planning presents a significant challenge, requiring a delicate balance between the various dimensions of the „Supply Chain Triangle Plus" and the objectives of your company. Any alteration in one dimension inevitably impacts the others, adding layers of complexity that are difficult to manage using conventional methods.

Our advanced OPTANO planning software offers a robust solution, enabling you to achieve an optimal equilibrium in line with your company's goals.

The "Supply Chain Triangle Plus" illustrates the correlation between different objectives.

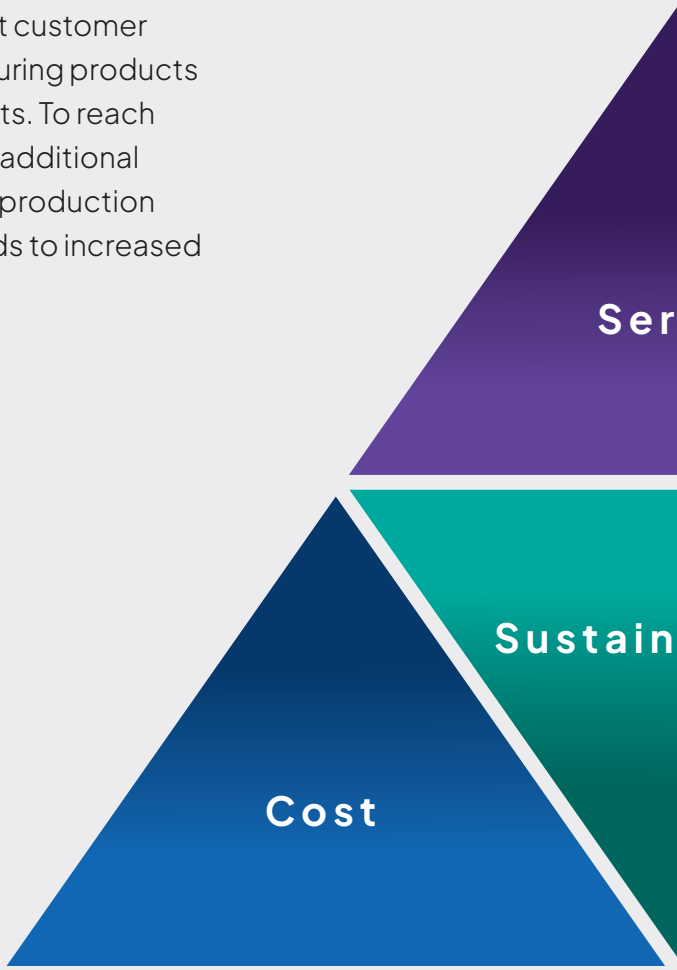
Advanced planning software such as OPTANO helps to find the optimum balance.



SUPPLY CHAIN TRIANGLE PLUS

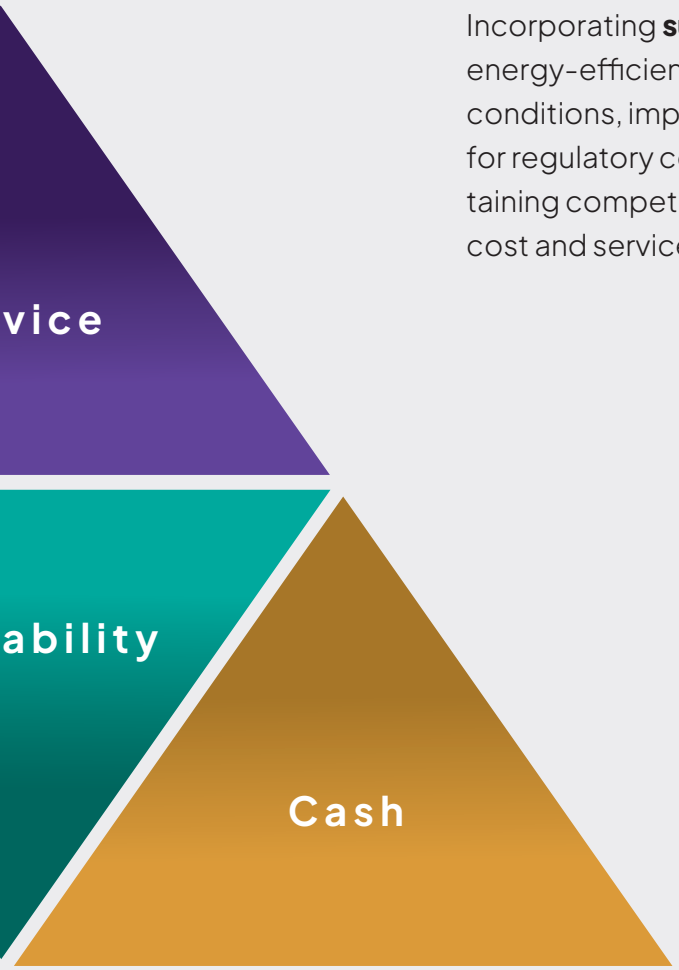
Achieving a high **service level** means being able to meet customer demands efficiently. This includes timely deliveries, ensuring products are readily available, and guaranteeing reliable shipments. To reach such high standards, companies often need to invest in additional inventory, quicker transportation methods, and flexible production capacities. Consequently, enhancing service levels leads to increased costs and the tying up of capital.

Effective **cost management** is pivotal for the success of any supply chain. To maintain a competitive edge, companies strive to reduce operational expenses through streamlined production processes, cost-efficient suppliers, and optimized warehousing. Conversely, excessive cost-cutting can undermine service quality, as it limits the resources available to ensure prompt and reliable deliveries.



Service
Availability
Quality
Order Flexibility
Product Portfolio

Cost
Transportation
Warehousing
Production



Incorporating **sustainability** into the supply chain, such as utilizing energy-efficient transportation methods and ensuring fair working conditions, impacts all other dimensions. These initiatives are crucial for regulatory compliance, meeting societal expectations, and maintaining competitiveness. However, they often significantly influence cost and service level considerations.

Cash management is essential for maintaining a company's liquidity and financial stability. High inventory levels can immobilize capital and adversely affect liquidity. To optimize working capital, companies often reduce inventory and implement just-in-time principles. However, this approach can elevate the risk of supply chain disruptions and potentially diminish service levels.

Sustainability
Emissions
Use of resources
Ethics
Integrity

Cash
Inventory
Working Capital

IS BALANCING THE OBJECTIVES A DILEMMA?

Optimizing one dimension always impacts the others.

Mathematical optimization provides a comprehensive analysis.

In summary, the tension within the "Supply Chain Triangle Plus" can be articulated as follows: Organizations aim to deliver high-quality service at minimal cost while freeing up working capital and fulfilling their environmental and social obligations. Optimizing one dimension invariably impacts the others, making it imperative to consider them collectively. Balancing the triangle effectively is both challenging and essential for a well-functioning supply chain.

Due to the complexity of these objectives, achieving the optimal balance between the dimensions of the "Supply Chain Triangle Plus" is unfeasible through manual planning alone. Mathematical optimization offers a significant advantage by providing a comprehensive perspective and analysis. Various degrees of freedom or constraints can be specified along the supply chain in a mathematical model. Through intelligent calculations, a cost- or margin-optimized solution can thus be identified.



MATHEMATICS AND SCENARIOS FOR A GOOD BALANCE

Our advanced OPTANO optimization software is designed to help you navigate the complexities of the "Supply Chain Triangle Plus". By leveraging mathematical models, OPTANO identifies optimal solutions aligned with your company's objectives.

One of OPTANO's key advantages is its ability to assess the impact of various scenarios on your supply chain. Comparing different optimization scenarios allows a comprehensive evaluation of trade-offs, enabling companies to determine their desired balance amongst the different dimensions of the Supply Chain Triangle Plus. Supported by scientific analysis, businesses can make informed decisions and adjust strategies accordingly.

In essence, OPTANO's network optimization capabilities significantly contribute to achieving the ideal equilibrium within the "Supply Chain Triangle Plus".

The use of mathematical optimization allows for well-founded decision-making.

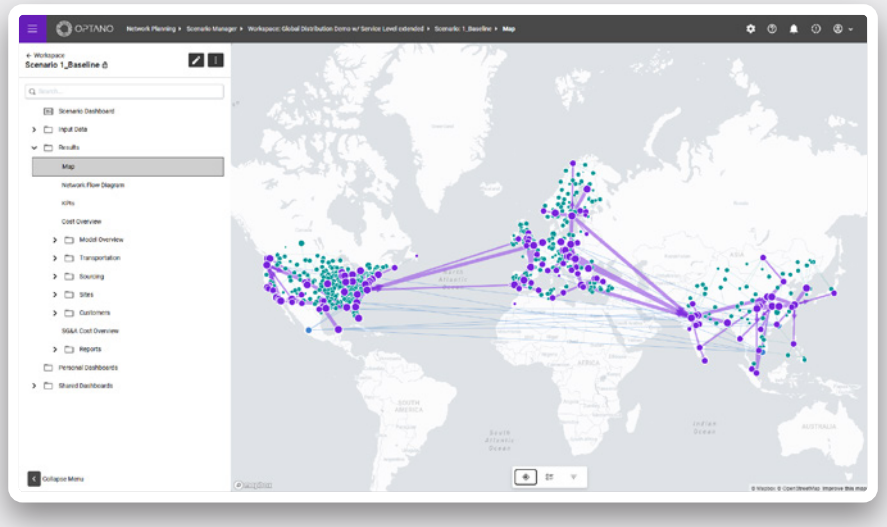
OPTANO enables analyze compare different scenarios.



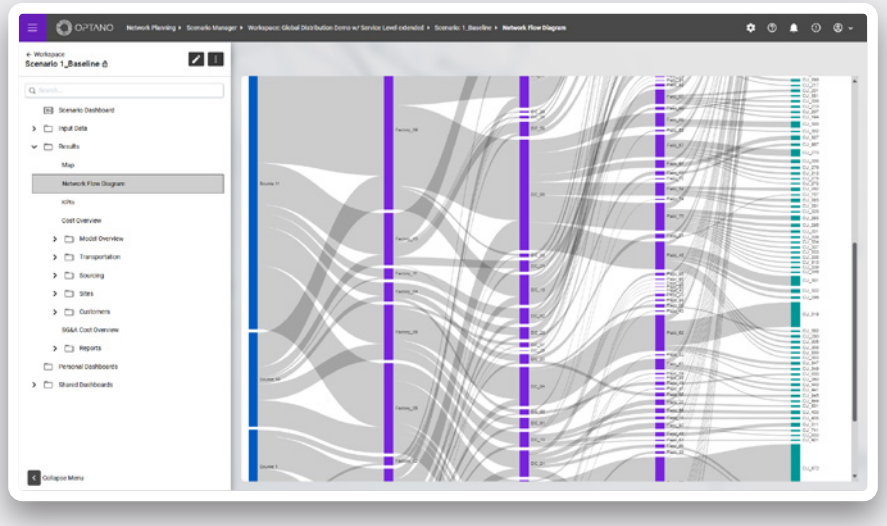
With our advanced **OPTANO** planning software, you can effectively optimize your supply chain and sustainably increase your company's success.



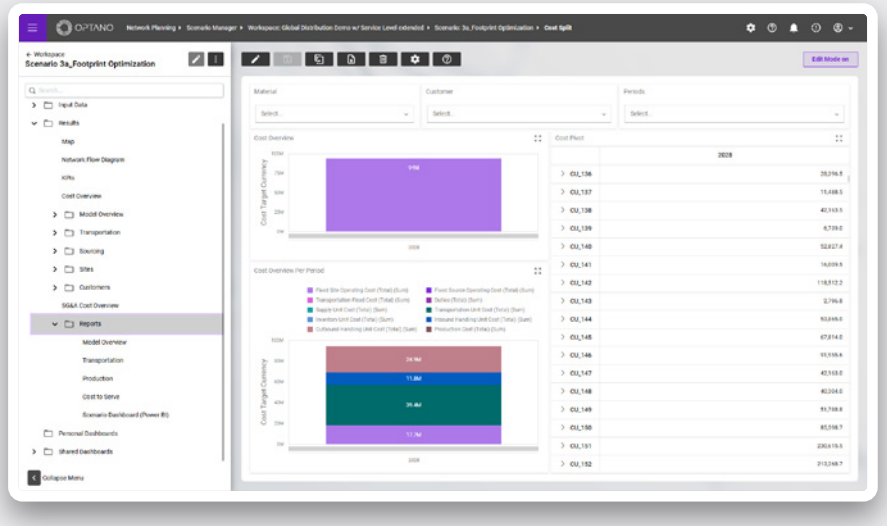
OPTANO SOLUTION FOR NETWORK OPTIMIZATION



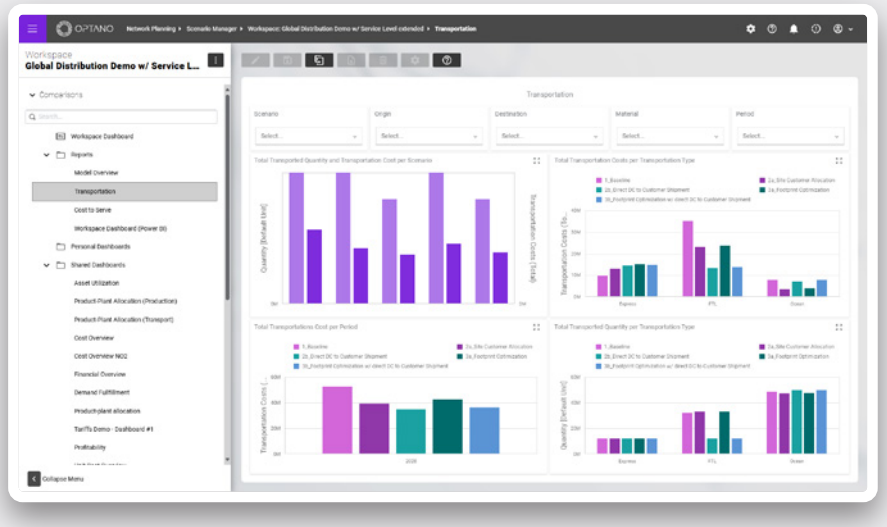
To evaluate the effects of various changes to the supply chain setup, OPTANO enables the creation of a detailed view of the current network by consolidating data from multiple sources. The map representations provide an initial overview of this “baseline” by visually depicting the geographic distribution of existing material flows.



In addition to a geographic representation, a flow chart offers a detailed view of the supply chain configuration. The current view illustrates a transportation network visualized through different levels of distribution centers and their connections. This representation can be extended to include multi-stage production networks.



Once the baseline is integrated into the data model and verified, OPTANO enables the comparison of various optimization scenarios. Based on the baseline, the model can be configured with different degrees of freedom, allowing the mathematical optimization algorithm to propose a cost- or margin-optimized design for the supply chain. The results of such optimization can be analyzed using maps, pivot tables, standard dashboards, or custom visualizations.



Furthermore, by utilizing “workspaces”, OPTANO provides an efficient means to compare various supply chain scenarios. This is enabled through preconfigured dashboards as well as the capability to develop custom dashboards. Such flexibility ensures thorough evaluations, thereby supporting informed decision-making processes.

Clear **visualizations** in OPTANO make it easier to evaluate different approaches, allowing companies to adapt their strategy precisely to increase customer satisfaction, reduce costs, and use resources more efficiently.

WHO WE ARE

OPTANO provides innovative solutions, enabling businesses to plan faster, better and more easily. Thanks to mathematical optimization, OPTANO finds the optimal solution to any problem.

Our software is customized to suit your specific needs. Whether you want to optimize your supply chain, your entire network or your production plans, OPTANO makes your planning process efficient, clear and flexible.

And that's not all: OPTANO supports you in your strategic decisions using Prescriptive Analytics. This means that you can consider various options in what-if scenarios and get sound recommendations for action - based on the sound analysis of your data and targets.

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