

Excel Explanation

Safety Stock = STDEV.S(Last 3 weeks of Actual Sales) * 1.65

- STDEV.S(Last 3 Weeks of Actual Sales) measures how volatile demand has been in the past 3 weeks:
 - Higher STDEV.S values indicate that demand is erratic and more safety stock is needed
 - Lower STDEV.S values indicate that demand is stable and less safety stock is needed
- * 1.65 = Service Level Multiplier
 - 1.65 Indicates a 95% Service Multiplier indicating that we want to have enough stock to meet demand 95% of the time even in cases of spikes
 - 1.28 → 90%
 - 1.65 → 95%
 - 2.05 → 98%
 - ** In the case for Alexander Vendrovsky's LinkedIn: Drive the company President's initiative to increase all safety stocks and pipelines of raw metals
 - **We may want to use 2.05 Service Multiplier to meet the President's wishes to really hold out against stockouts**
 - Higher inventory / holding costs
 - This mimics how planners buffer against uncertainty and ensure product availability especially in a vertically integrated environment like Applied Medical where stockouts at any stage of productions will have ripple effects

Projected Inventory = Projected Inventory(N-1) + Planned Order QTY(N-1) - Actual Demand

- This will measure out the remaining inventory levels for the current week. It will determine if we need to order more goods or not
- For SKU-Standard, the starting inventory level is 385 units
- Works in conjunction with the Planned Order QTY formula

Planned Order QTY = IF(Projected Inventory < (Forecast + Safety Stock), 150, 0)

- For the sake of simplicity, kept planned order quantity at a baseline level of 150 Units.
- It will trigger when projected inventory is below the forecast and safety stock level. Safety stock increases the buffer by a certain margin so that refills will happen more frequently and less stockouts are likely to happen.

Procurement Trigger = IF(Projected Inventory < (Forecast + Safety Stock), “Trigger”, “OK”)

- Same thing as planned order quantity except its a visualization for trigger or no action

SKU-Standard

- Remaining stock does not matter that's why it's replenished during the last week because inventory levels roll over to the next quarter

SKU-PIPO

- Last week of replenishment is avoided and it is measured out to keep inventory as low as possible towards the end of the quarter to completely phase out the item