



DEFENSE LOGISTICS AGENCY

AMERICA'S COMBAT LOGISTICS SUPPORT AGENCY



Managing **Supply Chain Risk** in the **Sourcing Process**

Robert (Bob) Carroll
17 September 2014



Key Take Aways

- Supply Chain risk is a journey
 - "Perfection is not attainable, but if we chase perfection we can catch excellence." *Vince Lombardi*
 - "Sixty years ago I knew everything; now I know nothing; education is a progressive discovery of our own ignorance." *Will Durant*
- Finding and using the best available tool is key to any job
 - "Give me six hours to chop down a tree and I will spend the first four sharpening the axe." *Abraham Lincoln*



Defense Logistics Agency (DLA)



Business Overview

- 131,000 requisitions per day
- 10,000 contract actions per day
- \$44 billion annual sales

5M items, 9 Supply Chains

- Land
- Maritime
- Aviation
- Fuel/Energy
- Subsistence
- Medical
- Clothing & textiles
- Construction & equipment
- Industrial hardware

Business environment

- Demand uncertainty due to changing budgets, maintenance programs, and world events
- Critical items stocked regardless of demand
- Many low production, long lead-time items



Hardware Focus

- **4 Million items within 5 Supply Chains**

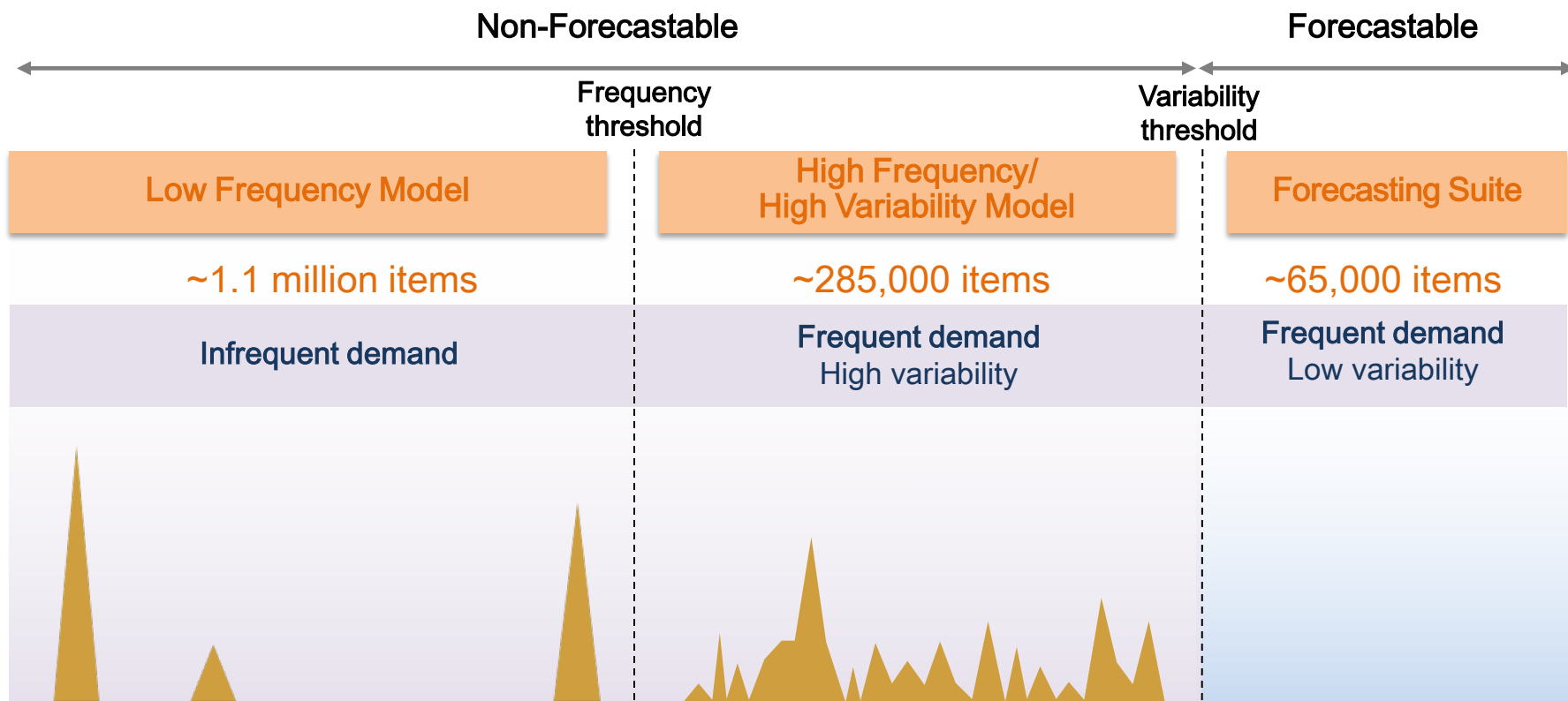
- ~1.4M with demand in past year
 - ~800K actively planning to stock
 - ~**65K** statistically forecastable
- } ~**600K** Buy on demand Non-Stocked
- } ~**735K** Non-Forecastable Stocked

- **Examining the risks and sourcing strategies**

- ~600K Buy on Demand Non-Stocked (i.e., special order)
- ~735K Non-forecastable Stocked
- ~65K Forecastable Stocked



Segmenting by Forecastability



Need inventory control methods appropriate for each segment of inventory



Risks Associated with Sourcing

- What are they?
 - Fraud
 - Pricing
 - Performance
 - Minimums
 - Long Supply
 - Long lead-times
 - Non-conforming parts
 - Inability to find source



DLA Sourcing Strategies

Strategy	Planning	Order	Stock	Distrib	Returns
Depot Direct	Government	Government (Pull)	Government Stores & Owns	Govt	Govt Sets Return Levels
Customer Direct Buy on Demand	Industry	Government (Pull)	Non-Stocked	Industry	N/A
Vendor Managed Inventory (VMI)	Industry	Industry (Push)	Government Stores & <u>Industry</u> Owns	Govt	Varies by Contract
Supplier Initiated Orders (SIO) Transactional	Govt sets Max SOH; Industry the remaining	Industry (Push)	Government Stores & Owns	Govt	Govt Sets Return Levels
SIO Performance Based Logistics (PBL)	Industry paid regularly on performance	Industry (Push)	Government Stores & Owns	Govt	Govt Sets Return Levels



DLA Sourcing Strategies

Approach	Count	Sourcing	Risk Types							
			Fraud	Pricing	Performance	Minimums	Long Supply	Lead Times	Non-Conform	No Source
Buy on demand/ Special order	~600K	Customer Direct	✓	✓	✓			✓	✓	✓
<u>Non-Forecastable</u> Low Frequency	~450K	Depot Direct	✓	✓	✓		✓	✓	✓	✓
<u>Non-Forecastable</u> Freq/High Var	~285K	Depot Direct	✓	✓	✓		✓		✓	
		VMI			✓	✓				
Forecastable	~65K	Depot Direct								✓
		VMI			✓	✓				
		SIO - Trans			✓					
		SIO - PBL			✓					



DLA Sourcing Strategies

Approach	Count	Sourcing	Risk Types							
			Fraud	Pricing	Performance	Minimums	Long Supply	Lead Times	Non-Conform	No Source
Buy on demand/ Special order	~600K	Customer Direct	✓	✓	✓			✓	✓	✓
<u>Non-Forecastable</u> Low Frequency	~450K	Depot Direct	✓	✓	✓		✓	✓	✓	✓
<u>Non-Forecastable</u> Freq/High Var	~285K	Depot Direct	✓	✓	✓		✓		✓	
		VMI			✓	✓				

Significant majority of item and procurement workload and more difficult to source and support ... greater sourcing innovations/options needed



Summation

- Flexible and fluid relations between Govt/Industry
- Sourcing strategies help mitigate Supply Chain risks
- Finding the 'right' strategy is key
- No single strategy always right
- No right strategy always right ... constant monitoring and adjustment required
- **Item populations most in need of new sourcing options to reduce risk are buy on demand/special orders & non-forecastable DLA Direct/stocked items**

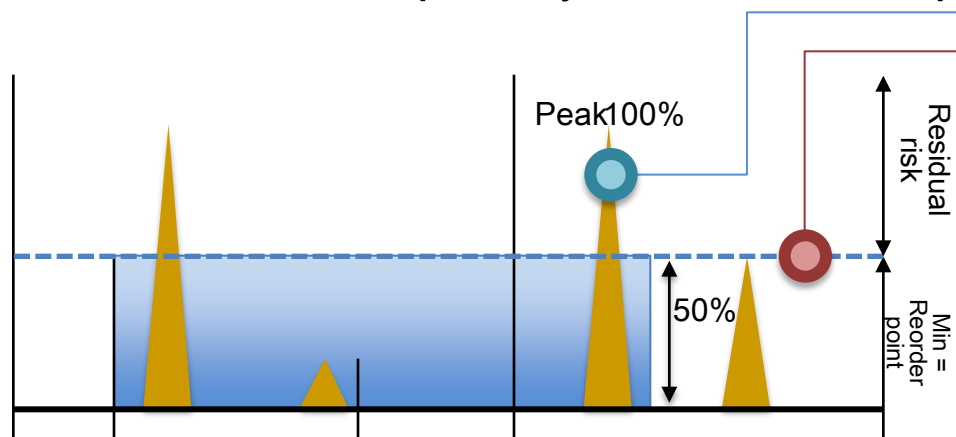


Back Up



Infrequent Demand

- Problem to be solved: Inventory control for infrequent, irregular demand
- Solution:
 - Order when inventory gets down to some % of Peak demand
 - Order a quantity based on unit price



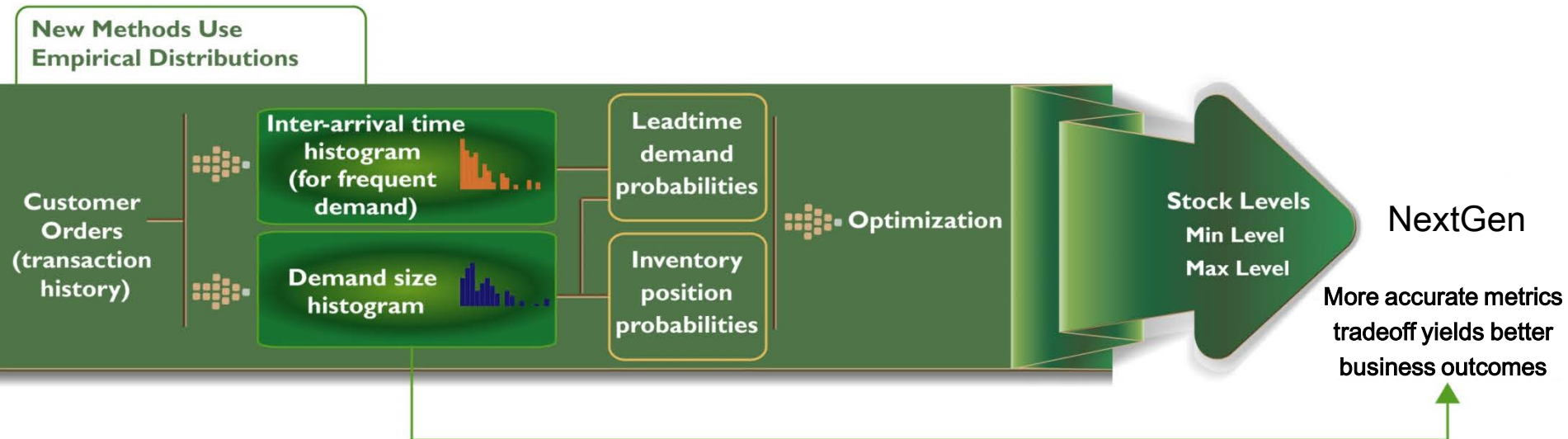
Min = (Price-based mult.) (Peak demand)
Max = Min + (Price-based order qty.)
20% of innovation

How to get good values for
multipliers & order quantity

80% of innovation



Frequent Highly Variable Demand



Each step retains important information



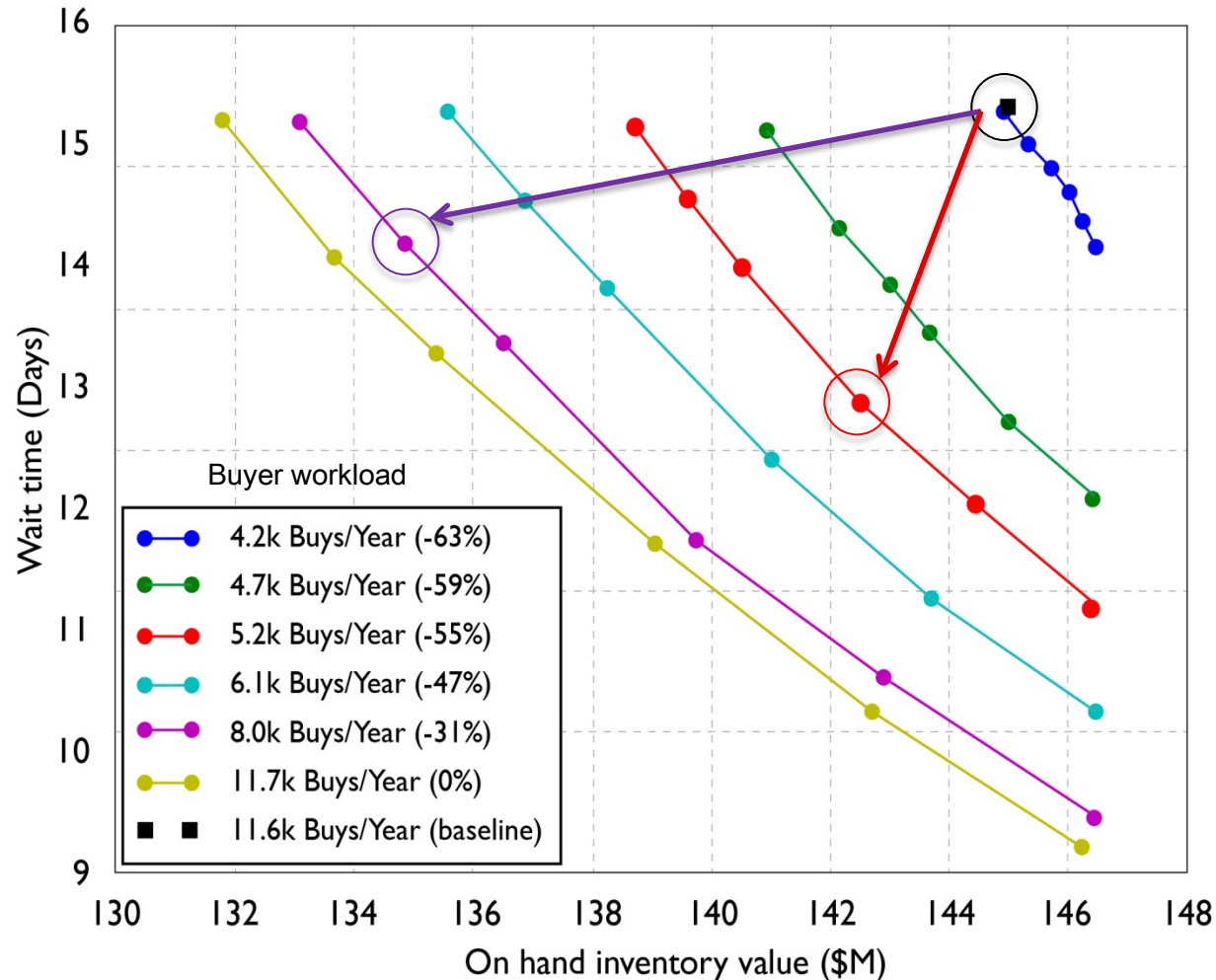
Using Trade Off Curves

Single decision point ... trade off inventory, customer service, and buyer workload to fit business objectives

15% inventory \$ reduction
17% wait time reduction
32% workload reduction

6% inventory \$ reduction

23% wait time reduction
56% workload reduction



DEFENSE LOGISTICS AGENCY

AMERICA'S COMBAT LOGISTICS SUPPORT AGENCY



WARFIGHTER SUPPORT

STEWARDSHIP EXCELLENCE

WORKFORCE DEVELOPMENT