

Client Background

- **Pepsi Beverages** continues to build on relationships with large chains or 'accounts', including Subway
- **National Accounts Operations (NAO)** in charge of the equipment installation process
 - Refurbished Machinery
 - **Parts kits** for easy installation
- **Sellersburg, IN certified location** as a template for standard processes

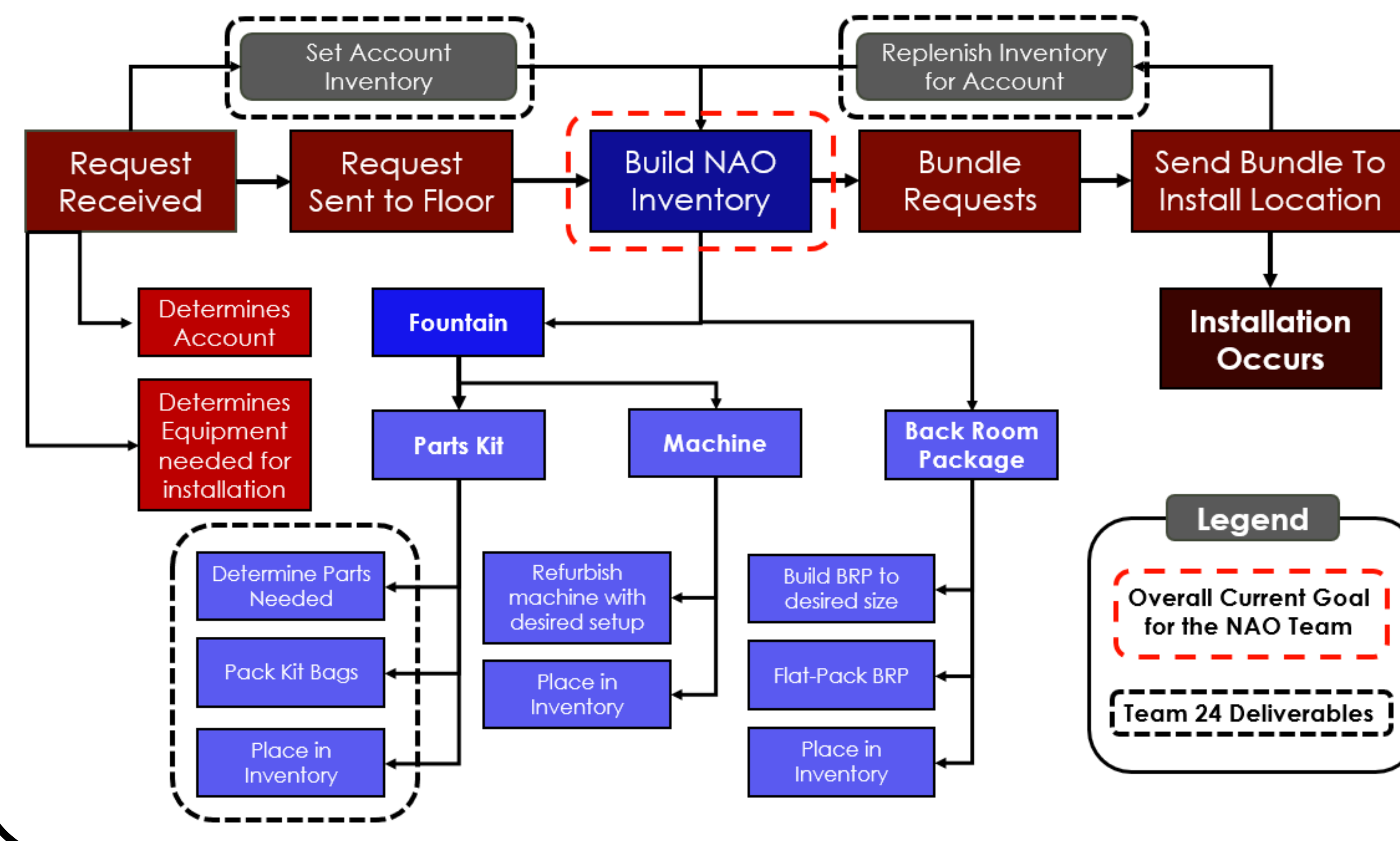


Problem Statement

- Lack of organized inventory and lead time data for NAO team
- Leads to **reduced or inadequate inventory** levels for installation demand across National Accounts
- Which causes the inability to package and ship kits effectively
- Resulting in a **7% deficit¹** between planned and actual installations for FY24
 - 1 – Based on North American placement sales in FY24

System Model

- Primary focus on **improving the operational efficiency of NAO inventory** and kit build operations
- Introduces a basic framework for improving and **standardizing processes across certified centers**
- **Models communication** across NAO, Sellersburg certified center, and install operations



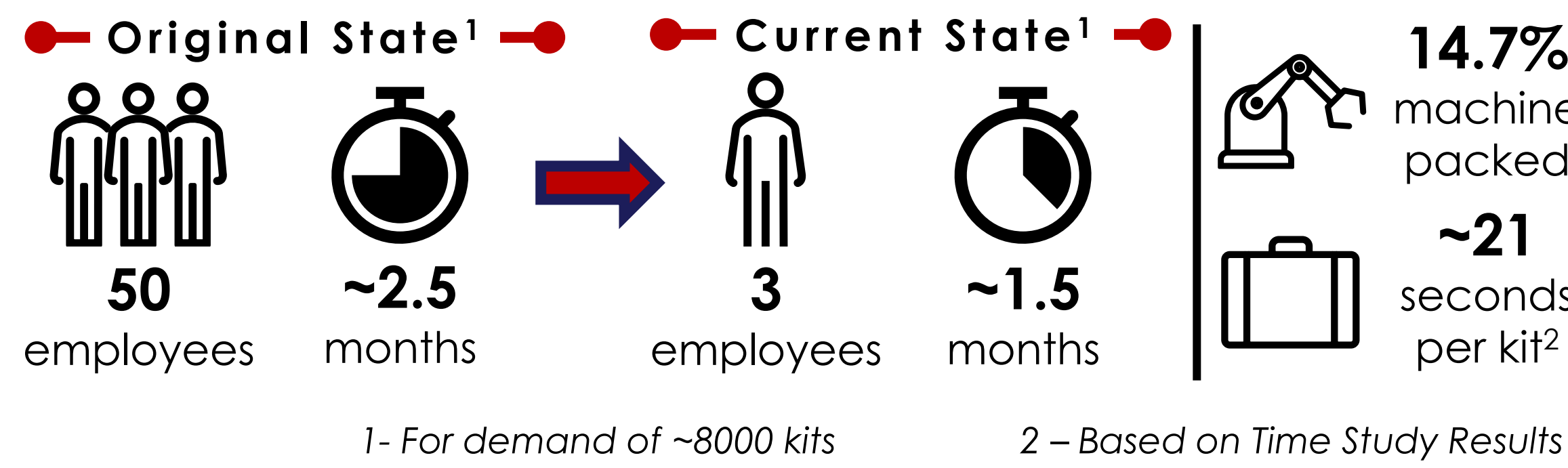
Kit Packaging Efficiencies

Recommendations for kit packaging were made utilizing the DMAIC methodology

Define

- Current kitting process is highly manual, with limited standardization and minimal control over inventory levels
- Further standardization and automation are needed to reduce inefficiencies while being able to handle demand fluctuation

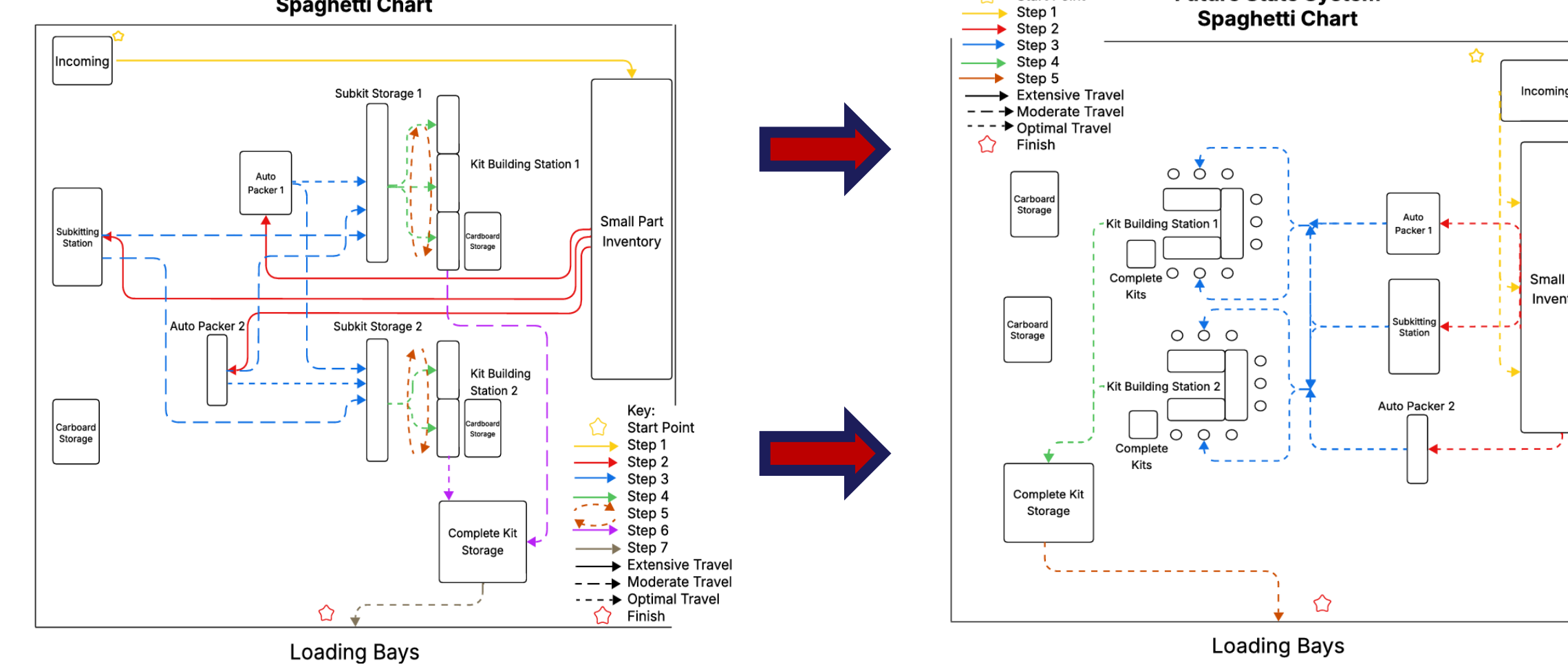
Measure



Analyze

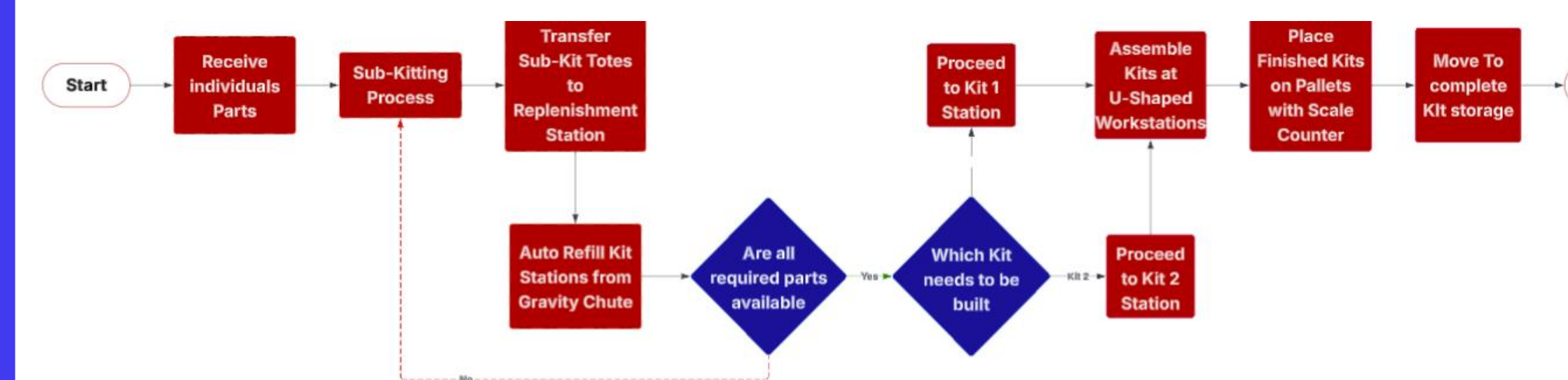
- **No current real-time inventory tracking** - manual reporting is utilized
- Reliance on tribal knowledge
- **Frequent parts shortages** due to large order volume and supply chain disruption

Facility Layout



Improve

- Current**
 - Multiple extended travel areas
 - Repetitive and iterative travel at packing stations
 - Kitting station totes are small, needs frequent refill
 - Small part inventory will not move
- Future**
 - Elimination of 2 steps
 - No extensive travel
 - Implementation of U-shape Kit Building Stations
 - Elimination of backtracking
 - Allow storage room to account for partial kitting due to inventory issues



Control

- **Monitor new production levels** through time studies with the new kit assembly layout and compare to previous study results
- **Modular setup** of the new kit assembly layout with **weight verification** would help mitigate errors, **easing the changeover process**

Sellersburg Facility



Recommendation #2:

Inventory Maintenance

- Cascading dropdowns **filter average demand information** over a fiscal period
 - Fiscal periods are **monthly**
 - **Location-based** dropdowns are dependent
 - **Equipment-based** dropdowns are dependent
- Update Demand button runs Macro to **recalculate demand based on selected filters**

Data Filtering

Certified Location	Sellersburg IN Certified
Hub	All
National Account	Taco Bell Total
Equipment Type	Fountain
Equipment Subtype	Bargun
Equipment Model	BAR Gun System 14 Btn

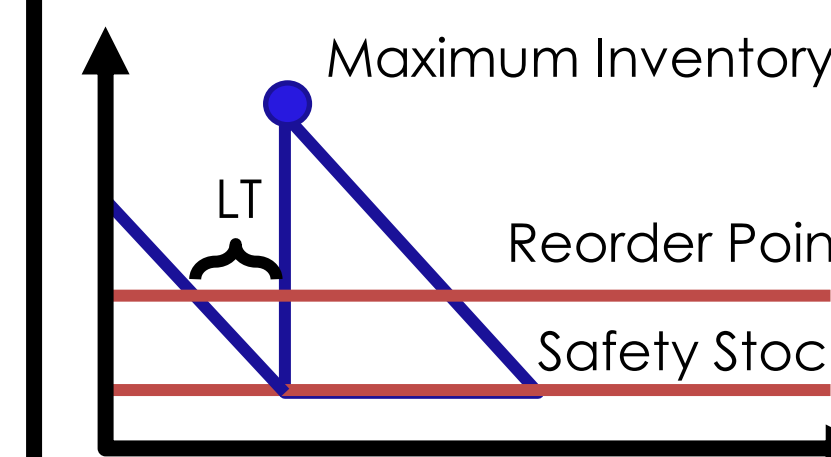
Update Demand

Calculations

Variables	Values
Demand per month	10
Lead time (in days)	2
Safety Stock	3
Economic Order Quantity	13
Annual Demand	120
Ordering Cost per order	100
Holding cost per unit per year	150

- The Macro filters to find demand, the **dependent variable** for many calculations.
- **Lead Time is currently assumed**, but recent data shared will allow for this to **change dynamically** as well

Output



Inventory Levels	Calculations
Minimum (Reorder point)	23
Maximum	36

- Inventory levels are calculated based on queried demand
- **Overall Tool Goals:**
 - Understand **necessary equipment inventory levels** for each center's National Accounts
 - **Quantify tool and kit replenishment** needed at the beginning of each fiscal period
 - **Providing visibility** into installation trends

Impact & Discussion

- **Inventory Challenges & VMI**
 - Sudden large orders cause strained inventory and forecasting (i.e. Subway)
 - VMI improves visibility, but requires monitoring
- **Modular Kit-Building Flexibility**
 - Supports varied account needs and adaptable
 - Current system handles demand, future shift to consistency and responsiveness
- **Floor Layout & Efficiency Gains**
 - Reduced staff, travel time, and physical strain
 - Weight-based kit counting and standardized replenishment improve flow and accuracy
 - Greater organization in the kit building area
- **Scalability & Future Adaptability**
 - Standardized layout supports easy scaling
 - Ongoing layout analysis for future kit variations
 - Focus should stay on refining current processes and enabling agility over expansion