



# Waste Measurement System

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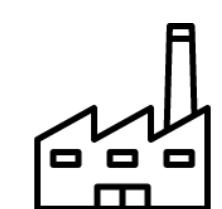
VIRGINIA TECH™

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## Background

**Integrated Textile Solutions** is a family-owned textile manufacturing company founded in 1936



2 locations in Virginia



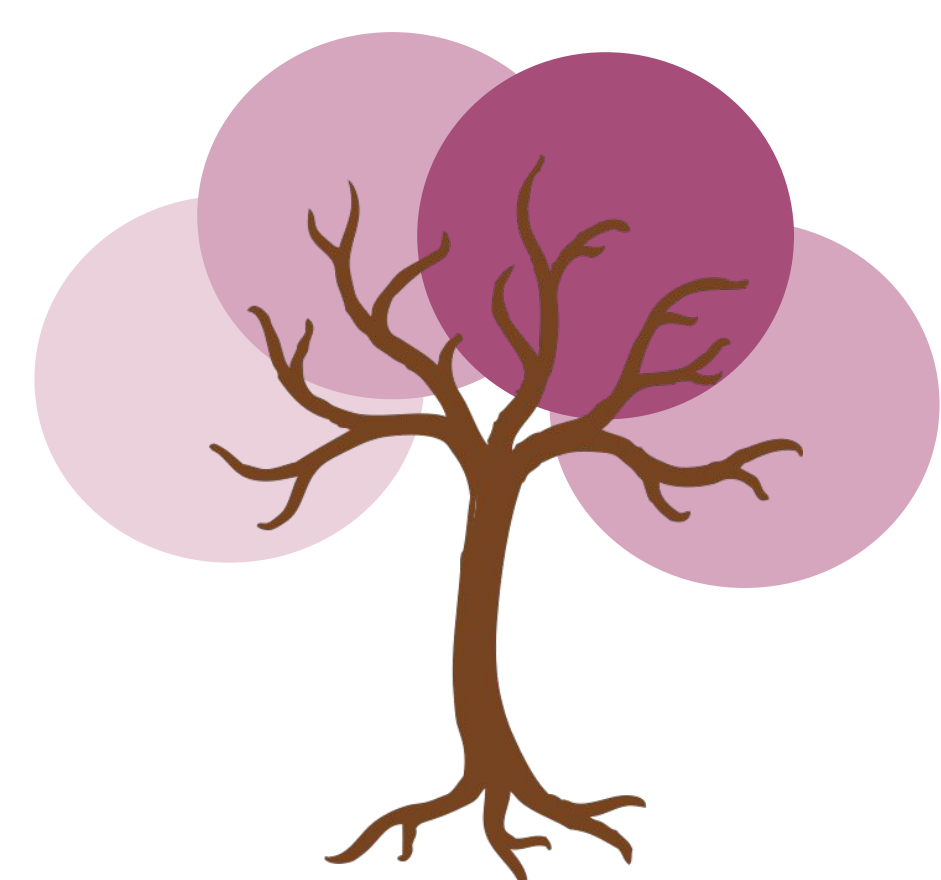
100+ total employees

Manufactures a wide range of commercial and military products



## Problem Statement

ITS currently does not have an accurate and efficient way of **collecting** and **analyzing waste** surrounding their facility. This is keeping their company in a constant **“reactive”** state, not allowing ITS to detect and eliminate causes of recuts, late orders, and lost material.



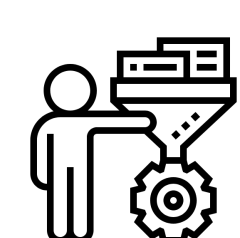
8% of total material is wasted in recuts (~\$28,500 per fabric annually)

60-70% of HDT tent orders not completed on time

A large amount of fabric ordered is **physically lost** in the facility

**Convoluted material tagging system** + **Lack of waste measurement system**

## Project Goals



Develop and implement a data collection and management system to quantify physical waste



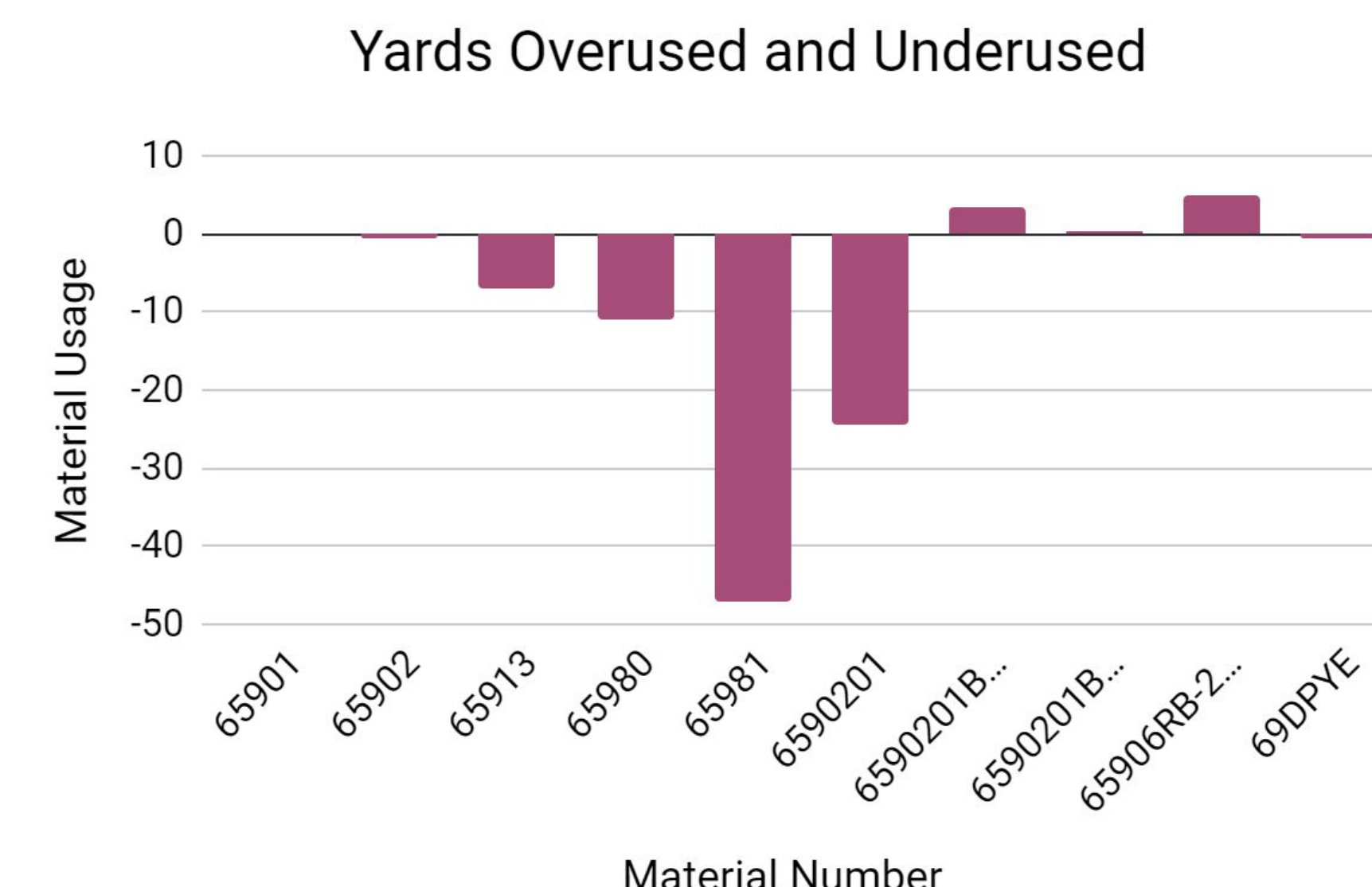
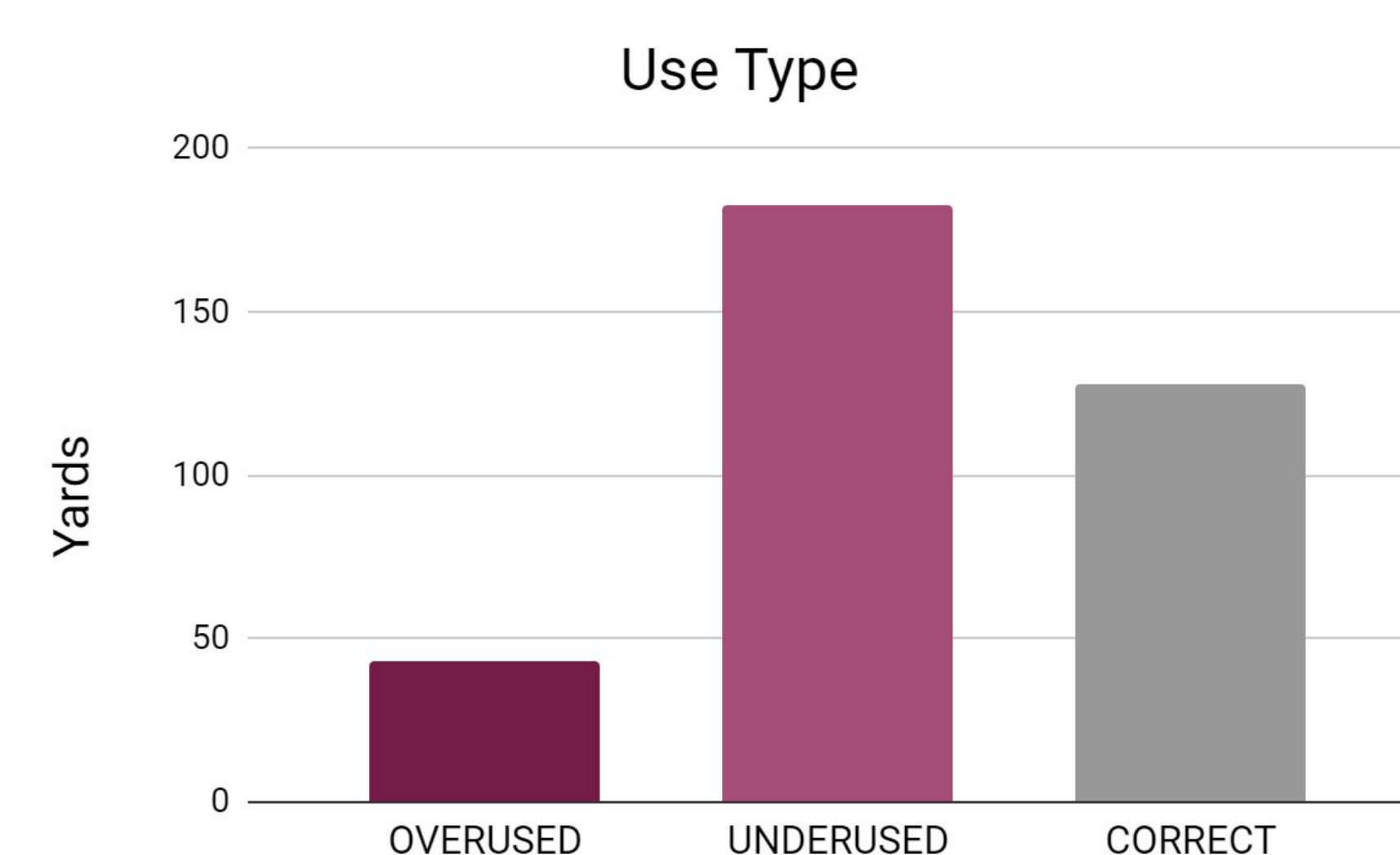
Create and implement a data analysis tool that accurately and clearly conveys losses



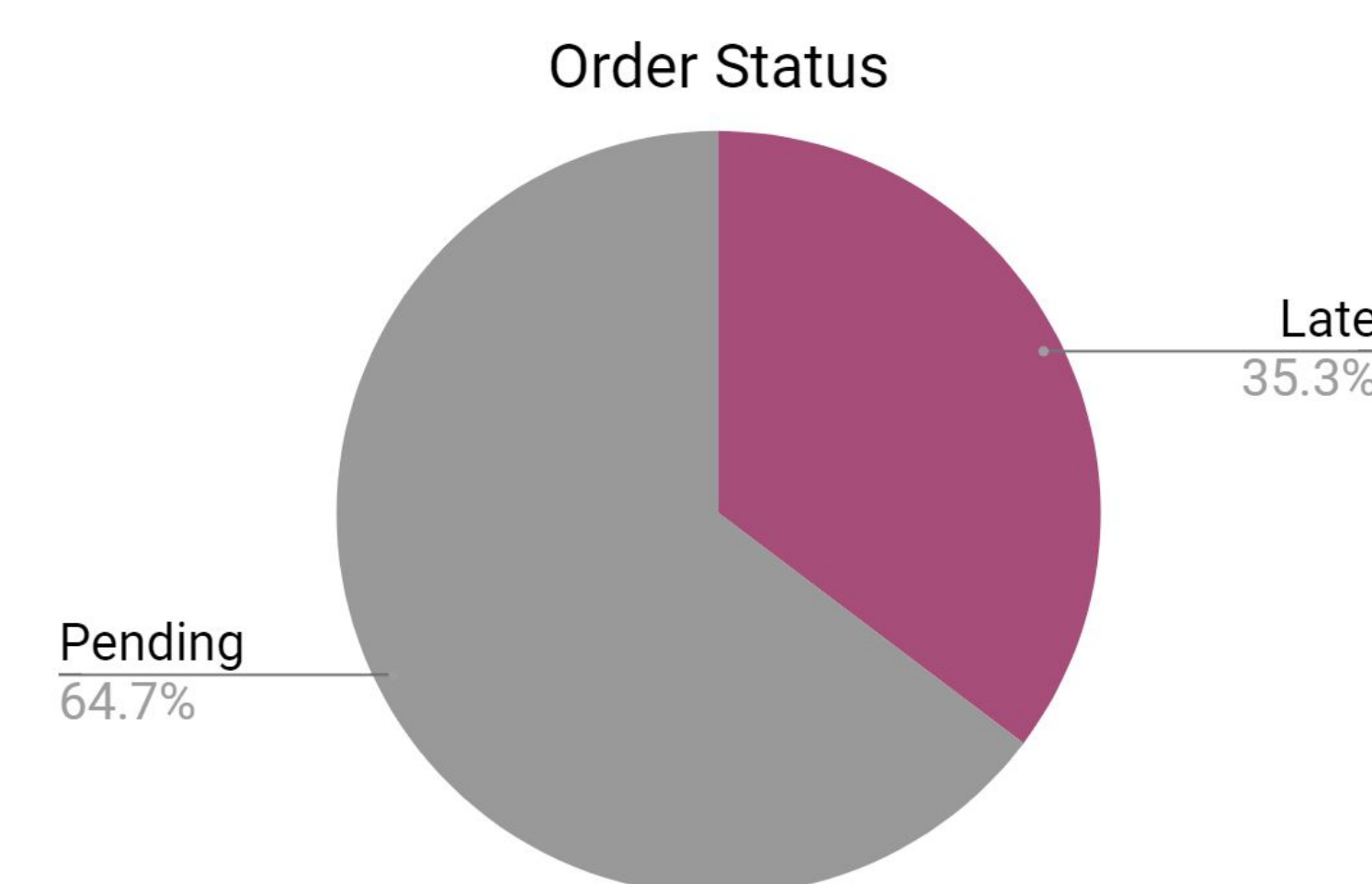
Provide recommendations for the elimination of waste in the facility

## Results

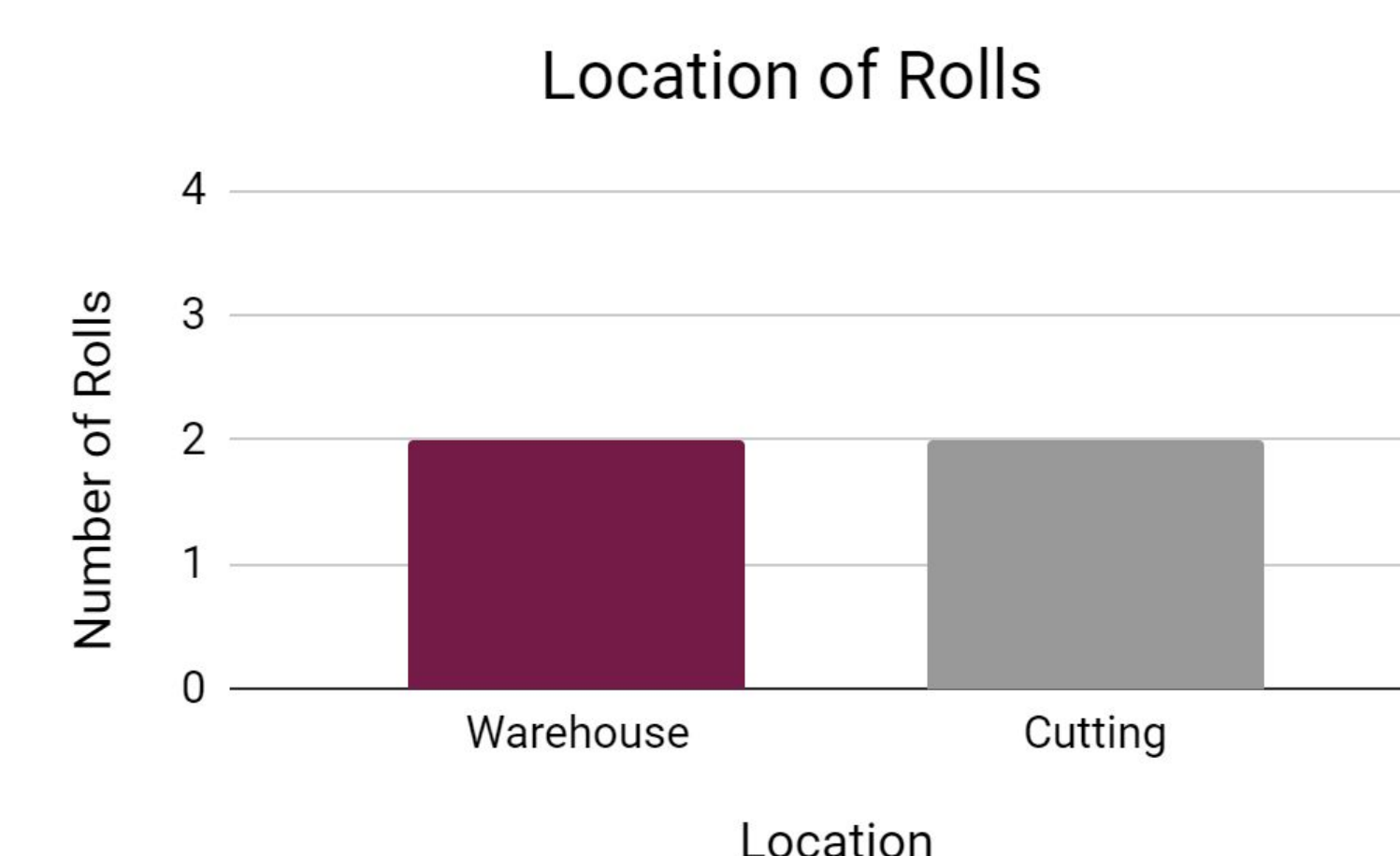
### Actual vs. Expected Usage



### Order Status



### Material Location



### Recommendations

- 1 Research and implement an **optimization formula/tool** to best utilize the material
- 2 Leverage current lean training paired with the new waste measurement system to **reduce product delivery lead times**
- 3 Hold cutting department workers accountable with **daily check sheets** to ensure material is properly stored

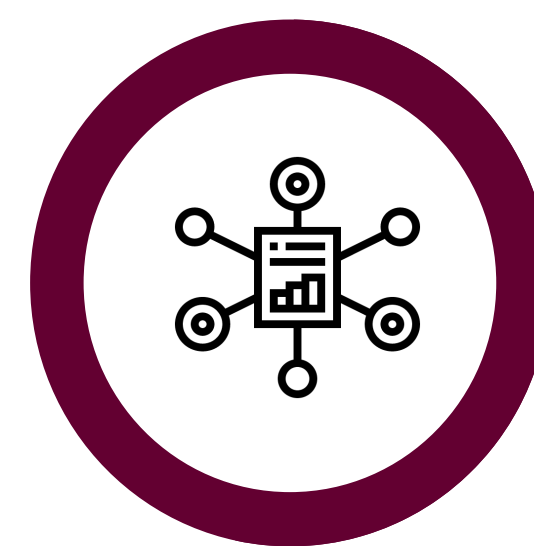
## Impacts



Accurate Reporting



Waste Identification



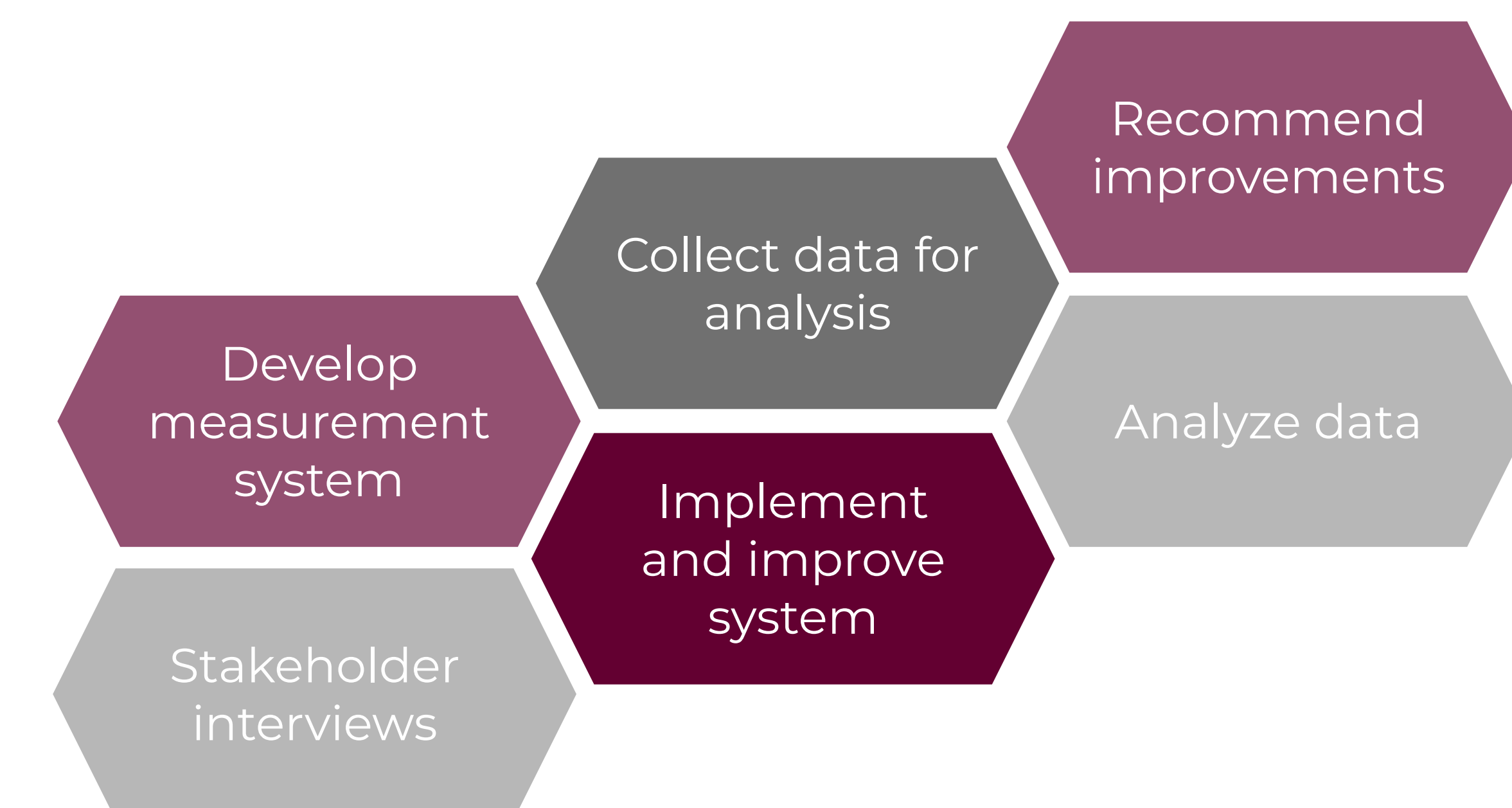
**Better Decision Making**  
and  
**Framework for Future ERP System**

**\$204,156**

**Projected Annual Savings**

**Note: Annual Savings estimated on material and labor cost per yard**

## Approach



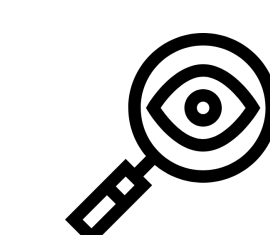
## Analysis Methods



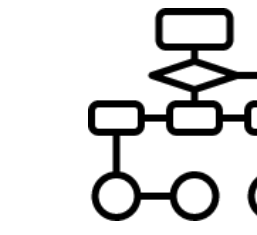
Stakeholder Interviews



Excel Data Analysis

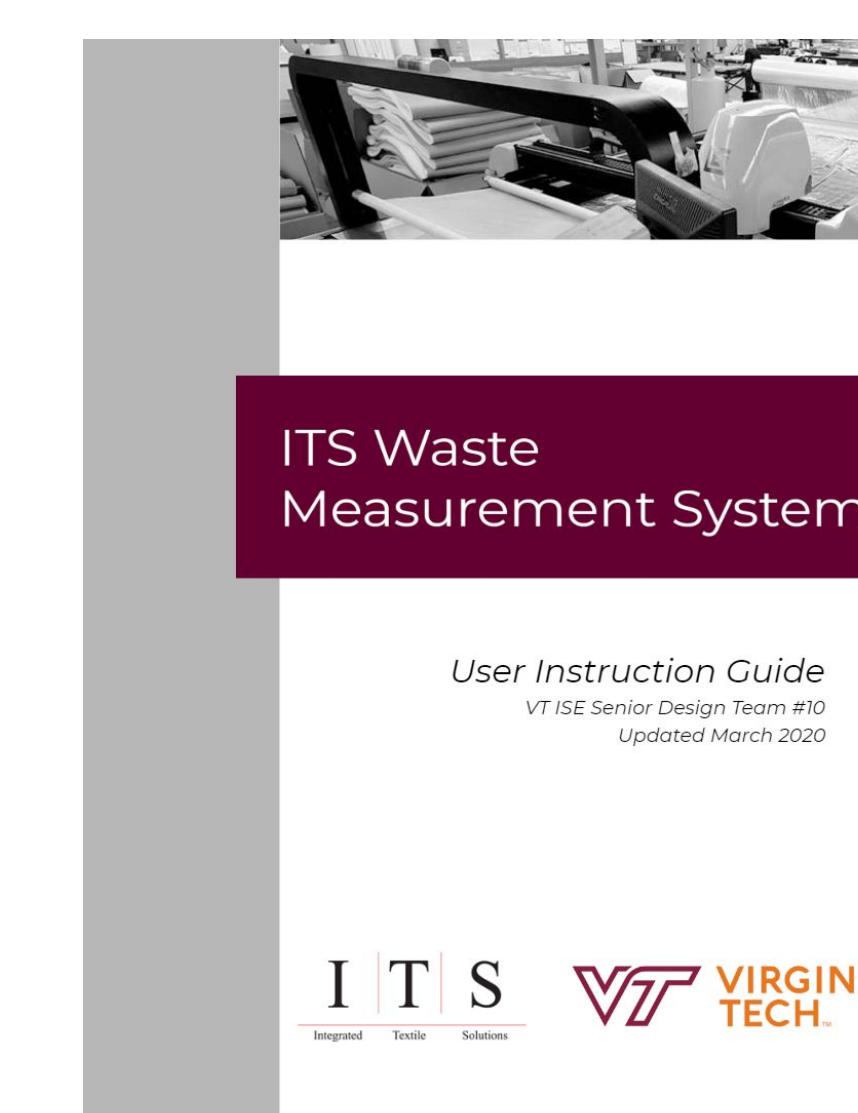


Workflow Observations



Process Flow Mapping

## Implementation



- 1 Describe the purpose and introduce the Standard Operating Procedures (SOP)
- 2 Set up the Waste Measurement System on ITS computers
- 3 Train each employee from 3 departments and walk them through their core functions
- 4 Address questions and/or concerns any of the employees may have