Distribution footprint strategy INNOVATION SESSION GROENEWOUT - JUNE 27TH 2017



Breda June 27th, 2017 9026X.../AB/it

De in dit rapport genoemde conclusies, aanbevelingen en adviezen zijn gebaseerd op door de opdrachtgever verstrekte informatie en gegevens. Besparingen, exploitatie- en investeringsramingen zijn afhankelijk van de in dit rapport genoemde randvoorwaarden en aannames. Alle opdrachten worden aanvaard en uitgevoerd overeenkomstig de Groenewout Algemene Voorwaarden 2012.

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European Distribution Networks

LOCAL DISTRIBUTION



European Distribution Networks

CENTRAL DISTRIBUTION

<text></text>	Euro	pean Union establi	shed	AUT, FI, SE joined EU	Euro (€) introduced	
<complex-block></complex-block>		1993	1995		2002	
CW/ referentia 0026V / /Innovatiosossia luna 2017/AP/it	•	Moderate integral Centralized Europ - From self-owne - Central stock r - Transport base - Service diversi - More VAL activ	Supply Chain awarene ean approach: ed to outsourcing management ed on hub structure fication on country leve vities	ss beller		

European Distribution Networks

HUB & SPOKE DISTRIBUTION



Europe's most favored logistics locations

BENELUX AND WESTERN GERMANY ARE THE MOST FAVORED LOCATIONS IN 2016



Source: Prologis Research



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2	Logistics trends
3	Project approach on a network implementation
4	Costs leverages & qualitative factors
5	Business case - example
6	Organizational outline



OMNI-CHANNEL DISTRIBUTION

GROWTH IN # OF DISTRIBUTION CHANNELS

- "Brick" stores
- E-commerce
- In-store shops
- Flagship stores
- Outlet
- Wholesale

PICK/PACK/SHIP PROCESSES BECOME COMPLEX

- From full-case picks to piece-picks
- Client specific shipments e.g. e-com packing/giftwrapping, price labels, (filled) displays or private label

FROM

A separate distribution channel for each PMC, i.e. operating multiple DC's in parallel

TO

 Consolidation of different PMC's into 1 DC, to consolidate stock and manage inventory levels



INCREASING CUSTOMER SERVICE DEMANDS

CUSTOMER SERVICE AS A COMPETITIVE ADVANTAGE

Price & product are replaced by speed & service

DELIVERY CHARACTERISTICS BECOME MORE COMPLEX

- Smaller more frequent deliveries
- Same-day deliveries
- Value Added Services

FROM

 Large, central DC's focuses on large orders, long delivery lead times and less responsiveness

ТО

 DC's in local market to provide "same-day" of "next-day" deliveries to a substantial client potential



MARKET- AND BUSINESS AMBIGUITY

RAPIDLY CHANGING CLIENT- AND COMPANY REQUIREMENTS

- Sales growth & service strategy
- Mergers & acquisitions

AGILITY OF THE LOGISTICS NETWORK

- The logistics operation is not aimed at averages but at the agility to switch between highs and lows
- Variability of logistics operational costs

FROM

Standardized warehouse processes
 designed for efficiency of a stable workflow

ΤΟ

 DC's with maximum flexibility and scalability, independent of growth volumes, order profiles and market channels



LOGISTICS MECHANIZATION

WAREHOUSE MECHANIZATION IS FINANCIALLY DRIVEN

- ROI < 5 years requires an up-time of more than 10 hrs. a day
- Flexibility versus degree of mechanization/efficiency
- Restrictions product dimensions & packs
- Availability IT support

WAREHOUSE MECHANIZATION AS A COMPANY STRATEGY

- Responsiveness
- Reliability
- Labor independence

FROM

Manual logistics concepts, unless mechanization reduces operational costs...

TO

- Automated sorting- and packaging systems on the right location to support a quick and swift delivery
- Availability of more affordable mechanization solutions in the market
- Consolidation of operations to create economies-of-scale for the investments



LOGISTICS PERFORMANCE AS A COMPETITIVE ADVANTAGE

PHYSICAL DISTRIBUTION IS THE VITAL LINK TO THE CUSTOMER

 More impulse buyers - all inventory available to all customers

FUNDAMENTELE POSITIE VAN SUPPLY CHAIN

- Supply chain as the orchestrator between production, commerce & finance, Integrated Business Planning
- From material flows to financial flows with concepts as order-2-cash cycle time

FROM

- Logistics reporting in the chain of the COO
- Logistics as a costs center

ΤΟ

- Supply chain is an autonomous function on C-level
- The logistics network as a responsive tool to distinct yourselves positively from the competition



Trends and their impact on network footprints (BIG) DATA

COMLPLEXITY OF LOGISTICS DATA

- Globalization leads to more suppliers and customers
- Exponential growth of the number of article codes

IMPORTANCE OF SUPPLY CHAINS PLANNING

 Increasing dependency on the accuracy of data with regards to tracking & tracing, continuous optimization and costs efficiency

FROM

- Data availability in silo-ed per operating company
- Data are not specifically focused on logistics operations e.g. shipment weights, product dimensions

NAAR

- Complete and accurate master data of products and shipments to design an efficient DC
- Distribution & deployment scheduling
- Integrated Business Planning logistics scenario assessments
- Anticipating logistics



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Design & realization distribution network footprint

PLAN OF APPROACH - OVERALL





Project approach - distribution network design PHASING & LEAD-TIME

2-6 weeks	2 weeks	5-8 weeks	1-2 weeks	2-4 weeks
`As -is' mapping	Supply chain assessment	Network scenario simulations	'What-if' analysis	Business case
 Development of an 'as- is' questionnaire & data templates Retrieve data on shipment and storage volumes and costs Data check in terms of consistency, completeness and quality Define the assumed future situation, including the most important future sales volumes and/or trends Documentation of information in a basic data document 	 Benchmark European transportation costs and DC operating costs against Groenewout's database Distinguish which (logistics) activities are the most valuable to provide competitive advantage SCOR rating of (current) logistics performance on costs, reliability, agility, responsiveness & asset utilization Optimization of route- to-market models, e.g. B2B, B2C, distributors, direct deliveries, e- commerce, etc 	 Set up a logistics simulation model in Cast® software Calibration of simulation model with real-life figures (Base- Case model) Develop Base-Case+ model including potential quick wins & future sales trends Simulation of various Blue Sky and Constrained distribution network scenarios Evaluate the different distribution network concepts in terms of footprint, operational costs & logistics performance 	 Re-run the scenarios in the model and assess the impact of changing the business parameters on the performance metrics Assessment of the robustness of scenarios to deal with changing external requirements Sanity check on the aspects of corporate tax, transfer price model, VAT and import duties 	 Description of the number one scenario on network footprint, logistics processes, (storage) systems, material handling equipment, number of required FTEs and estimated investments Estimation of the investments, social costs, transition costs and tax implications Calculate return on investment (ROI), net present value (NPV) Define new customer service and lead-time performances Implementation schedule



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Decision factors when defining the network strategy

SUPPLY CHAINS OPTIMIZATION REFERENCE (SCOR) MODEL

	Performance attribute	Performance Attribute Definition
FACED	Supply Chain Delivery Reliability	The performance of the supply chain in delivering: the correct product, to the correct place, at the correct time, in the correct condition and packaging, in the correct quantity, with the correct documentation, to the correct customer
STOMER	Supply Chain Responsiveness	The velocity at which a supply chain provides products to the customer
CC	Supply Chain Flexibility	The agility of a supply chain in responding to marketplace changes to gain or maintain competitive advantage
NAL	Supply Chain Costs	The costs associated with operating the supply chain
INTER	Supply Chain Asset Management Efficiency	The effectiveness of an organization in managing assets to support demand satisfaction. This includes the management of all assets: fixed and working capital



Supply chains operational costs

TRANSPORT



Inbound transport : from production facility / supplier to the warehouse

Intercompany transport: between warehouse facilities with the objective of inventory replenishment

Outbound transport : "last-mile" transport from warehouse to end-customer



Supply chains operational costs WAREHOUSING



Building costs : leasing, maintenance and operation (energy, heating, ..) of a warehouse building

Handling costs

: labor costs (direct & indirect) for receiving, storage, picking & packing of finished goods in the warehouse

Equipment costs : operating and maintenance of non-fixed assets as FLT's, racking, conveyor belts



Supply chains assets efficiency INVENTORY



No. of warehouses

: breakage, pilferage, and deterioration of inventories

Opportunity Cost

: opportunity cost of holding inventory against a WACC percentage

Shrinkage

Insurance and Taxes

Obsolescence

- : insuring inventories and taxes associated with the holding of inventory.
- : In-house inventory (shelf life, spoils), channel obsolescence (consignment), Field Service Parts Obsolescence



Inventory costs INVENTORY IMPACTS THE ASSET TURNOVER AND NET PROFIT MARGIN

DuPont chart: Inventory affects asset efficiency and net profit





Activa / debet	Passiva / credit
 Vaste activa Onroerend goed Immateriële vaste activa Financiële vaste activa 	Eigen vermogen 1 jan + winst na belasting = Eigen vermogen 31 dec
 Vlottende activa Voorraad Debiteuren Liquide middelen 	 Verplichtingen Voorzieningen Schulden lange termijn Schulden korte termijn
oorraad-depreciatie	voorziening voorraad afsch





Overlap of article codes per individual warehouse Replenishment lead-times

Customer lead-times

Inventory
$$_{AB} = \sqrt{\frac{throughput_{AB}}{throughput_{A}}} \times \frac{no. of SKU's_{AB}}{no. of SKU's_{A}} \times \frac{leadtime_{AB}}{leadtime_{A}}$$



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Methodology - distribution network design

A BOARDROOM FINANCIAL BUSINESS CASE

Operational business case

- Operational Expenses OPEX
 - Transport
 - Warehousing
 - Inventory costs
- Capital expenses CAPEX
 - Investments
 - Transition costs (moving, social costs,)
 - Land is excluded (no depreciation, only has a cash flow impact)
 - Des-investments (e.g. closure costs, remaining property value, contract penalties,)
- Logistics performance
 - Reliability
 - Flexibility
 - Responsiveness

• Fiscal aspects / tax effective supply chain

- VAT (deferment, bonded warehousing)
- Import duties
- Corporate tax / Transfer Pricing

Location factors

- Qualitative location criteria (infrastructure, labor force, ...)
- Regional/national incentives



NET PRESENT VALUE VS. ROI

The Return on Investment methodology embeds a number of restrictions:

- It only considers the net-income during the ROI period. Positive/negative incomes outside this period is not considered.
- The ROI is not an objective in itself. The target is how much savings/income is realized in total.
- An null investment has the best ROI, being 0 years.
- ROI does not consider the time-value of money.

Net Present Value =
$$-CF = 0 + \frac{CF = 1}{(1 + R)^1} + \frac{CF = 2}{(1 + R)^2} + \frac{CF = 3}{(1 + R)^3} + \cdots$$



EXAMPLE NPV CALCULATION WAREHOUSE TRANSFER IN 2018

•	Market value current DC, time of estimated sales is 2020	•	€ 750,000
•	One time severance pay for logistics personnel current DC	•	€ 350,000
•	Purchase value new DC, time of estimated purchase in 2018	•	€ 1,600,000
•	Upgrade investment in logistics equipment in new DC in 2021	•	€ 600,000
•	Lower outbound transport costs due to shorter last-mile distances	•	€ 750,000
•	Higher transport costs for supplies due to longer distances	•	€ 250,000
•	Additional labor costs in new DC	•	€ 150,000
•	Reduced safety stock due to shortened market distance	•	€ 500,000
•	WACC	•	12%
•	GO-LIVE date new DC	•	July 1 st 2018



EXAMPLE NPV CALCULATION WAREHOUSE TRANSFER IN 2018

NET PRESENT VALUE in EURO'S						
	2018	2019	2020	2021	2022	2023
inbound transport						
outbound transport						
labor costs						
inventory costs						
OPERATIONAL CASH FLOW						
investment new DC						
income old DC						
severance payments						
inventory reduction						
ONE-TIME CASH FLOW						
TOTAL CASH FLOW						
DISCOUNTED ANNUAL CASH FLOW						



EXAMPLE NPV CALCULATION WAREHOUSE TRANSFER IN 2018

NET DESENT VALUE in EUDO'S							
	NETPK	LOLIVI VALU					
	2018	2019	2020	2021	2022	2023	
inbound transport							
outbound transport							
labor costs							
inventory costs							
OPERATIONAL CASH FLOW							
investment new DC							
income old DC			750.000				
severance payments							
inventory reduction				_	_		
ONE-TIME CASH FLOW							
TOTAL CASH FLOW							

DISCOUNTED ANNUAL CASH FLOW



EXAMPLE NPV CALCULATION WAREHOUSE TRANSFER IN 2018

NET PRESENT VALUE in EURO'S							
	2018	2019	2020	2021	2022	2023	
inbound transport							
outbound transport							
labor costs							
inventory costs							
OPERATIONAL CASH FLOW							
investment new DC							
income old DC			750.000				
severance payments	-350.000						
inventory reduction							
ONE-TIME CASH FLOW							
TOTAL CASH FLOW							
DISCOUNTED ANNUAL CASH FLOW							



EXAMPLE NPV CALCULATION WAREHOUSE TRANSFER IN 2018

NET PRESENT VALUE in EURO'S							
	2018	2019	2020	2021	2022	2023	
inbound transport							
outbound transport							
labor costs							
inventory costs							
OPERATIONAL CASH FLOW							
investment new DC	-1.600.000						
income old DC			750.000				
severance payments	-350.000						
inventory reduction							
ONE-TIME CASH FLOW							

TOTAL CASH FLOW

DISCOUNTED ANNUAL CASH FLOW



EXAMPLE NPV CALCULATION WAREHOUSE TRANSFER IN 2018

NET PRESENT VALUE in EURO'S										
	2018	2019	2020	2021	2022	2023				
inbound transport										
outbound transport										
labor costs										
inventory costs										
OPERATIONAL CASH FLOW										
investment new DC	-1.600.000			-600.000						
income old DC			750.000							
severance payments	-350.000									
inventory reduction										
ONE-TIME CASH FLOW										
TOTAL CASH FLOW										
DISCOUNTED ANNUAL CASH FLOW										



EXAMPLE NPV CALCULATION WAREHOUSE TRANSFER IN 2018

NET PRESENT VALUE in EURO'S										
	2018	2019	2020	2021	2022	2023				
inbound transport										
outbound transport	375.000	750.000	750.000	750.000	750.000	750.000				
labor costs										
inventory costs										
OPERATIONAL CASH FLOW										
investment new DC	-1.600.000			-600.000						
income old DC			750.000							
severance payments	-350.000									
inventory reduction										
ONE-TIME CASH FLOW										
TOTAL CASH FLOW										

DISCOUNTED ANNUAL CASH FLOW

EXAMPLE NPV CALCULATION WAREHOUSE TRANSFER IN 2018

NET PRESENT VALUE in EURO'S										
	2018	2019	2020	2021	2022	2023				
inbound transport	-125.000	-250.000	-250.000	-250.000	-250.000	-250.000				
outbound transport	375.000	750.000	750.000	750.000	750.000	750.000				
labor costs										
inventory costs										
OPERATIONAL CASH FLOW										
investment new DC	-1.600.000			-600.000						
income old DC			750.000							
severance payments	-350.000									
inventory reduction										
ONE-TIME CASH FLOW										
TOTAL CASH FLOW										

DISCOUNTED ANNUAL CASH FLOW



EXAMPLE NPV CALCULATION WAREHOUSE TRANSFER IN 2018

NET PRESENT VALUE in EURO'S									
	2018	2019	2020	2021	2022	2023			
inbound transport	-125.000	-250.000	-250.000	-250.000	-250.000	-250.000			
outbound transport	375.000	750.000	750.000	750.000	750.000	750.000			
labor costs	-75.000	-150.000	-150.000	-150.000	-150.000	-150.000			
inventory costs									
OPERATIONAL CASH FLOW									
investment new DC	-1.600.000			-600.000					
income old DC			750.000						
severance payments	-350.000								
inventory reduction									
ONE-TIME CASH FLOW									

TOTAL CASH FLOW

DISCOUNTED ANNUAL CASH FLOW



EXAMPLE NPV CALCULATION WAREHOUSE TRANSFER IN 2018

NET PRESENT VALUE in EURO'S									
	2018	2019	2020	2021	2022	2023			
inbound transport	-125.000	-250.000	-250.000	-250.000	-250.000	-250.000			
outbound transport	375.000	750.000	750.000	750.000	750.000	750.000			
labor costs	-75.000	-150.000	-150.000	-150.000	-150.000	-150.000			
inventory costs	30.000	60.000	60.000	60.000	60.000	60.000			
OPERATIONAL CASH FLOW									
investment new DC	-1.600.000			-600.000					
income old DC			750.000						
severance payments	-350.000								
inventory reduction	500.000								
ONE-TIME CASH FLOW									

TOTAL CASH FLOW

DISCOUNTED ANNUAL CASH FLOW



EXAMPLE NPV CALCULATION WAREHOUSE TRANSFER IN 2018

NET PRESENT VALUE in EURO'S									
	2018	2019	2020	2021	2022	2023			
inbound transport	-125.000	-250.000	-250.000	-250.000	-250.000	-250.000			
outbound transport	375.000	750.000	750.000	750.000	750.000	750.000			
labor costs	-75.000	-150.000	-150.000	-150.000	-150.000	-150.000			
inventory costs	30.000	60.000	60.000	60.000	60.000	60.000			
OPERATIONAL CASH FLOW	205.000	410.000	410.000	410.000	410.000	410.000			
investment new DC	-1.600.000			-600.000					
income old DC			750.000						
severance payments	-350.000								
inventory reduction	500.000								
ONE-TIME CASH FLOW	-1.450.000	0	750.000	-600.000	0	0			
TOTAL CASH FLOW	-1.245.000	410.000	1.160.000	-190.000	410.000	410.000			

DISCOUNTED ANNUAL CASH FLOW

NET PRESENT VALUE CUMULATIVE

GROENEWOUT

EXAMPLE NPV CALCULATION WAREHOUSE TRANSFER IN 2018

NET PRESENT VALUE in EURO'S									
	2018	2019	2020	2021	2022	2023			
inbound transport	-125.000	-250.000	-250.000	-250.000	-250.000	-250.000			
outbound transport	375.000	750.000	750.000	750.000	750.000	750.000			
labor costs	-75.000	-150.000	-150.000	-150.000	-150.000	-150.000			
inventory costs	30.000	60.000	60.000	60.000	60.000	60.000			
OPERATIONAL CASH FLOW									
investment new DC	-1.600.000			-600.000					
income old DC			750.000						
severance payments	-350.000								
inventory reduction	500.000								
ONE-TIME CASH FLOW	-1.450.000	0	750.000	-600.000	0	0			
TOTAL CASH FLOW	-1.245.000	410.000	1.160.000	-190.000	410.000	410.000			
DISCOUNTED ANNUAL CASH FLOW	-1.245.000	366.071	924.745	-135.238	260.562	232.645			

EXAMPLE NPV CALCULATION WAREHOUSE TRANSFER IN 2018

NET PRESENT VALUE in EURO'S									
	2018	2019	2020	2021	2022	2023			
inbound transport	-125.000	-250.000	-250.000	-250.000	-250.000	-250.000			
outbound transport	375.000	750.000	750.000	750.000	750.000	750.000			
labor costs	-75.000	-150.000	-150.000	-150.000	-150.000	-150.000			
inventory costs	30.000	60.000	60.000	60.000	60.000	60.000			
OPERATIONAL CASH FLOW	205.000	410.000	410.000	410.000	410.000	410.000			
investment new DC	-1.600.000			-600.000					
income old DC			750.000						
severance payments	-350.000								
inventory reduction	500.000								
ONE-TIME CASH FLOW	-1.450.000	0	750.000	-600.000	0	0			
TOTAL CASH FLOW	-1.245.000	410.000	1.160.000	-190.000	410.000	410.000			
DISCOUNTED ANNUAL CASH FLOW	-1.245.000	366.071	924.745	-135.238	260.562	232.645			
NET PRESENT VALUE CUMULATIVE	-1.245.000	-878.929	45.816	-89.422	171.140	403.786			



Methodology - distribution network design

A BOARDROOM FINANCIAL BUSINESS CASE





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	Level of professionalism in inventory management									
Symptoms	 Gut feeling inventory management Many back orders No idea about stock quantities and 	 Days on inventory policies Excel based computations Inventory is monitored 	 Basic statistic inventory calculations (P1) based on historic demand ERP or Excel based computations 	 Demand and forecast planning S&OP processes Single echelon inventory optimization 	 Demand and forecast planning S&OP processes Multi-echelon inventory optimization 					
Service level:	service level	60-80%	• Inventory is monitored 80-95%	(P2) • Inventory is monitored Up to 99,9%	• Inventory specialist Up to 99,9%					
Potential:	Base Case	Limited	20-30%	30-50%	> 50%					



X-organizational logistics

FUNCTIONAL OUTLINE OPTIONS





DRIVEN BY KNOWLEDGE

EXAMPLE NPV CALCULATION WAREHOUSE TRANSFER IN 2018

NET PRESENT VALUE in EURO'S									
	2018	2019	2020	2021	2022	2023			
inbound transport	-125.000	-250.000	-250.000	-250.000	-250.000	-250.000			
outbound transport	375.000	750.000	750.000	750.000	750.000	750.000			
labor costs	-75.000	-150.000	-150.000	-150.000	-150.000	-150.000			
inventory costs	30.000	60.000	60.000	60.000	60.000	60.000			
OPERATIONAL CASH FLOW	205.000	410.000	410.000	410.000	410.000	410.000			
investment new DC	-1.600.000			-600.000					
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severance payments	-350.000								
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ONE-TIME CASH FLOW	-1.450.000	0	750.000	-600.000	0	0			
TOTAL CASH FLOW	-1.245.000	410.000	1.160.000	-190.000	410.000	410.000			
DISCOUNTED ANNUAL CASH FLOW	-1.245.000	366.071	924.745	-135.238	260.562	232.645			
NET PRESENT VALUE CUMULATIVE	-1.245.000	-878.929	45.816	-89.422	171.140	403.786			

