**Supply chain and Inventory Management**

#### **Background**

You are the Product Manager for Everest, developing a new module within your ERP Financials and Supply Chain / Inventory Management suite. This module will address **Inventory Replenishment and Supply Planning**, targeting SaaS-based software companies selling physical goods and have global operations.

Everest's target customer is a **non-public US-based company** with warehousing and sales operations in the US, UK, and Germany. While they have a small supply chain team, they manage a **multi-warehouse, multi-currency inventory system** and currently rely on **manual processes and spreadsheets** to generate procurement plans, safety stock reviews, and reorder proposals.

The company's main pain points are:

* Lack of visibility into demand trends and stocking issues across regions.
* Reactive ordering, often leading to stockouts or excess inventory.
* Disconnected planning cycles between procurement and sales.

#### **Feature Design (45 mins)**

Design a feature to support **inventory planning, visibility and operational control**, enabling warehouse, inventory managers and supply chain planners to:

1. Understand **which items need replenishment**, by **when**, and **how much**.
2. Balance replenishment quantities against **supplier lead times**, **current on-hand stock**, **open orders**, **demand forecasts**, and **warehouse-specific reorder points**.
3. Track and manage inventory counts and discrepancies.

Your task is to **design a functional feature for a supply planner or supply chain analyst** to support this replenishment planning workflow.

### **As part of your response, include:**

#### **1. Definition of the Inventory Replenishment Planning Process**

* High-level **workflow diagram** or written description from demand inputs to procurement outputs.
* Mention how inputs like sales orders, inventory on-hand, supplier constraints, and reorder rules feed into the plan.

#### **2. Data Model**

* List and define **key objects** (e.g., Item, Warehouse, Demand Forecast, Reorder Rule, Supply Plan).
* Include **key fields** needed (e.g., Item ID, Lead Time, Safety Stock, Order Cycle, MOQ, Forecast Quantity).

#### **3. Example With Sample Data**

* Provide an example SKU with:  
  + Historical usage
  + Current stock
  + Open PO
  + Forecast
  + Replenishment rule
* Show how the system would **calculate a recommended replenishment quantity** and create a draft PO or supply plan.

#### **4. UI Considerations**

* Sketch or describe **key screens** (e.g., “Replenishment Workbench”, “Exception Dashboard”, “Supply Plan Review”).
* Optionally, mock up in Excel or PowerPoint:  
  + Replenishment grid view (SKU | Location | On Hand | Forecast | Lead Time | Recommended Order Qty)
  + Planner review with approve/reject/correct capability
  + Exceptions (e.g., stockouts projected, overstock projected)