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# Multi-Echelon Inventory and Replenishment Planning Training Course

17 – 21 May 2027
New York

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Registered in the United Kingdom and Saudi Arabia

# Multi-Echelon Inventory and Replenishment Planning Training Course

**Ref:** 1151_43372 **Date:** 17 – 21 May 2027 **Location:** New York **Fees:** 7900 GBP

Multi-Echelon Inventory and Replenishment Planning is a 1-week training course for inventory controllers, supply chain coordinators and replenishment planners who set stock levels across plants, central warehouses and branches, and it ends with a network stock policy sheet for their own supply chain. Volatile demand, uneven supplier lead times and scrutiny of working capital now expose any network that holds the wrong stock in the wrong place. Jupiter Prime Training delivers this course in multi-echelon inventory and replenishment planning.

## Why Multi-Echelon Inventory and Replenishment Planning Matters Now

Three forces push stock decisions beyond the single warehouse: customers expecting short delivery from local branches, suppliers whose lead times stretch and vary, and finance teams counting every day of inventory cover. Networks that set safety stock and reorder rules echelon by echelon, rather than site by site, cut duplicated buffers while protecting fill rates; networks that let each site protect itself pile stock at the wrong tier and still run short. The course rests on distribution requirements planning DRP, statistical safety stock methods and the demand and supply planning practice described by ASCM the Association for Supply Chain Management.

## Who Gains Most from Multi-Echelon Inventory and Replenishment Planning

- Inventory controllers who set reorder points and safety stock for several stocking locations
- Supply chain coordinators who balance stock between central and regional warehouses
- Replenishment planners who convert forecasts into transfer and purchase orders
- Demand analysts who supply forecasts and error measures to the stock policy
- Supplier schedulers who track lead times and delivery reliability

Planning groups gain most when central and branch controllers attend together, because echelon stock policies only work when both tiers agree on who holds the buffer.

## Multi-Echelon Inventory and Replenishment Planning Capabilities

Participants learn to see stock as one pool spread across tiers, and to place buffers where they protect service at the lowest network cost.

- Map the stocking network with its tiers, flows and lead times — decisions on where buffers belong
- Calculate safety stock from forecast error and lead-time variability — service-level targets agreed with sales
- Design replenishment rules for each tier, from reorder point to periodic review — order release by planners
- Apply distribution requirements planning to time transfers between tiers — transport and warehouse scheduling
- Assess supplier lead-time reliability and its effect on upstream stock — sourcing conversations with buyers
- Weigh inventory investment against fill rate across the network — working capital reviews with finance

## Key Multi-Echelon Inventory and Replenishment Planning Terms

- Echelon — one tier of stocking points in a supply network, such as plant, central warehouse or branch.
- Echelon stock — the stock at one tier plus all stock downstream of it that the tier still supplies.
- Safety stock — extra inventory held to cover forecast error and lead-time variation so service targets are met.
- Distribution requirements planning DRP — a time-phased method that turns branch demand into planned transfers and orders up the network.
- Fill rate — the share of customer demand met immediately from available stock.
- Lead-time variability — the spread of actual supplier or transfer lead times around their average, which drives buffer size.

## Multi-Echelon Inventory and Replenishment Planning Day by Day

### Day 1: Seeing Inventory as a Network

- Stocking Network Map — Tiers, Flows and Lead Times Between Nodes
- Inventory Purpose Classification — Cycle, Safety, Pipeline and Seasonal Stock
- Bullwhip Effect Diagnosis — How Order Swings Grow Upstream
- Stock Visibility Review — Finding Blind Spots Across Locations
- Working Capital Baseline — Inventory Days and Holding Cost by Tier

### Day 2: Forecasts and Lead Times as Inputs

- Demand Forecasting by Location — Choosing Branch or Pooled Forecasts
- Forecast Error Measures — Using MAPE and Bias to Size Buffers
- Supplier Lead-Time Profiling — Average, Spread and Reliability
- Transfer Lead Times — Internal Transport and Handling Delays
- Demand Pooling Effect — Why Central Buffers Need Less Stock

## Day 3: Safety Stock and Replenishment Rules

- Statistical Safety Stock Formula — Service Level, Error and Lead Time
- Reorder Point and Order Quantity Rules — Continuous Review Settings
- Periodic Review Policies — Order-Up-To Levels for Branches
- Echelon Safety Stock Placement — Choosing Which Tier Holds the Buffer
- Service Level Segmentation — Different Targets for Different Item Classes

## Day 4: Coordinating Replenishment Across Tiers

- Distribution Requirements Planning — Time-Phasing Transfers Up the Network
- Fair-Share Allocation Rules — Rationing Scarce Stock Between Branches
- Lateral Transfer Policy — Moving Stock Between Branches Before Reordering
- Supplier Collaboration Signals — Sharing Forecasts and Stock Positions
- Inventory Investment Versus Fill Rate Curve — Choosing the Working Capital Point

## Day 5: Practising the Network Stock Policy Sheet

- Spare Parts Network Case — Placing Slow-Moving Items Centrally
- Consumer Goods Distribution Case — Setting Branch Order-Up-To Levels
- Safety Stock Recalculation Exercise — Applying Error and Lead-Time Data
- DRP Simulation — Planning Transfers for a Promotion Peak
- Network Stock Policy Sheet — Completing Buffers, Rules and Review Cycle

## Applying Multi-Echelon Inventory and Replenishment Planning After the Course

- Recalculate safety stock for the top fifty items using forecast error and lead-time spread, and compare the result with current buffers at each tier.
- Run a DRP-based transfer plan for one branch group for a month and track fill rate and inventory days against the previous month.

## Multi-Echelon Inventory and Replenishment Planning Questions FAQ

### What is multi-echelon inventory and replenishment planning and why does it matter now?

Multi-echelon inventory and replenishment planning sets stock levels and order rules for every tier of a supply network together. It matters now because volatile demand and lead times make site-by-site buffers costly and still unreliable.

### Which roles gain most from multi-echelon inventory and replenishment planning training?

Inventory controllers, supply chain coordinators and replenishment planners gain most. You benefit if you set reorder points, plan transfers or answer for stock levels across more than one location.

## How does multi-echelon inventory and replenishment planning training differ from a store-level inventory control course?

It plans stock across a network rather than inside one store. A store-level course covers classification, counting and stock accuracy; this course decides which tier holds buffers and how replenishment flows between them.

## What do you bring back from multi-echelon inventory and replenishment planning training?

You bring back a stock policy sheet for your network. It records buffer placement, safety stock settings, replenishment rules and the review cycle for each tier.

## Multi-Echelon Inventory and Replenishment Planning: The Way Forward

The network stock policy sheet first informs which tier should hold safety stock for each item class. Inventory controllers and replenishment planners use it when setting reorder rules and approving transfers. After its first quarter, revisit forecast error and supplier lead-time spread, since both change with new customers and suppliers and alter the right buffer size.