

WHITEPAPER

Stay on top of the chain

How warehouse simulation and supply
chain network design can help you
manage capacity

The challenge

Supply chains have never been more complicated, which means it's often a challenge to stay on top of your capacity. With an ever-expanding range of products, varying storage requirements and unpredictable consumer demand, static spreadsheets and database entry no longer fly in such a fast-moving environment.

Businesses need smarter ways of evaluating their current capacity and forecasting change—so they know their warehouses and wider network can handle whatever the future may bring.



Warehouse simulation



“Companies often don’t appreciate how straightforward and effective it is to build robust simulation models, then revisit them over the change lifecycle of their operations.”

Simon Shore

Managing Director, Supply Chain Modelling
and Maritime, Infos

Warehouse simulation uses a digital model that lets customers test changes to their warehouse configuration and processes, without devoting time and resources to making those changes in the real world. With minimal customer input, the system can build 2D and 3D “walk-through” visualizations of the entire warehouse operation, including zones, people, aisle width, storage, marshalling areas, workstations, and material handling equipment.

The simulation tool means operations can drill down into the details of their capacity—whether it be physical storage, efficiency of order picking, or the ability to operate at a particular level of volume. If demand were to change, would the warehouse have sufficient capacity to meet it? The system will quickly flag if the answer is no and highlight where the bottlenecks are. With this information, customers can focus their attention where it’s needed most, allowing them to make informed, cost-effective decisions that enhance warehouse capacity.

The system can be tailored to fit three main scenarios:

- **Greenfield projects**
For companies planning and designing a new warehouse
- **Brownfield projects**
For companies looking to add or change existing warehouses
- **Emerging change scenarios**
For companies wanting to anticipate change and rethink their current capabilities

When it comes to managing capacity, supply chain operators need to answer one fundamental question: will this work? Warehouse simulation takes the guesswork out of major decisions. You can understand, and trust, the results—before any investment is made.

Key benefits

- Increased data and insights
- Testing and comparison of different scenarios
- Flexibility and adaptability
- Ease of use

Supply chain network design

Supply chain network design is a planning tool designed to help operations evaluate the most cost-effective approaches to routes, modes of distribution, demand points of depots, resource requirements and cost-to-serve models for each customer. No matter how complex the network, network design can help establish competitive and resilient end-to-end supply chains.

Central to the system are maps and route information; these allow customers to review the number, location, and capacities of depots, plus map out the potential impact of supply chain changes on margins and service levels. If demand increases according to forecasts, does the network have sufficient capacity to meet it? And if not, which elements in particular are limiting factors? By taking a step back and looking at the network overall, pinch points can quickly be identified. This helps customers anticipate short-term issues with capacity and solve them before they even arise.

Powerful algorithms offer a deeper level of insight, suggesting ways to optimize capacity over longer periods by tweaking modes of distribution, evaluating the depots best placed to serve particular customers, and more—all of which can be tested at the touch of a button. Aided by these recommendations, and the tangible picture of a “best-case” network scenario, customers are better placed to map out and plan for long-term capacity challenges.

At every step, the system transforms complex analysis into easy-to-interpret results, displaying the findings as a series of graphs, maps, and tables. Implementation is simple too, with no IT integration required.

Key benefits

- Cost savings
- Procurement visibility
- Service efficiencies
- Risk reduction
- Assessment of change
- Simplifies complexity



“Infios has enabled us to gain an unparalleled picture of the entire supply chain so that all the components are optimized. Its graphics are excellent, stimulating buy-in from all team members, and new data assessments can be delivered in less than 20 seconds.”

Heiko Buechler

Manager Supply and Exchange—
Conoco Phillips Germany

WHY INFIOS?

With over 20 years of supply chain experience, Infios are experts in providing tailored solutions for clients such as DHL, Waitrose & Partners, and Phillips 66. We pride ourselves on being long-term partners—so as your business dynamics change, we are on hand to support your emerging needs. Whether you are designing a new warehouse, streamlining your current operations, or thinking a little more long term, our solutions can help make sure your business is always one step ahead.

Find out more

Discover how Infios’s supply chain solutions could address your capacity-related challenges:

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