

Disciplined
Execution

Speed & Certainty

Increased
Stakeholder Value

Working Together

Lasting Positive
Change

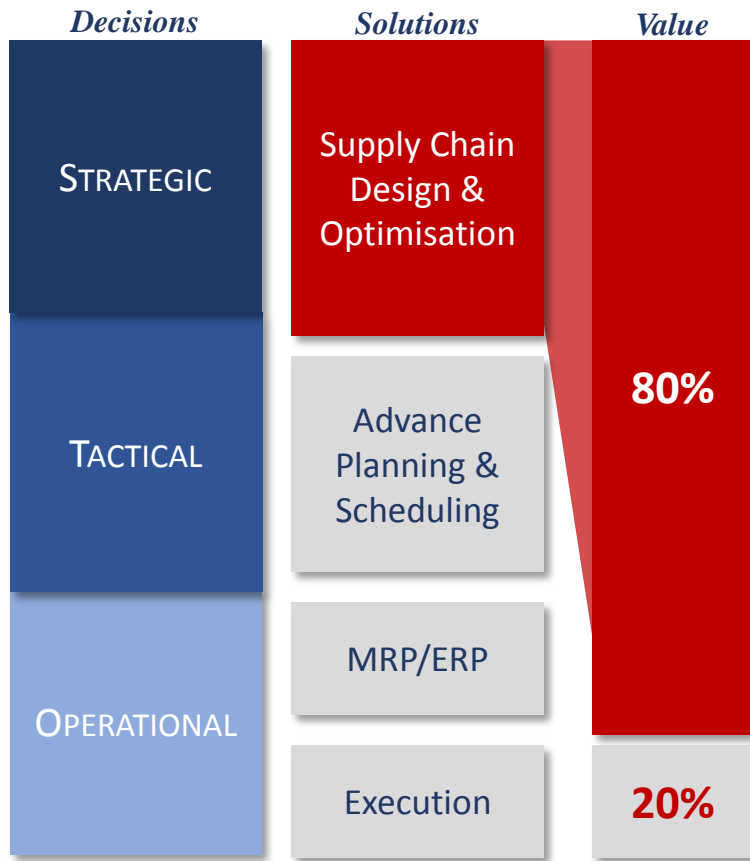
SUPPLY CHAIN IMPACT ON WORKING CAPITAL

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Working Capital Decisions

Set the Stage for Supply Chain Performance



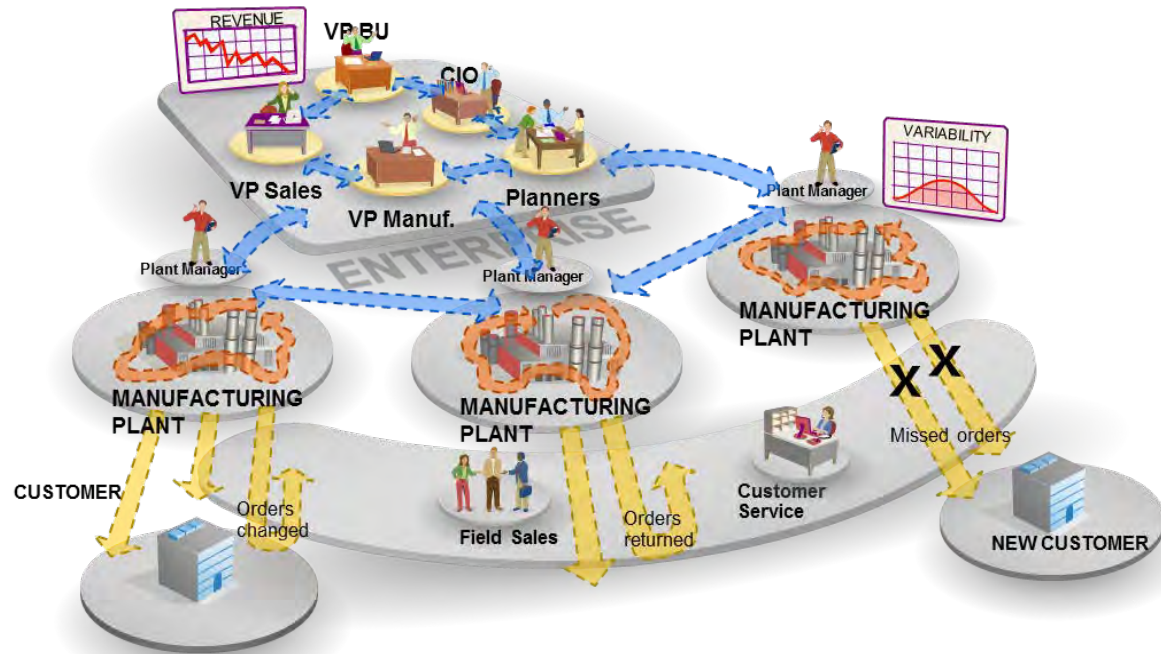
Source: AMR Research

The majority of a supply chain's costs are locked-in at the start...

- ▶ Manufacturing / supplier network
- ▶ Distribution network
- ▶ Inventory Locations
- ▶ Inventory Levels

- ▶ **Service Policies**

Supply Chain Cost Implications

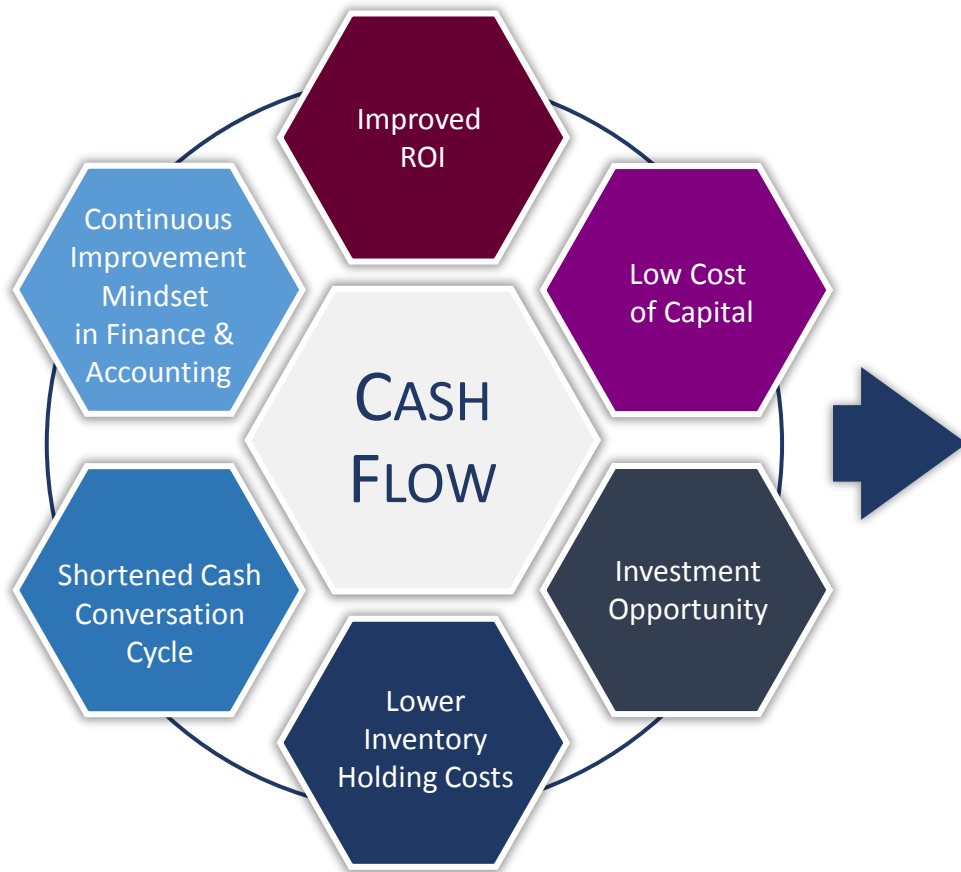


Cost Recognition

- ▶ **Transportation** ▶ **Operating Cost (P&L)**
- ▶ **Inventory** ▶ **Capital Cost (Balance sheet)**
- ▶ **Warehousing** ▶ **Mixed (Balance Sheet & P&L)**
- ▶ **Vehicles/Fleet** ▶ **Capital Asset (Balance sheet)**

Competitive Performance

Balances Working Capital with Operating Strategies



Supply Chain Opportunity Relative to Improvement	
Network Design	Up to 20% of distribution costs
Reduce Inventory	10-30% reduction
Reduce Days on Hand	10-40% reduction
Improve Truck Utilisation	10-20% improvement
Lower Inventory Carrying Costs	10-30% cost reduction

Supply Chain Decisions

To Improve Working Capital

1. Reducing supply chain cycle time to improve cash conversion cycle and reduce inventory
2. Optimize manufacturing planning
3. Improved S&OP processes by managing variability and uncertainty
4. Integrate sourcing and procurement with supply chain operations
5. Improve asset utilization (manufacturing throughput, vehicle utilization, etc.)
6. Evaluate operating strategies (leasing, purchase or outsourcing of fleet and warehousing)
7. Find the right balance of inventory and transportation

Supply Chain Decisions

Reducing supply chain cycle time improves cash conversion cycle and reduces inventory

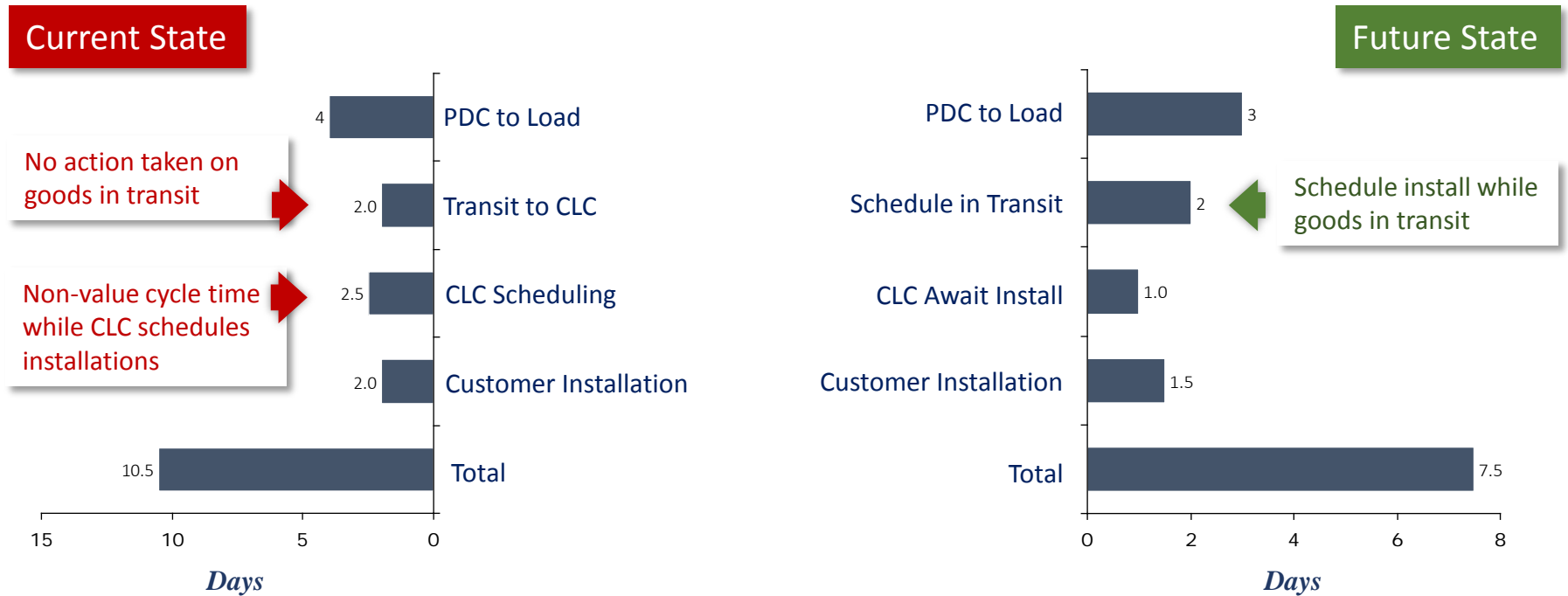
Inbound Equipment Cycle Time

3 Day Cycle Time Reduction Using Canadian Rail



POL	POD US	POD CA	OCEAN TT US	OCEAN TT CA	RAIL US	TT w/ RAIL US	RAIL CA	TT w/RAIL CA	US vs CA
Qingdao	Tacoma		22		9	31	6	28	(3)
Tokyo	Tacoma		34		9	43	6	40	(3)
Pasir Gudang		Vancouver		36	9	45	6	42	(3)

Outbound Cycle Time Reduction



- ▶ Improved scheduling with greater visibility can reduce outbound cycle time by 3 days
- ▶ Reduced cycle time allows for earlier revenue generation and additional sale days per month
- ▶ Reduced cycle time provides opportunity to lower DOS relative to lead time

Optimize Manufacturing Planning

Longer production runs increase inventory costs, shorter distribution miles lower costs



How do we leverage capital to optimize production?

How do I reduce total operating costs?

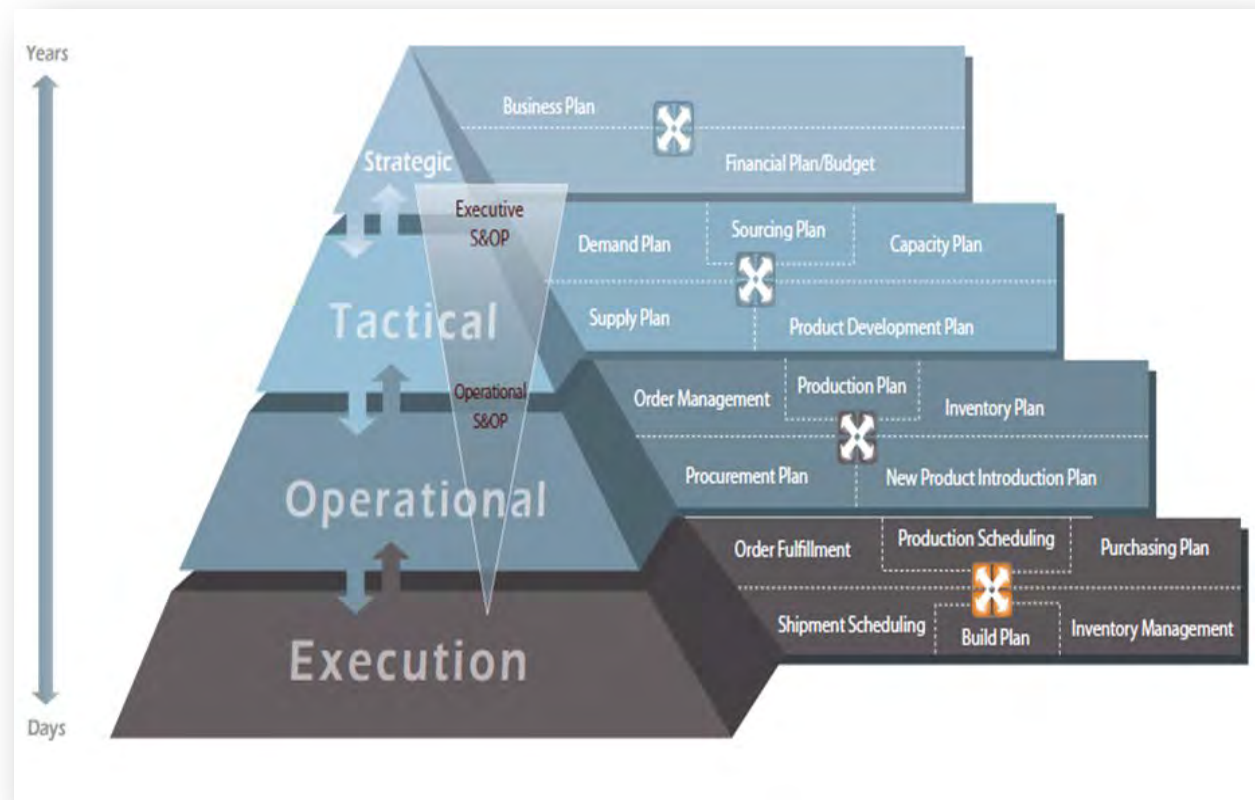
How do I balance trade-offs between production, inventory and transportation?

Improved S&OP Processes

Managing variability and uncertainty will lower inventory requirements

*“S&OP is a critical process
... attributed to business
benefits achieved”*

- ▶ 7.5% improvement in total supply chain costs
- ▶ 8.1% improvement in forecast accuracy
- ▶ 7.2% improvement in gross profit
- ▶ 7-15% inventory reduction



Source: Gartner

Create a Demand Management Operating System

Demand Planning System

A well utilized corporate set of systems that assist in the process of identifying, aggregating, and prioritizing, all sources of demand for the integrated supply chain of a product or service at the appropriate level, horizon and interval.

Demand Supply Balancing

Utilizing a process of identifying and measuring the gaps and imbalances between demand and resources in order to determine how to best resolve the variances through marketing, pricing, packaging, warehousing, outsource plans or some other action that will optimize service, flexibility, costs, assets (or other supply chain inconsistencies) in an iterative and collaborative environment.

Demand Sensing

Using channel data to reduce latency in sensing customer buying trends.

Demand Shaping

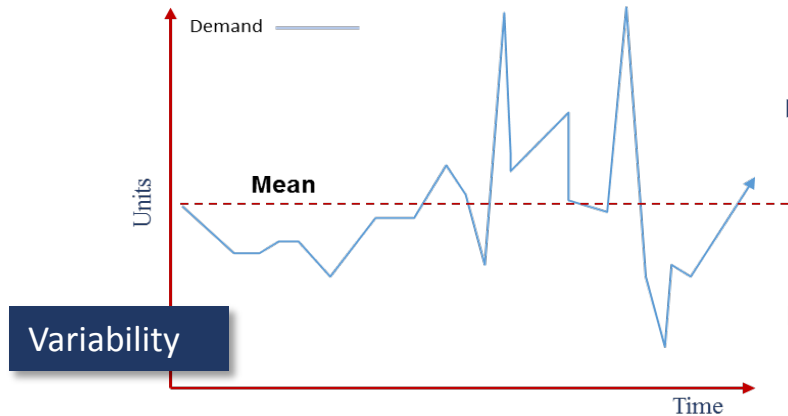
Using programs, including price, new product launch, trade and sales incentives, promotions, and marketing programs, to increase what customers want to buy.

Demand Signal

A signal from a consumer, customer or using operation that triggers the issue of product or raw material. The demand signal is most efficiently an electronic data transmission, but could be a physical document, Kanban or telephone call.

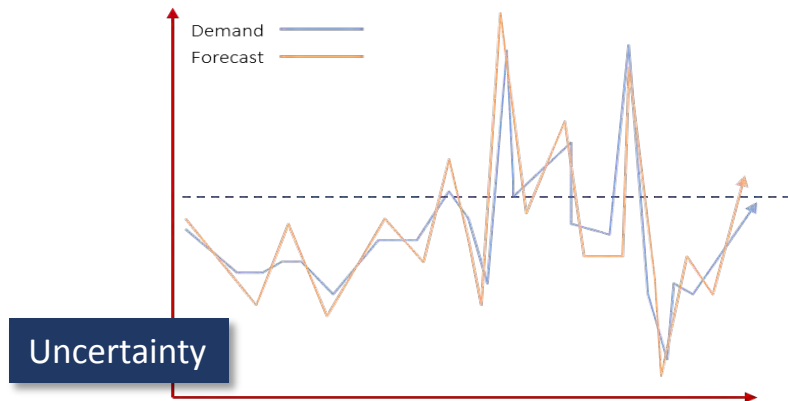
Understanding Demand as an Inventory Driver

Managing Demand Variability and Uncertainty



- ▶ Understand demand variability.
How much does demand change?

- ▶ Uncertainty describes how 'unpredictable' the demand pattern is.
Can we predict the change?



- ▶ A demand pattern may be variable but predictable (ex. seasonality)
- ▶ If the demand is predictable, then PUSH systems (and modified PULL systems) may be able to anticipate the future demand

- ▶ Manage variability first, then look to understand uncertainty

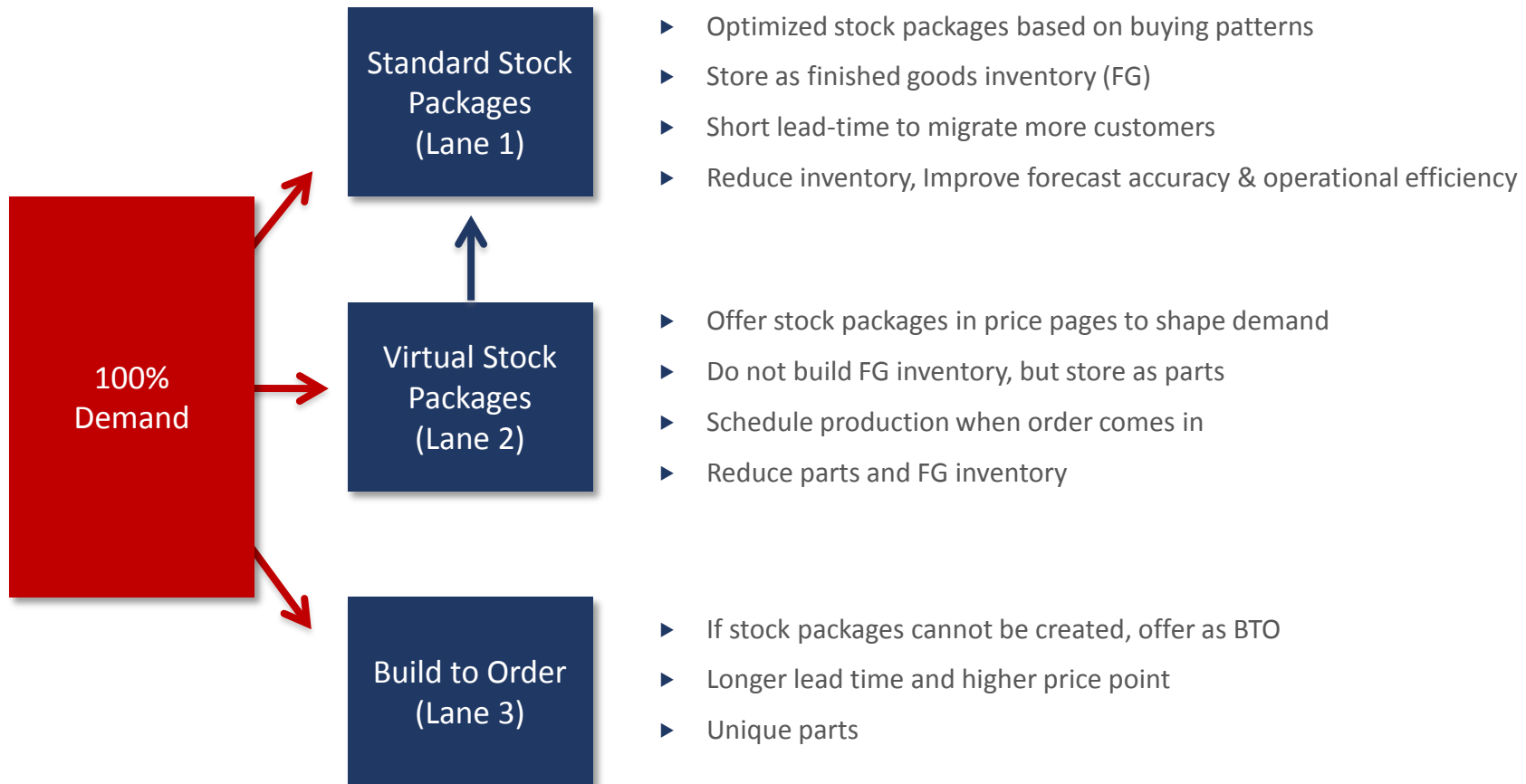
Key Drivers Impact Inventory

Dynamic changes drive more safety stock

Key Driver	Change	Safety Stock Effect
Future Forecast	Dynamic	Increase
Forecast Inaccuracy	Dynamic	Increase
Large Outliers & Bias	Dynamic	Increase
Expected Lead time	Less Dynamic	Increase
High Schedule Adherence	Static	Decrease
Planning Frequency	Static	Decrease
Frozen Horizon	Static	Increase
Order Lead Time	Static	Decrease
Service Level	Static	Increase

Integrate Sourcing and Procurement

With Supply Chain Operations



Improve Asset Utilization

(Manufacturing throughput, vehicle utilization, etc.)



Improve Asset Utilization

Improve Route planning to increase utilization

Opportunity Area	Concept	Investment Level	% Impact on Cost/Productivity
Automated Route Planning Centralized Planning	The use of automated route planning tools provide the ability to consider more options in a timely manner than humanly possible if not using decision support technology.	Medium-High	10-25%
Master Route Creation	Master routes are created for cluster of clients that are predictable in their type of orders (frequency/size), thus providing the ability to manage variability by exception.	Low-Medium	10-15%
Increase Truck Utilization	Increasing the amount of orders/stops per trip through better planning (automated) and/or business processes adjustments and thus reducing the cost per stop increases distribution profitability.	Medium-High	10-20%
Decrease Total Miles Driven	Decreasing the amount of miles driven to deliver/pick-up the same number of orders, thus decreasing overtime hours, maintenance expenses, and/or eliminating overnight trips, reducing the number of trucks required	Medium-High	10-35%
Decrease Stop Times	Manual paper work and compliance forms can increase the stop time at a pick-up/delivery up to 100% , however, through the use of handheld technology, the time can be reduced significantly.	Medium-High	25-50%

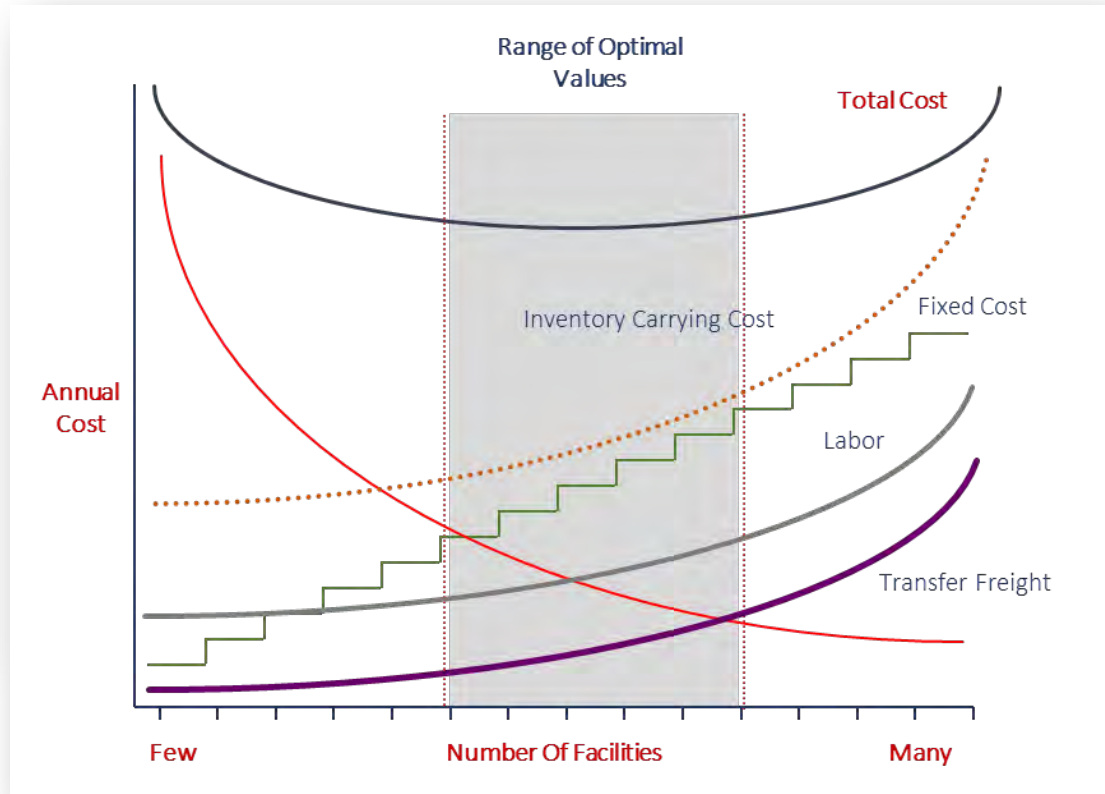
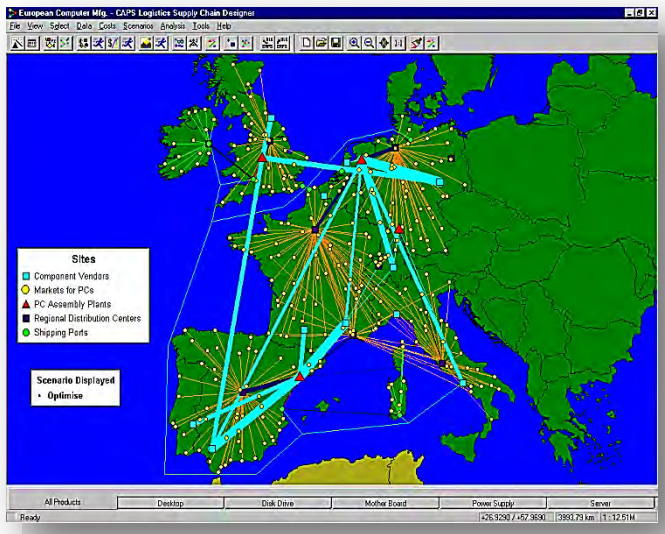
Evaluate Operating Strategies

(Leasing, purchase or outsourcing of fleet and warehousing)

	Recommendations	Priority	Time Frame	Effort Level	Benefit Level	Expected Benefits
1	Convert to 3PL as operator of Warehouses	●	⦿	⦿	⦿	<ul style="list-style-type: none"> ▶ Improved customer service ▶ Potential lower warehouse costs
2	Remove obsolete inventories	●	⦿	○	⦿	<ul style="list-style-type: none"> ▶ Reduced ongoing inventory carrying costs
3	Outsource transportation management to 3PL	●	○	○	●	<ul style="list-style-type: none"> ▶ Improved customer service ▶ Potential lower transport costs
4	Imbed Change Management techniques	●	○	⦿	⦿	<ul style="list-style-type: none"> ▶ Support implementation of other initiatives ▶ Instill continuous improvement
5	Undertake Manufacturing Reliability Initiatives	●	⦿	⦿	⦿	<ul style="list-style-type: none"> ▶ Improved customer service ▶ Increase revenues ▶ Potential reduced purchase costs
6	Develop Consumer Direct Fulfilment Operations	●	⦿	●	⦿	<ul style="list-style-type: none"> ▶ Potential revenue enhancement and improved margins
7	Implement Improved DRP/Deployment	●	⦿	●	●	<ul style="list-style-type: none"> ▶ Potential reduced transportation costs ~ \$3m ▶ Enhanced customer service ▶ Enables customer direct 40% reduction over distribution costs

Find the Right Balance to Manage Costs

How many inventory positions are required to meet desired service levels



Shipment Size Matters

Smaller shipment size requires less inventory but higher transportation costs



SHIPMENT SIZE IS A MAJOR FACTOR AFFECTING INVENTORY



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THANK YOU

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