

# How to optimize your supply chain footprint

SUPPLY CHAIN GURU - SUPPLY CHAIN NETWORK DESIGN APPLICATION



GROENEWOUT



Breda, February 2021

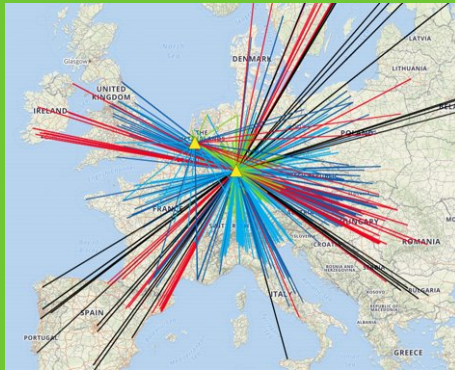
9026X139 SUPPLY CHAIN GURU v1.0

The recommendations, advice and conclusions, mentioned in this report, are based on the information and data provided by client. Savings, operational costs and investment estimates are depending on the assumptions and preconditions stated in this report. All orders are accepted and carried-out according to the Groenewout Terms and Conditions 2012.

# Supply chain footprint optimization

## OBJECTIVE

**TO DETERMINE THE  
MOST OPTIMAL  
DISTRIBUTION  
NETWORK**



**MOST COSTS EFFECTIVE  
SOLUTION  
THAT MEETS CUSTOMER  
SERVICE REQUIREMENTS**

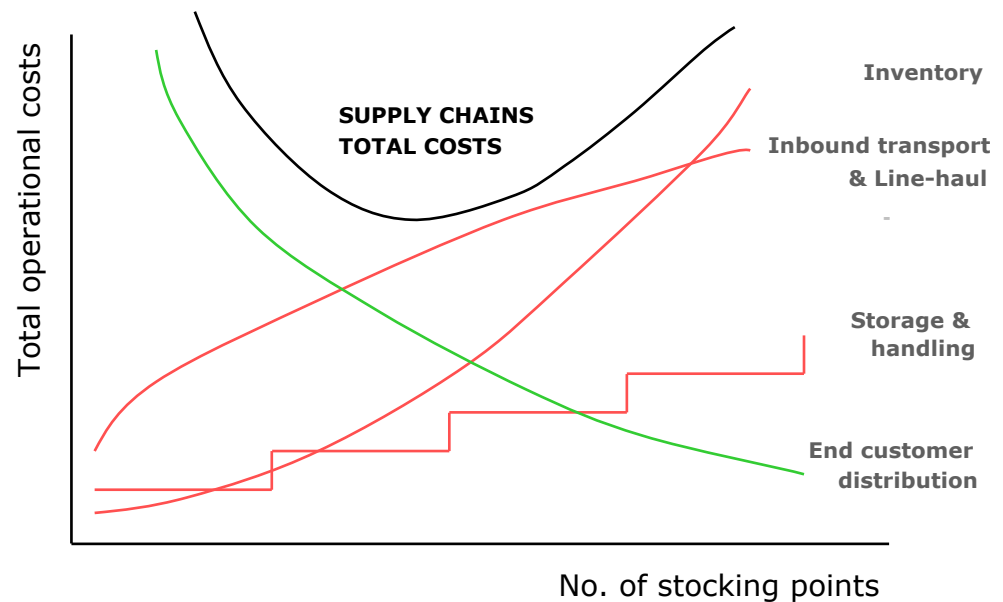
**FACILITATES THE  
FUTURE STRATEGY**

# Supply chain footprint optimization

## COSTS TRADE-OFF

### Optimized supply chain footprint design:

- Cost efficiency
- Meeting customer service requirements
- Business continuity
- Supply chain transparency



# Supply chain footprint optimization

## PROJECT APPROACH

---

### Data gathering and checking

Volume & costs data

Assumptions

Data consistency, completeness & quality

### Modelling

Set-up & verification

Distribution concepts analysis & simulation

Sensitivity analysis – sanity check

### Business case

Distribution concepts evaluation

Implementation & transition plan



# Supply chain footprint optimization

## PROJECT DELIVERABLES

---

- Basic Data & Assumptions Document: data verification and presentation of results
- Distribution network model: to be used for further analysis of the different distribution network scenarios
- Presentation of the various distribution network concepts: operational costs and customer service
- Validation of the robustness of the distribution network scenarios & insight in the business parameters directly affecting the selection of a preferred distribution network concept
- Plan of approach and quantification of financial implications of implementation and transition of the preferred distribution network scenario

# Tools

## OVERVIEW



### Distribution Network Study & Transportation



### Transport & Warehouse tendering

P A N D A

### Inventory Management

WHAT2STORE®

### Design

WARE2STORE®



BUILD2STORE®

### Visualization



### Simulation

*With our simulation partner Talumis*



### Operational

ABC2STORE®

Taylor made solutions

P . I . M .



# Supply Chain Guru X

A SOPHISTICATED TOOL TO SIMULATE DISTRIBUTION NETWORKS

- Finding the optimal supply chain network focusing on the structure, the number and the location of plants and/or warehouses
- Analyzing and comparing different scenarios
- Visualizing (maps, views, graphs, dashboards)
- Geographical modeling (using geographical distances between locations with circuitry factor)
- Using constraints on time, distance, transport modes or emissions
- Utilizing actual transport rates



# Supply Chain Guru X

## EXAMPLE - INPUT

INPUT TABLE  
Customers\*

Export Import Delete Sum Row Add Column Clear Sorts Duplicate Row Geocode

NAME	COUNTRY	POSTAL CODE	LATITUDE	LONGITUDE
+ ADD NEW ROW				
CU_GB_AB10 7AQ	GB	AB10 7AQ	57.12	-2.15
CU_GB_AB10 7QD	GB	AB10 7QD	57.12	-2.15
CU_GB_AB12 3H8	GB	AB12 3H8	57.13	-2.09
CU_GB_AB12 3JZ	GB	AB12 3JZ	57.12	-2.07
CU_GB_AB12 3LE	GB	AB12 3LE	57.12	-2.08
CU_GB_AB21 0DP	GB	AB21 0DP	57.21	-2.20
CU_GB_AB21 0DR	GB	AB21 0DR	57.21	-2.19
CU_GB_AB21 7GA	GB	AB21 7GA	57.20	-2.19
CU_GB_AB21 7GD	GB	AB21 7GD	57.20	-2.19
CU_GB_AB23 8AN	GB	AB23 8AN	57.20	-2.08
CU_GB_AB23 8JS	GB	AB23 8JS	57.20	-2.10
CU_GB_AB23 8JW	GB	AB23 8JW	57.20	-2.09
CU_GB_AB31 5UN	GB	AB31 5UN	57.06	-2.49
CU_GB_AB53 4DT	GB	AB53 4DT	57.54	-2.46
CU_GB_AB53 4PA	GB	AB53 4PA	57.54	-2.46

INPUT TABLE  
Customer Sourcing Policies

Export Import Delete Sum Row Add Column Clear Sorts Duplicate Row Auto Generate

CUSTOMER	PRODUCT	SOURCE	SOURCING POLICY	PO
+ ADD NEW ROW				
Enter Filter Name Here	Save Filter	Save As New	Delete Filter	Clear Filter
▼ (ALL_Customers)	GB40	GB40	Single Source	1
▼ (ALL_Customers)	GB40	GB40 BC+	Single Source	1
▼ (ALL_Customers)	BEG8	Hub_Dover	Single Source	1
▼ (ALL_Customers)	LS Ilkeston	LS Ilkeston	Single Source	1
▼ (ALL_Customers)	LS Rochester	LS Rochester	Single Source	1
▼ (ALL_Customers)	LS Scotland	LS Tradeprint	Single Source	1
▼ (ALL_Customers)	LS Weston	LS Weston Super Mare	Single Source	1
▼ (ALL_Customers)	GB40	▼ All_WH	Single Source	1
▼ (ALL_Customers)	LS Ilkeston	▼ All_WH	Single Source	1
▼ (ALL_Customers)	LS Rochester	▼ All_WH	Single Source	1
▼ (ALL_Customers)	LS Scotland	▼ All_WH	Single Source	1
▼ (ALL_Customers)	LS Weston	▼ All_WH	Single Source	1

Input:

- Locations
- Demand
- Transport, handling and inventory costs
- Restrictions on flows
- ...

INPUT TABLE  
Customer Demand\*

Export Import Delete Sum Row Add Column Clear Sorts Duplicate

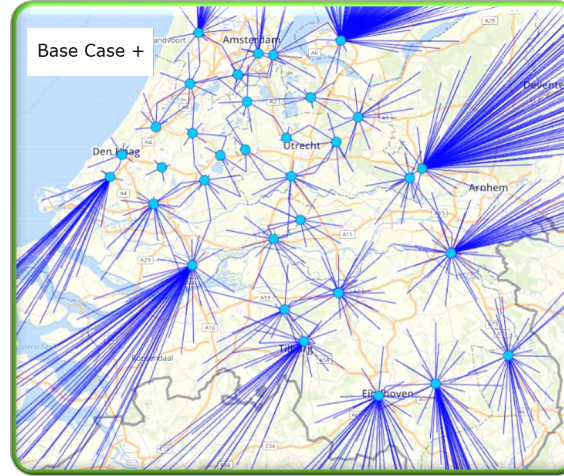
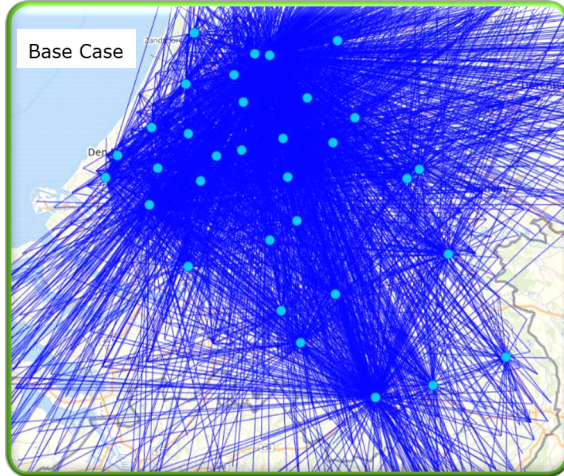
CUSTOMER	PRODUCT	MODE	QUANTITY
+ ADD NEW ROW			
CU_GB_AL3 6PZ	GB40	3rd party	80235.1939328983 (EA)
CU_GB_AL7 1EW	GB40	3rd party	54.4669354286846 (EA)
CU_GB_B77 5AE	GB40	3rd party	26470.9828176601 (EA)
▶ CU_GB_BB5 3NY	GB40	3rd party	263.5853333333335 (EA)
CU_GB_BD1 2RZ	GB40	3rd party	101.611896571803 (EA)
CU_GB_BD10 9TE	GB40	3rd party	1547.62069767443 (EA)

INPUT TABLE  
Transportation Policies\*

Export Import Delete Sum Row Add Column Clear Sorts Duplicate Row Auto Generate

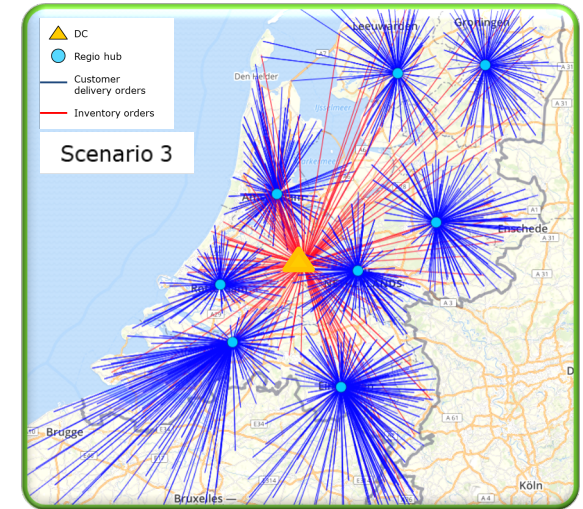
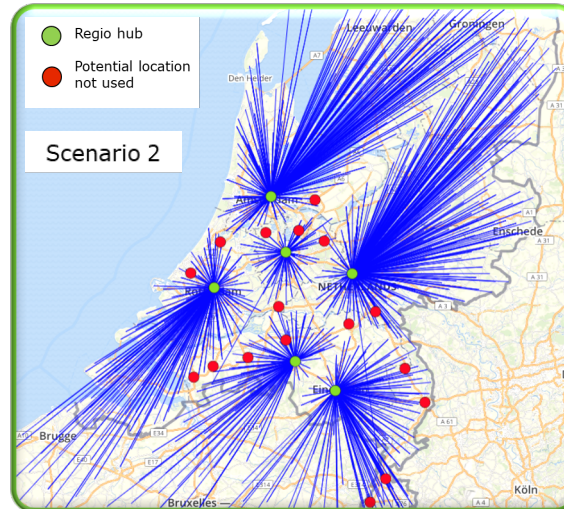
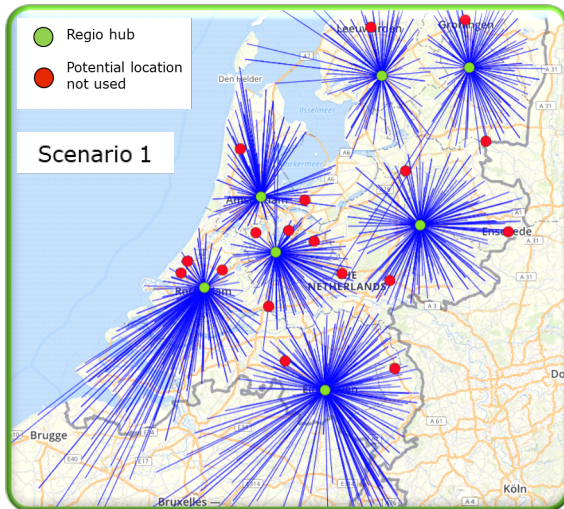
SOURCE	DESTINATION	PRODUCT	VARIABLE TRANSPORT...	FIXED SHIPMENT COST	STATUS
+ ADD NEW ROW					
▼ All_WH	▼ (ALL_Customers)	▼ (ALL_Products)	Outbound_variable	Outbound_fixed	Include
▼ All_Suppliers	▼ All_WH	▼ (ALL_Products)	Inbound_variable	Inbound_fixed	Include
Hub_Duinkerke	Hub_Dover	▼ (ALL_Products)	0 (EUR)	0 (EUR)	Include
BEG8	Hub_Duinkerke	▼ (ALL_Products)	0 (EUR)	0 (EUR)	Include
Sup_NL_ATECE O...	Hub_Duinkerke	Atece_NL	0 (EUR)	0 (EUR)	Include
Sup_BE_CMA IM...	Hub_Duinkerke	CMA_BE	0 (EUR)	0 (EUR)	Include
Sup_IT_POLICRO...	Hub_Duinkerke	Policrom_IT	0 (EUR)	0 (EUR)	Include
▼ All_Suppliers	▼ All_WH	▼ (ALL_Products)	Inbound_1DC_variable	Inbound_1DC_fixed	Exclude
▼ All_Suppliers	▼ All_WH	▼ (ALL_Products)	Inbound_2DC_variable	Inbound_2DC_fixed	Exclude
▼ All_Suppliers	▼ All_WH	▼ (ALL_Products)	Inbound_3DC_variable	Inbound_3DC_fixed	Exclude





Output  
per scenario:

- Costs
- Flows
- Throughput
- ....





## Description

Isero is part of Grafton Group Plc. They are active as a wholesaler in tools, fasteners, hinges and locks and related products.

## Opportunities

Grafton acquired Isero's competitor Polvo, expanding their market coverage and giving exposure to new product segments of the market and a more diversified customer base. The combined business led to a trade increase from 59 to over 113 branches within the BeNeLux.

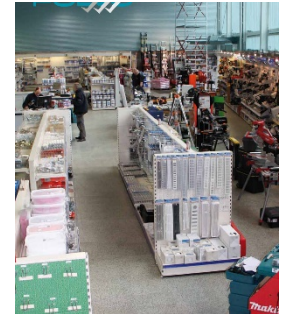
## Solution

Following the merger, the new logistics strategy had to be developed, looking at:

- Economies of scale in warehousing
- Cooperation in transportation to branches
- Consolidation of assortment and inventory
- The product portfolio available in each of the warehouses
- Implementation of e-commerce

## Benefits

- A computer simulation model providing decision support on the optimal logistics footprint structure in the BeNeLux
- Logistics design of the (existing) warehouse locations within this network, representing their new distribution role
- Strategic supply chain transition plan, 5-10 years out.





## Description

Gates is a manufacturer of power transmission belts and fluid power products, which are used in diverse industrial and automotive applications. The company employs over 14,000 people and has sales and manufacturing operations in North and South America, Europe, Asia, Australia, and the Middle East.

## Opportunities

Gates was aiming at an integrated European logistics concept, optimizing the different warehouse locations in Europe.

## Solution

Based on multiple scenario calculations, the strategic direction of Gates' distribution footprint was established balancing the optimal customer service (lead-time) against a minimum logistics spend.

This included,

- A financial business case containing the operational costs (transport, warehousing, inventory), (des-) investments and transition costs
- Overall blueprint of the warehouse characteristics (size, FTE's, level of mechanization)
- Sanity check on tax implications
- Stocking strategy per warehouse location within each of the scenarios.

## Benefits

- Design of the warehouse solutions on footprint, logistics processes, logistics mechanization, material handling equipment, number of FTEs and estimated investments
- An overall financial business case to support the decision on the future distribution concept
- Implementation schedule for the favored distribution network scenario from AS-IS towards TO-BE.



## Description

Allego designs and develops electric car charging solutions that manages user-friendly and future-proof charging points for electric vehicles. Allego serves customers in Europe.

## Opportunities

Allego was in the middle of a growth and implementation strategy of charging facilities for electric cars. At that time, the logistic activities were provided by external installation and service companies. For Allego it was very important to make a next step to a mature supply chain network with a long-term horizon.

## Solution

Those distribution footprint scenarios were identified, that enabled Allego to set up an efficient logistics operation within a growing market with a high uptime request.

Multiple scenarios were presented that matched the different growth strategies and ambitions as envisioned by Allego.

## Benefits

- A validated and approved distribution footprint strategy for Allego with a 5 years horizon
- Supporting (financial) business case for this distribution network strategy;
- Elaborated transition plan towards end-state scenario.



## Description

Building Materials Europe (BME) (previously CRH Europe Distribution) sells building materials to professional builders, specialist heating and plumbing installers and consumers through a large network of outlets operating under trusted local and regional brands. The Group is active in two main business areas: General Builders Merchants (GBM) and Sanitary, Heating and Plumbing (SHAP).

## Opportunities

BME currently operates three warehouse facilities for SHAP in Belgium in the region of Genk, Herentals and Waregem (Wielsbeke) through 3 different wholesale brands, SAX, Lambrechts and Schrauwen. BME wants to align its Belgium distribution footprint between the 3 individual entities.

## Solution

Financial and qualitative business case for different future distribution scenario's on:

- operational costs (transport, warehousing, inventory)
- (des-)investments
- transition costs
- Customer service levels, flexibility and reliability

## Benefits

Optimal strategic direction of the Belgium distribution footprint with the optimal customer service (lead-time) against a minimum logistics spend.





## Description

Apollo Vredestein is a Netherlands-based tire manufacturer and it is part of Apollo Tyres Ltd of India. Apollo Vredestein has its head office in Amsterdam, the Netherlands and its production facility in Enschede. It designs, manufactures and sells tyres under the Apollo and Vredestein brand names via offices in Europe and North America.

Vredestein products include car tyres, tyres for agricultural and industrial applications, and bicycle tyres.

## Opportunities

Currently, tires are manufactured in Enschede and Hungary. Enschede is the central distribution center from which tires are distributed, mainly across Europe via a network of regional and local distribution centers. Since Enschede has fully utilized its capacity, Groenewout was asked to analyze and propose the best suitable distribution structure to facilitate this production set-up.

## Solution

By using the Supply Chain modeling software, different transport and warehousing scenarios have been simulated. Not only the logistics footprint was assessed but also the differentiation between direct factory, X-dock consolidation and local DC shipments.

## Benefits

With the simulation of several supply chain scenarios a transparent insight is realized with the following benefits:

- Minimization in supply chain costs (transport, warehousing, inventory)
- Increased supply-demand balance, which can improve the supply chain lead-times
- Strategic plan of TO-BE logistics footprint





## Description

For over 10 years Vos Logistics acts as a logistics service provider for Victorinox Travel Gear Ltd. Victorinox is particularly known for its Swiss army knife. The travel gear division manufactures and markets suitcases, briefcases, duffel bags & totes, backpacks and carry-on bags.

## Opportunities

Groenewout was asked to conduct a review on the current distribution footprint structure in EMEA. I.e. determine the impact of consolidating the travel gear division with the other Victorinox business units in Switzerland.

## Solution

Groenewout conducted a number of computer simulations to assess the impact of transferring the travel gear logistics operation from Belgium to Switzerland.

- Impact on operational costs (transport, warehousing & inventory)
- Tax implications
- Lead time implications

## Benefits

- A holistic logistics view that was used by Vos Logistics & Victorinox to validate the planned logistics strategy.



DRIVEN BY KNOWLEDGE