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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4	Costs leverages & qualitative factors
5	Business case - example
6	Organizational outline



European Distribution Networks

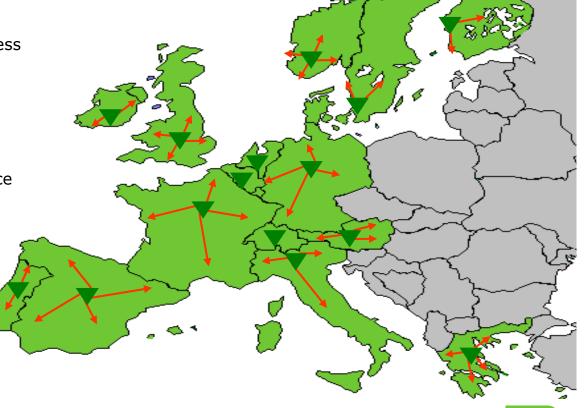
LOCAL DISTRIBUTION

European Economic Community established

Schengen agreement effective

1957 1990

- Limited integral Supply Chain awareness
- Decentralized country approach:
 - DC's self-owned
 - Local stock management
 - Local transport
 - No / limited article overlap
 - No / limited diversification in service





European Distribution Networks

CENTRAL DISTRIBUTION

European Union established

AUT, FI, SE joined EU

Euro (€) introduced

1993

1995

2002

Moderate integral Supply Chain awareness

- Centralized European approach:
 - From self-owned to outsourcing
 - Central stock management
 - Transport based on hub structure
 - Service diversification on country level
 - More VAL activities





European Distribution Networks

HUB & SPOKE DISTRIBUTION

10 nations joined EU

RO, BUL joined EU

SL adopted Euro

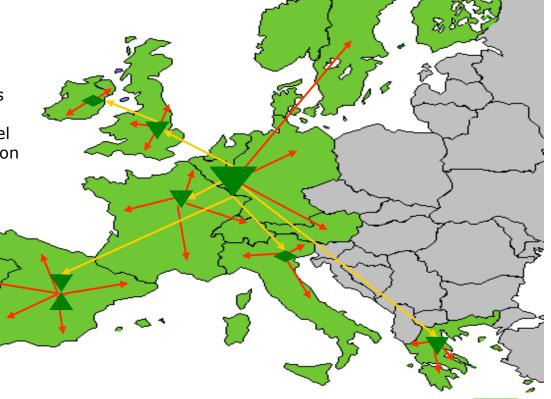
2004

2007

2009

Full integral Supply Chain awareness

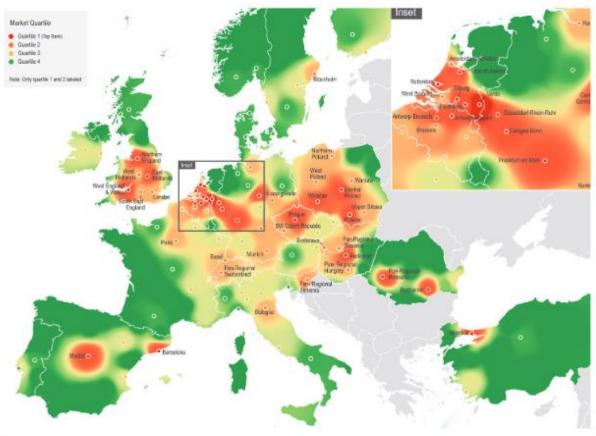
- HUB & SPOKE structures:
 - DC's mainly outsourced & set-up varies per product channel combination
 - Stock management per product channel
 - International trunking & local distribution
 - Service is customized





Europe's most favored logistics locations

BENELUX AND WESTERN GERMANY ARE THE MOST FAVORED LOCATIONS IN 2016



Source: Prologis Research



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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

TO

 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

TO

 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

TO

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



(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



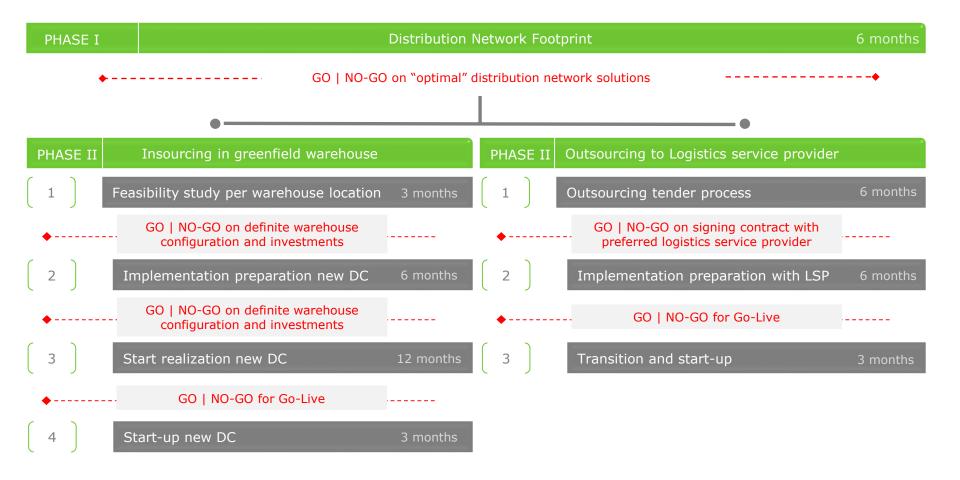
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Design & realization distribution network footprint

PLAN OF APPROACH - OVERALL





Project approach - distribution network design

PHASING & LEAD-TIME



'As -is' mapping

- Development of an 'asis' 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

Supply chain assessment

- 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 routeto-market models, e.g. B2B, B2C, distributors, direct deliveries, ecommerce, etc

Network scenario simulations

- 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

'What-if' analysis

- 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

Business case

- 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

CUSTOMER 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

Supply Chain Responsiveness

The velocity at which a supply chain provides products to the customer

Supply Chain Flexibility

The agility of a supply chain in responding to marketplace changes to gain or maintain competitive advantage

INTERNAL FACED

Supply Chain Costs

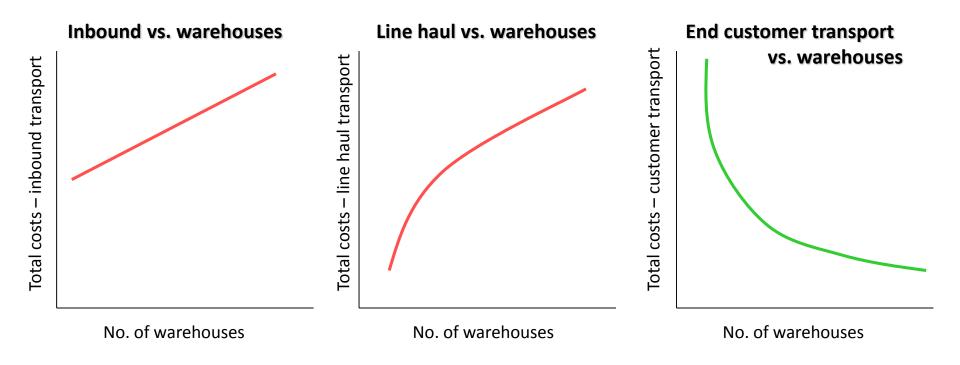
The costs associated with operating the supply chain

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

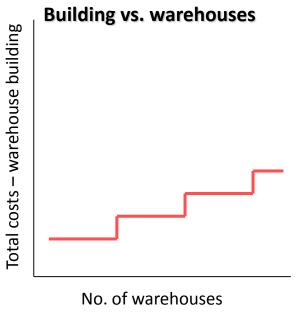
Intercompany transport: between warehouse facilities with the objective of inventory replenishment

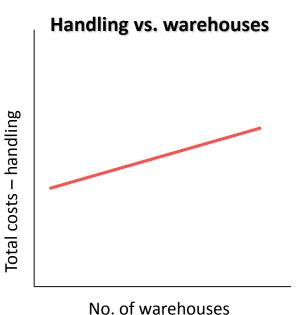
Outbound transport : "last-mile" transport from warehouse to end-customer



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



Opportunity Cost : opportunity cost of holding inventory against a WACC percentage

Shrinkage : breakage, pilferage, and deterioration of inventories

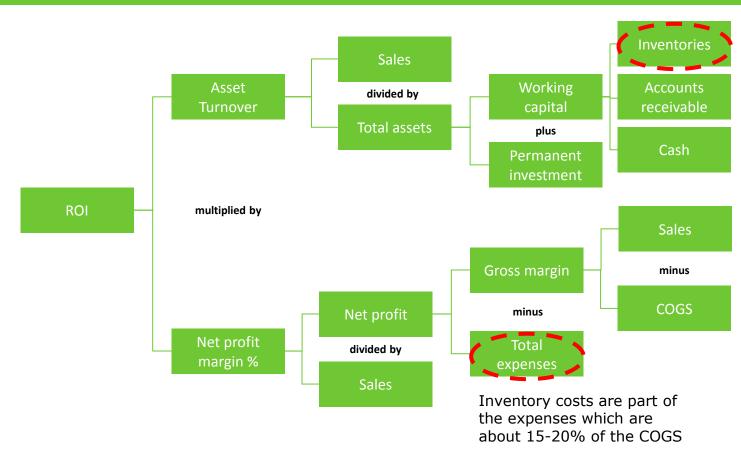
Insurance and Taxes : insuring inventories and taxes associated with the holding of inventory.

Obsolescence : In-house inventory (shelf life, spoils), channel obsolescence (consignment), Field Service Parts Obsolescence



INVENTORY IMPACTS THE ASSET TURNOVER AND NET PROFIT MARGIN

DuPont chart: Inventory affects asset efficiency and net profit



On average companies* have 12,8% of their annual sales value on stock



INVENTORY AND ITS FINANCIAL IMPACT

Activa / debet	Passiva / credit
Vaste activaOnroerend goedImmateriële vaste activaFinanciële vaste activa	Eigen vermogen 1 jan + winst na belasting = Eigen vermogen 31 dec
Vlottende activa - Voorraad ↓ - Debiteuren	Verplichtingen - Voorzieningen - Schulden lange termijn
- Liquide middelen Voorraad-depreciatie	 Schulden korte termijn voorziening voorraad afschr



STOCK IMPACT CALCULATIONS

Regional throughput per warehouse

Overlap of article codes per individual warehouse

Replenishment lead-times

Customer lead-times

Inventory
$$_{AB} = \sqrt{\frac{throughput}{throughput}_{A}} \times \frac{no. of SKU's}{no. of SKU's}_{A}} \times \frac{leadtime}{leadtime}_{A}$$



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



- Market value current DC, time of estimated sales is 2020
- One time severance pay for logistics personnel current DC
- Purchase value new DC, time of estimated purchase in 2018
- Upgrade investment in logistics equipment in new DC in 2021
- Lower outbound transport costs due to shorter last-mile distances
- Higher transport costs for supplies due to longer distances
- Additional labor costs in new DC
- Reduced safety stock due to shortened market distance
- WACC
- GO-LIVE date new DC

- € 750,000
- € 350,000
- € 1,600,000
- € 600,000
- € 750,000
- € 250,000
- € 150,000
- € 500,000
- 12%
- July 1st 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	_	_	_	_	_	_		
TO THE GROTT LOW								
DISCOUNTED ANNUAL CASH FLOW								
NET PRESENT VALUE CUMULATIVE								



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									
inventory reduction									
ONE-TIME CASH FLOW									
TOTAL CASH FLOW									
DISCOUNTED ANNUAL CASH FLOW									
NET PRESENT VALUE CUMULATIVE									



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								
NET PRESENT VALUE CUMULATIVE								



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								
NET PRESENT VALUE CUMULATIVE								



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	_	-	_	_	-	-		
TOTAL CASTITLOW								
DISCOUNTED ANNUAL CASH FLOW								
NET PRESENT VALUE CUMULATIVE								



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									
NET PRESENT VALUE CUMULATIVE									



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								
NET PRESENT VALUE CUMULATIVE								



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								



NET PRESENT VALUE CUMULATIVE

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								



NET PRESENT VALUE CUMULATIVE

EXAMPLE NPV CALCULATION WAREHOUSE TRANSFER IN 2018

	NET PR	ESENT VALU	E 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

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
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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						



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
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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

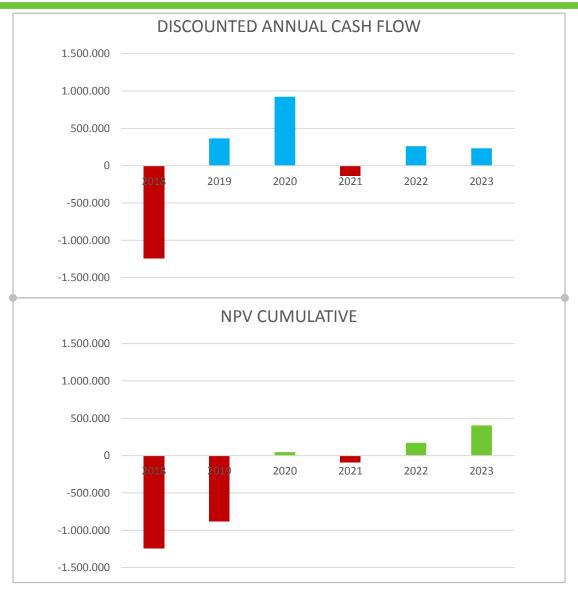




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ASSES YOUR COMPANY INVENTORY MANAGEMENT MATURITY

Level of professionalism in inventory management

Sympton	ns

- Gut feeling inventory management
- Many back orders
- No idea about stock quantities and service level

- Days on inventory policies
- Excel based computations
- Inventory is monitored
- Basic statistic inventory calculations (P1) based on historic demand
- ERP or Excel based computations
- Inventory is monitored

- Demand and forecast planning
- S&OP processes
- Single echelon inventory optimization (P2)
- Inventory is monitored

- Demand and forecast planning
- S&OP processes
- Multi-echelon inventory optimization
- Inventory specialist

Service level:

Potential:

50-60%

Base Case

60-80%

Limited

80-95%

20-30%

Up to 99,9%

30-50%

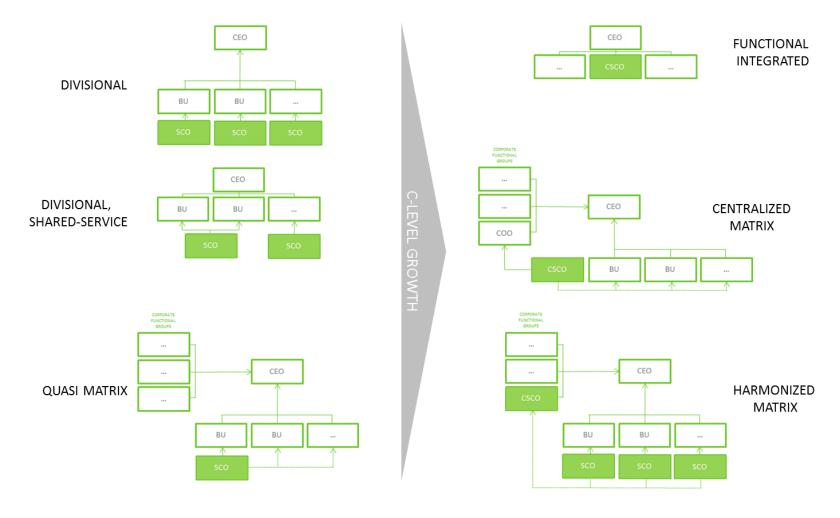
Up to 99,9%

> 50%



X-organizational logistics

FUNCTIONAL OUTLINE OPTIONS







NET PRESENT VALUE in EURO'S							
	2018	2019	2020	2021	2022	2023	
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