



## CAST Aurora - Next Generation Network Optimisation

CAST is a powerful, decision support software application used for supply chain modelling, strategic network design and optimisation.

Users of CAST typically achieve a 10-15% saving on their supply chain costs.

Driven by our proprietary e-licensing, CAST is used world-wide by third party logistics, manufacturing, consulting and retail companies to evaluate and identify different supply chain strategies, leading to significant cost savings & service level improvements.

CAST users are supported by experienced, local supply chain professionals based in North America, Europe, Asia and Africa.

### Optimising the Supply Chain Network

Supply chain network optimisation trades-off competing costs, such as warehousing & transportation, to identify the optimal supply chain configuration. This takes into consideration target service lead times for forecast, or actual, supply & demand volumes by location.

### Optimising the Network Migration & Implementation Plan

By optimising the supply chain in weekly, monthly and yearly time horizons, CAST can identify what the optimal supply chain should be, and when changes to the network should occur, thereby optimising the network migration and implementation plan, and realising all the potential savings identified.

### Optimising Supply Chain resources in a Seasonal Business

From holiday peaks in consumer markets, to harvest periods in agriculture, seasonal variability in supply and demand puts strain on the supply chain, resulting in higher costs.

CAST can identify cost savings by:

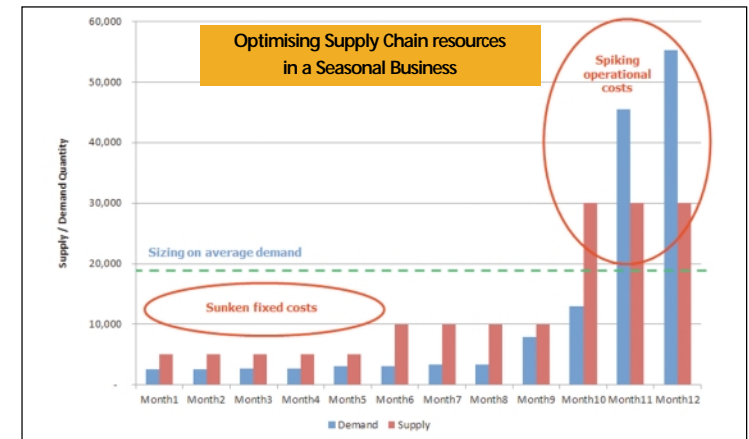
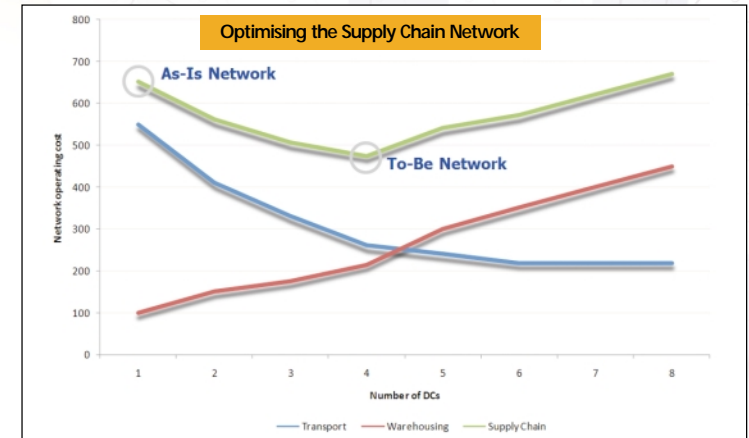
- building stock across the network to meet seasonal peaks in demand and seasonal falls in supply
- tactically sizing network resources by time period
- flexing capacities in the network: adding shifts and opening overflow warehousing (when, where & how much)

CAST can also maximise profitability in capacity constrained networks, where demand allocation decisions need to be made.

### Ideal for a variety of Business Sectors

Global manufacturing companies can use CAST to evaluate the cost and service impact of moving manufacturing from high cost countries to alternative low cost manufacturing bases. CAST is also used to optimise the production mix, to customise service level offerings and maximise profitability when planning for seasonal volatility or for capacity constraints across the network.

Retail companies can use CAST to identify optimal distribution infrastructures for their national supply chain networks, as they develop product ranges, change store configurations and market



channels. Retailers also use CAST to design supply chains for overseas market expansion, home delivery networks and to evaluate alternative and collaborative sourcing strategies.



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“...facilitates bigger, faster and more complex model building to match today's increasingly globalised & fragmented supply chains.”

## Next Generation Network Optimisation:

### Key Functionality & Features

**Technology Platform:** CAST is developed in an advanced, 3 tiered-client server architecture. This facilitates bigger, faster and more complex model building to match today's increasingly globalised & fragmented supply chains. The new architecture also offers much greater flexibility in the deployment options available across the organisation.

**Map Displays:** A simple & intuitive map-driven model building interface enables faster & easier model building. Advanced mapping capabilities enhance visibility & understanding of supply and demand data, allowing users to validate the supply chain.

**Centre of Gravity Modelling:** Calculates the optimal number & location of warehouses for target service delivery lead-times to customers, considering regional warehouse & transport costs and capacities.

**Service Lead Time Analysis:** Global geo-coding capability allows mapping of customer service levels and transport lead-times across actual road networks, for each supply chain configuration tested.

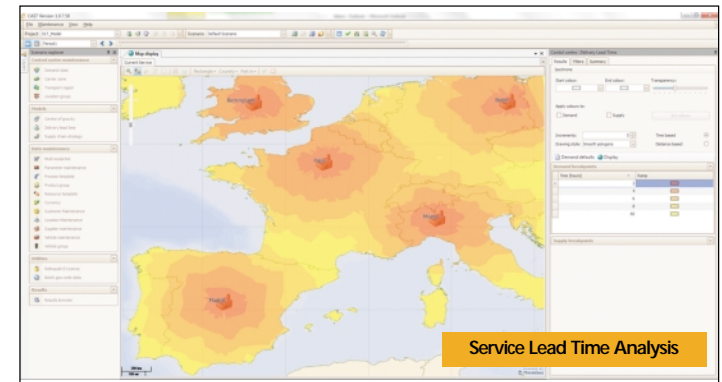
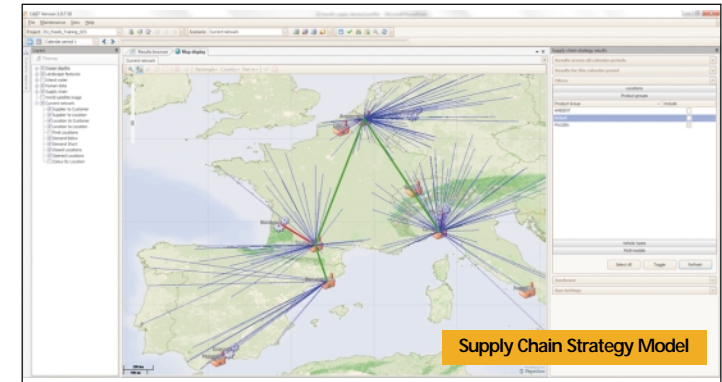
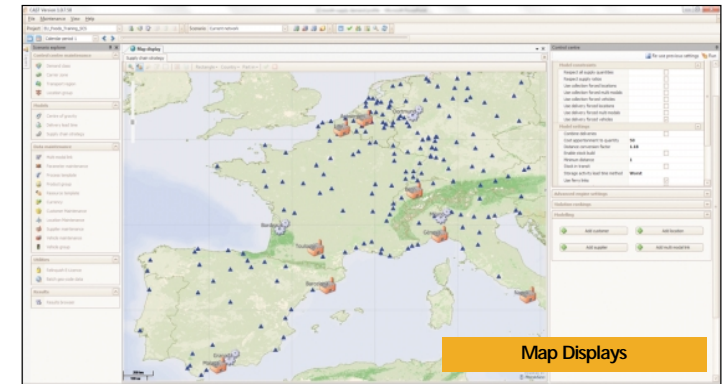
**Supply Chain Strategy Modelling:** Multi-time period, Mixed Integer Programming Optimisation is used to identify the best

multi-echelon, supply chain configuration to save costs, improve service levels and maximise profits. It includes:

- Multi-units of measure, capacities, currencies & time periods
- Multi-level Bill of Materials & Production Modelling
- Demand Allocation Profit Maximisation
- Freight consolidation optimisation
- Dedicated Transport Fleet sizing & multi-drop delivery operations
- Inventory optimisation & stock building over time
- Stock-In-Transit Optimisation
- Fulfilment service level & Transport Lead-time service levels
- Differentiated service levels by Customer Tier demand classes
- Warehouse storage capacity & sizing optimisation
- Multi-modal transportation modelling
- Soft & hard constraint options

**Reporting:** A fully customisable Visibility Layer permits the creation of user defined reports with an unlimited range of formats & content. This enables rapid interpretation of network results and cost drivers, which accelerates the strategic decision support process in the boardroom. Results can be exported into HTML, PDF, XLS or CSV file formats for further review.

**Carbon Emissions Modelling:** CAST-CO2 allows a user to calculate the carbon emissions of any given supply chain, or optimise the supply chain network to minimise carbon. This allows the comparison of cost, service level and environmental impact across different supply chain strategies & configurations.



**Barloworld**  
Supply Chain Software

To understand how CAST can drive typical annual savings of 10%-15% across your supply chain please contact your local office:

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