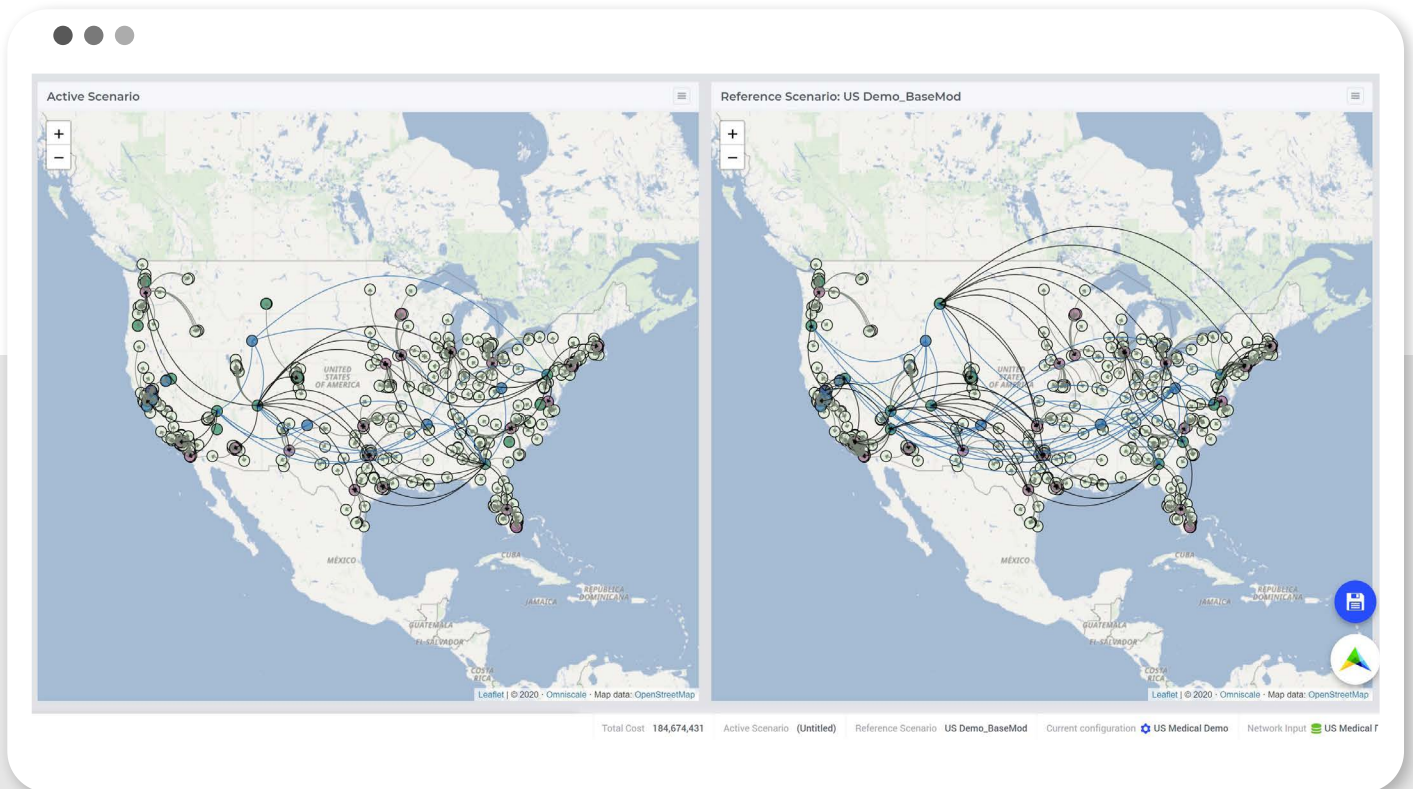




Network Design

Product Data Sheet



Created by supply chain professionals for supply chain professionals, AIMMS Network Design is a software solution that helps you optimize your supply chain's design.

In the back-end, AIMMS Network Design is powered by advanced prescriptive analytics technology using the CPLEX

solver. In the front, it provides an intuitive and easy to use browser interface for analysts to rapidly and easily run and compare different scenarios. The resulting analysis can then be used to support supply chain leaders in making informed and data-driven decisions about their supply chain network design.

Industries where AIMMS Network Design is used include:

Manufacturing



Consumer goods



Distribution & Logistics



Spares



Who is it for?

AIMMS Network Design is used by:

- Analysts in corporate supply chain departments or Centers of Excellence (typically, they are the users of the software)
- Supply Chain leaders who need strategic / tactical decision support (typically, they use the output of the software)
- Network Design consultants who perform studies for companies

AIMMS Network Design can be used in any supply chain that makes and/or moves physical products. The application is suited primarily for strategic (next few years) and tactical (next few months) decision support.

The screenshot displays the AIMMS Network Design software interface. It features a map of Europe and the Middle East with various DC locations marked. A bar chart titled 'Open Location Capacity versus Utilization' shows capacity and utilization for various locations. Below the map and chart is a table titled 'DC Usage' with columns for Location, Period, DC Availability, Remaining Capacity, Single S., DC, DC Capacity/Use, Minimum, Throughput, Maximum Capacity, Actual Capacity, and Uplift Capacity. To the right of the table is a smaller table titled 'DC Usage by Product' with columns for Product, Resource, Location, Period, and Throughput.

R.	Location	Period	DC Availa...	Remain ...	Remain C...	Single S...	DC ...	DCCapacity/Use	Minimum	Throughput	Maximum Capacity	Actual Capacity	Uplift Capacity
A...	Ankara_LDC	2019	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	0	555,876	500,000	500,000	0
B...	Beirut_LDC	2019	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	0	1,110,552	1,000,000	1,000,000	0
B...	Belgrade_LDC	2019	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	0	0	500,000	0	0
B...	Berlin_LDC	2019	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	0	136,836	500,000	500,000	0
Br...	Bratislava_LDC	2019	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	0	0	500,000	0	0
Br...	Brussels_LDC	2019	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	0	408,846	500,000	500,000	0
B...	Bucharest_CDC	2019	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	0	4,123,938	6,000,000	6,000,000	0
B...	Bucharest_LDC	2019	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	0	652,674	500,000	500,000	0

Product	Resource	Location	Period	Throughput
monocrystalline	Ankara_LDC	Ankara_LDC	2019	92,646.00
polycrystalline	Ankara_LDC	Ankara_LDC		185,292.00
thin-film	Ankara_LDC	Ankara_LDC		277,938.00

Use cases

AIMMS Network Design can be applied in the following use cases:

- **Optimize your supply chain design based on cost and service levels:**
 - Find the optimal number, size and location of DCs, xDocs, warehouses, etc
 - Optimize the allocation of customers to service locations
 - Find the optimal supply/production locations and mix
 - Determine the optimal flows per mode of transport
- **Identify, quantify and manage capacity constraints (production, DC, transport, etc)**
- **Design for risk and resilience:**
 - Respond to supply, production, warehouse or transport disruptions (health, weather, political, trade, etc)
 - Flex demand to see how your supply chain handles fluctuations due to expected factors, such as seasonality, or unexpected factors, such as COVID-19.
- **Understand and address sustainability trade-offs**
- **Rationalize the supply chain after mergers and acquisitions**

AIMMS Network Design is NOT:

- A routing and scheduling tool
- A tool for short-term / execution planning at the SKU level (such as daily load plans, picking and packing, production scheduling, etc)
- A transaction-based TMS system used for the daily execution of transport activity: vehicle loading, order tracking, vehicle tracking, ERP integration, etc
- A tool used to absorb highly detailed and transactional data
- A source of external data like benchmark freight rates and warehousing costs
- An ETL tool used to import and transform data from the ERP

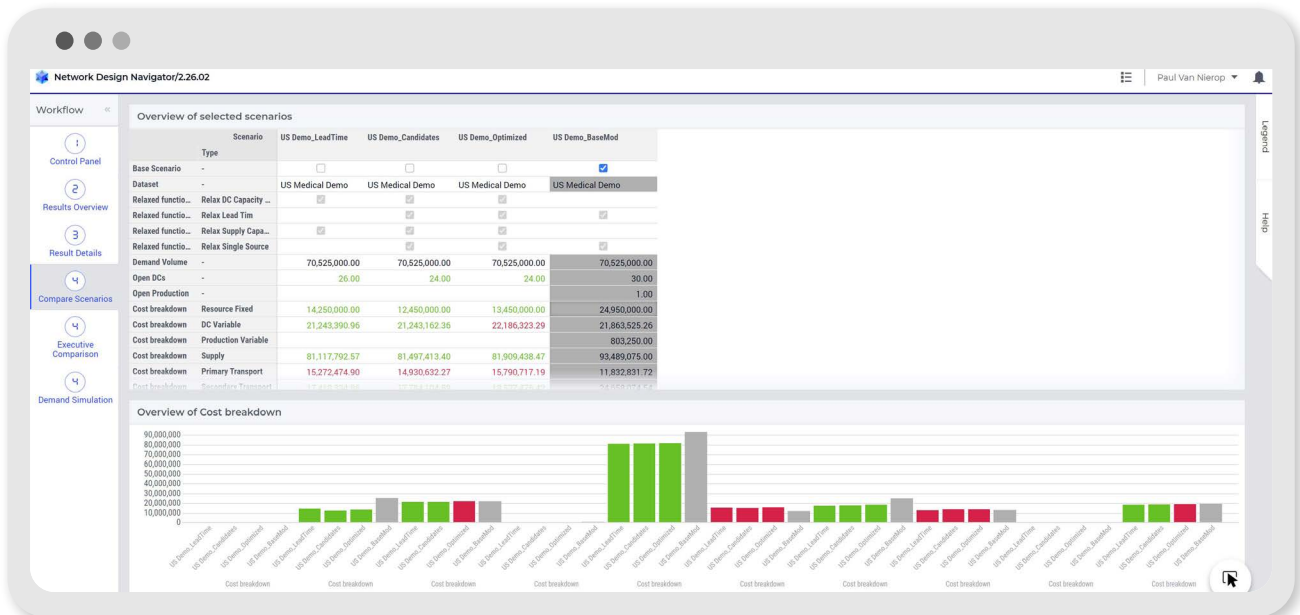
Functionality Checklist

Leverage scenario modeling to test hypotheses, understand trade-offs & proactively optimize your network



Scenario management: run, save and compare multiple scenarios

Scenario	Location	Period	Remain Open	Remain Close	DC Open	Fixed Cost	DC Available	Maximum Capacity
COG_DC_Denver_CO	COG_DC_Denver_CO	FI_2019	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1,500,000	<input checked="" type="checkbox"/>	10,000,000
COG_DC_Boston_MA	COG_DC_Boston_MA	FI_2019	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1,500,000	<input checked="" type="checkbox"/>	10,000,000
COG_DC_Miami_FL	COG_DC_Miami_FL	FI_2019	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2,500,000	<input checked="" type="checkbox"/>	6,000,000
COG_DC_Minneapolis_MN	COG_DC_Minneapolis_MN	FI_2019	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2,500,000	<input checked="" type="checkbox"/>	6,000,000
DC_Billings_MT	DC_Billings_MT	FI_2019	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2,500,000	<input checked="" type="checkbox"/>	12,000,000
DC_Mail_ET	DC_Mail_ET	FI_2019	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2,500,000	<input checked="" type="checkbox"/>	6,000,000
DC_Chesterfield_WA	DC_Chesterfield_WA	FI_2019	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1,500,000	<input checked="" type="checkbox"/>	10,000,000
DC_Columbia_SC	DC_Columbia_SC	FI_2019	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1,500,000	<input checked="" type="checkbox"/>	6,000,000
DC_Canfield_PA	DC_Canfield_PA	FI_2019	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2,000,000	<input checked="" type="checkbox"/>	7,000,000
DC_Venice_ZY	DC_Venice_ZY	FI_2019	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1,500,000	<input checked="" type="checkbox"/>	7,000,000



MILP (Mixed Integer Linear Program) solved using CPLEX

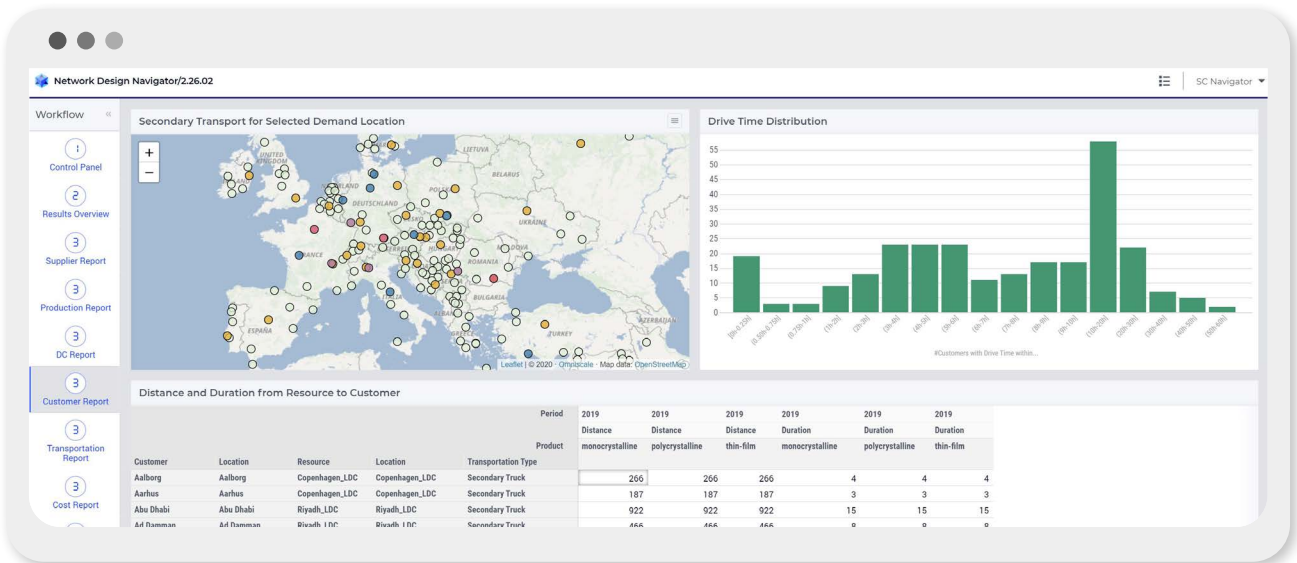


End-to-end modeling: suppliers, production, warehouses, customers, transport



Carbon/Sustainability modeling using custom objectives

Optimize cost and service levels

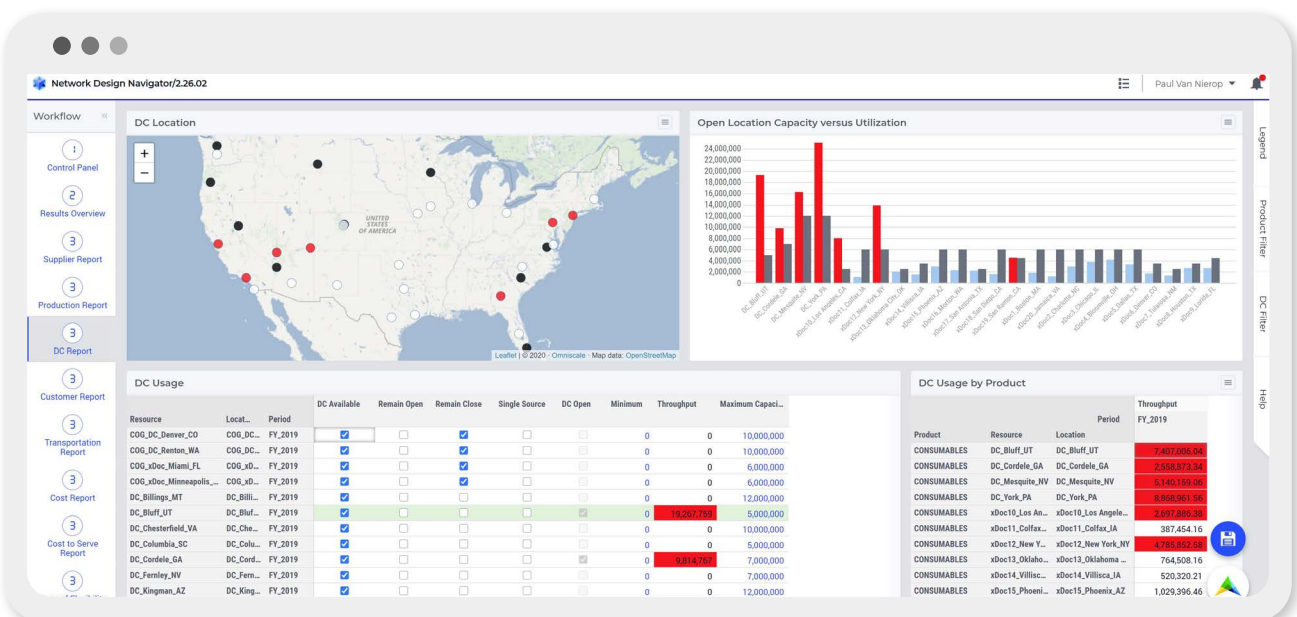


Bill of Materials (BOM) modeling for production conversion (from raw materials to intermediates to final product)

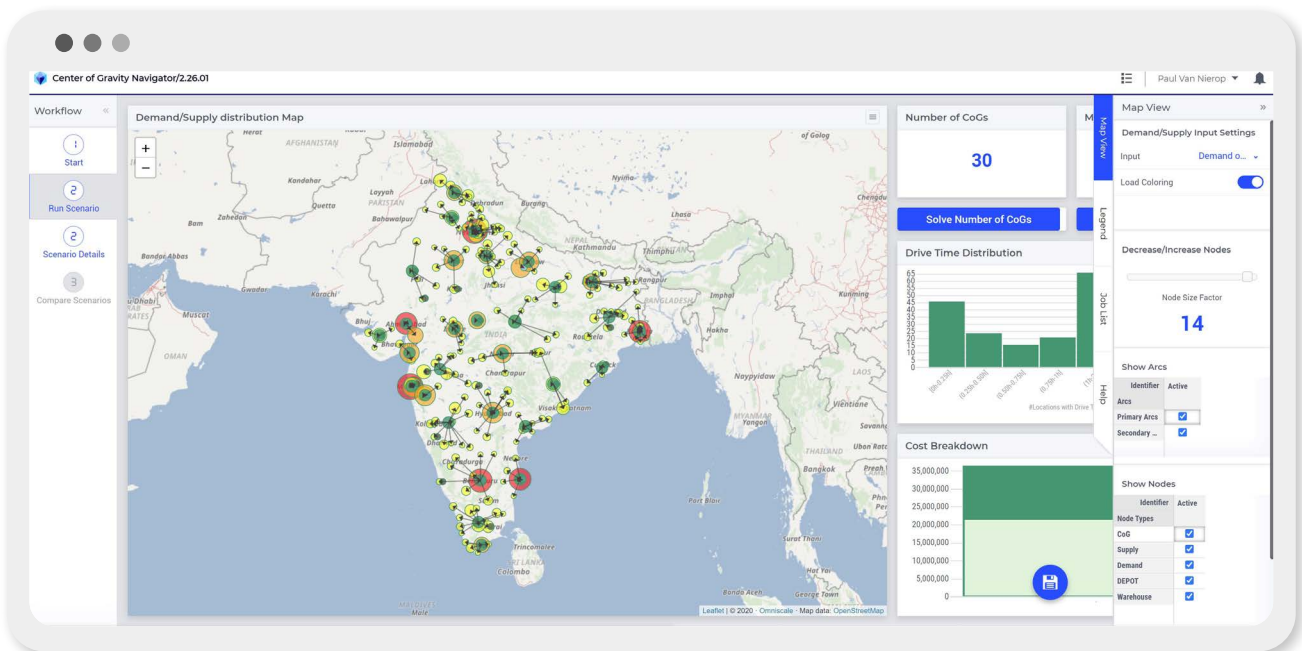
Multiple modes of transport

Multi-echelon distribution network

Constraints: supply, production, DC, capacity expansion, lead times, transport, single source, number of locations and other geographical constraints



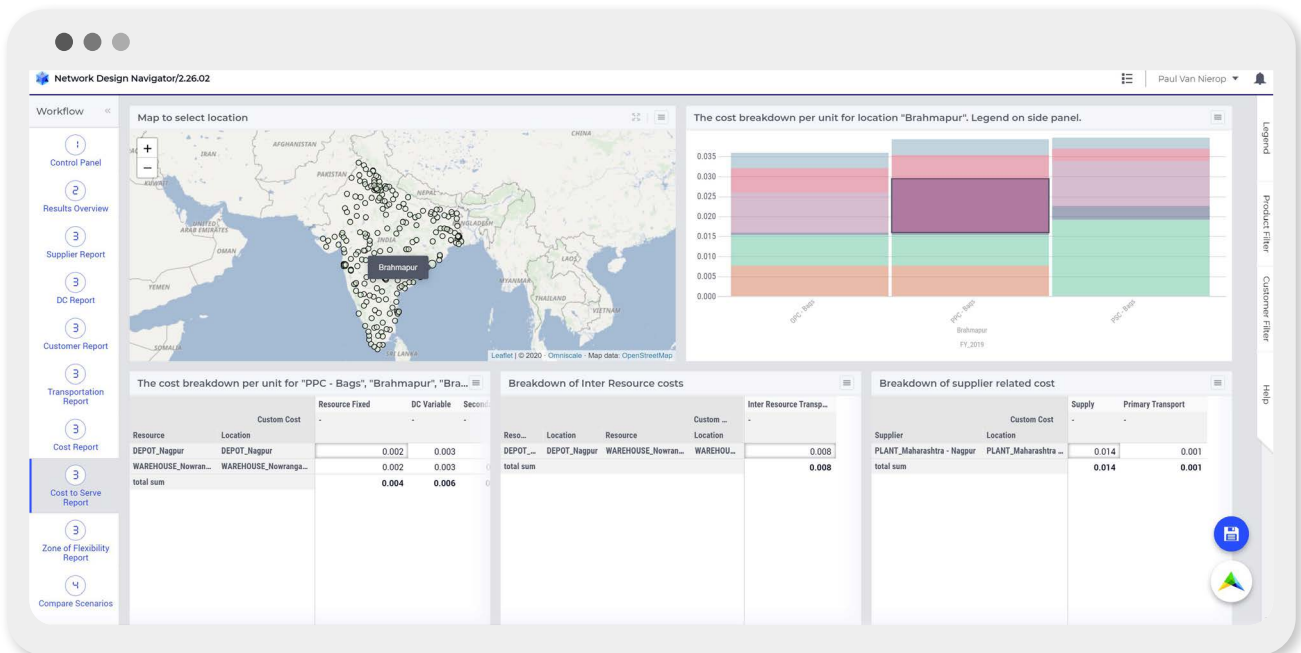
- ✔ **Multiple ways to capture transport costs:** distance based, volume based, fixed and minimum costs, stepwise costs, take or pay, cost curves, etc
- ✔ **Generate cost functions for multi-drop secondary deliveries**
- ✔ **Configure physical supply chain costs as well as custom costs** (e.g. taxes, carbon, inventory holding, etc)
- ✔ **Multi-period support**
- ✔ **Center of gravity analysis** for greenfield candidate locations



- ✔ **Quantify the inventory impacts of different footprint designs, and run inventory scenarios**
- ✔ **Run demand simulations across scenarios to test robustness**
- ✔ **Reports combine graphical results with maps and charts, as well as detailed drill down tables**
- ✔ **Specify rate cards with specific delivery ranges**



Cost-to-Serve analysis with end to end report



Zone of flexibility analysis



Data import through Excel templates or integration with the application database



MySQL application database for data storage



Interact with data directly from the browser



Manage multiple data domains, configurations and datasets



Export data easily to .csv format for further analysis and interpretation



Debug infeasibilities through infeasibility analysis

AIMMS Network Design Community and Support

AIMMS is much more than a software company. When you purchase one of our products, we also provide you with the support and connections you need to ensure your success.

- Dedicated Network Design Customer Success Manager
- Support desk for functional questions and technical issues
- Network Design User group in the AIMMS Online Community
- Network Design e-Learning modules
- Trial platform for e-Learning, academics and prospects
- Post graduate tutorials for Academics

[WATCH THE DEMO](#)

The image displays two overlapping screenshots of the AIMMS online community and training platform. The top screenshot shows the 'AIMMS Network Design User Group' page, featuring a search bar, a 'Join group' button, and three featured articles: 'New UX Coming Soon to Data Navigator', 'Coming Soon: Network Design', and 'New in AIMMS Network Design:'. The bottom screenshot shows the 'AIMMS Academy' interface for 'Network Design Training', including a navigation menu, a 'Welcome to AIMMS Network Design' message, and a detailed table of contents for the training modules.

Menu
Welcome to AIMMS Network...
Welcome to the Training!
Typical Network Design User ...
1.1 Intro to Data Navigator
Getting Started
1.2a Configuration Wizard - N...
1.2b Data Template - Network ...
1.3a Configuration Wizard an...
Task - Import CoG Dataset int...
2.1 Intro to Network Design a...
Quiz 2.1
2.2 Network Design - DC Scen...
Quiz 2.2
2.3 Network Design - Closing ...
Quiz 2.3
2.4 Network Design - Blue Sky...