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Enhancing Accountability and Life Cycle Management of COVID-19 Stockpile through Efficient and Reliable Inventory Accounting

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Introduction & Aim

As part of COVID-19 stockpile management, the Supply Chain Task Force (SCTF) team initiated a project with the aim:

- To develop a robust consolidated reconciliation of COVID-19 stockpile levels as inventory are held across several 3PL and vendor locations.
- Reconciliation is required one a weekly basis to provide clear visibility over inventory, in particular during the pandemic where there may be utilization spikes.

This will provide the SCTF team with an up-to-date picture on stock utilization and sustainability, which will aid in the joint planning and decision making with MOH on stock replenishment.

Solution

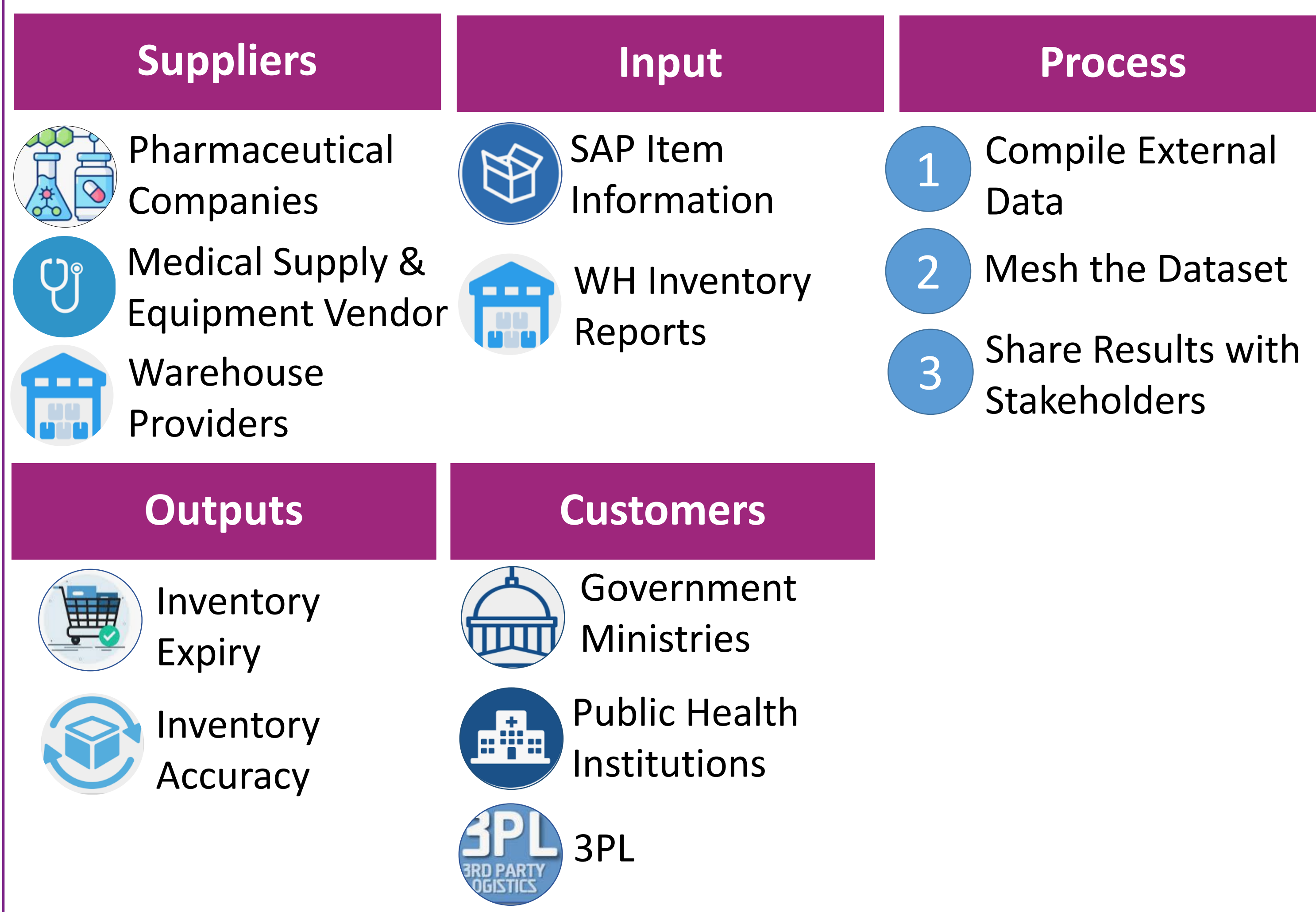
Solutions were pursued along the following:

- Address the pain point of tedious compilation as inventory information resides with multiple Vendors/Third Party Vendor (3PL), with different data formats and definitions, by the use of Python coding to enable auto-report generation.
- Align UOM adoption across all 3PLs to account for different unit of measurements/ bulk configurations from different vendors so as to eliminate data errors.
- Strengthen process through such reports to flag variances that the team can follow up timely with 3PLs/vendors to prevent losses.
- To identify means to make the report accessible across the team, through the use of data dashboard (Tableau).

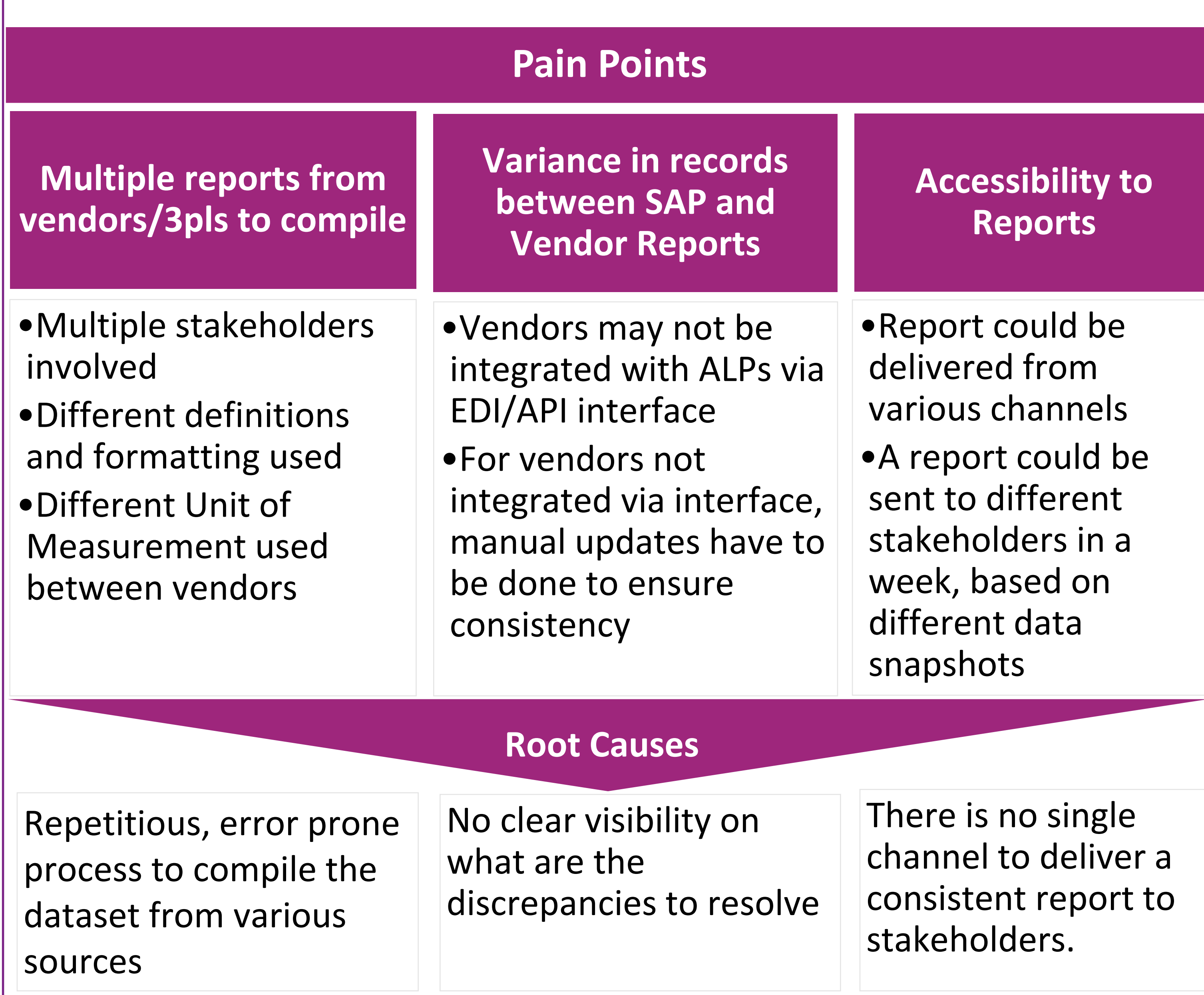
Methodology

The DMAIC framework was adopted to identify potential root causes, as well as to optimize the process of compilation and strengthen reporting.

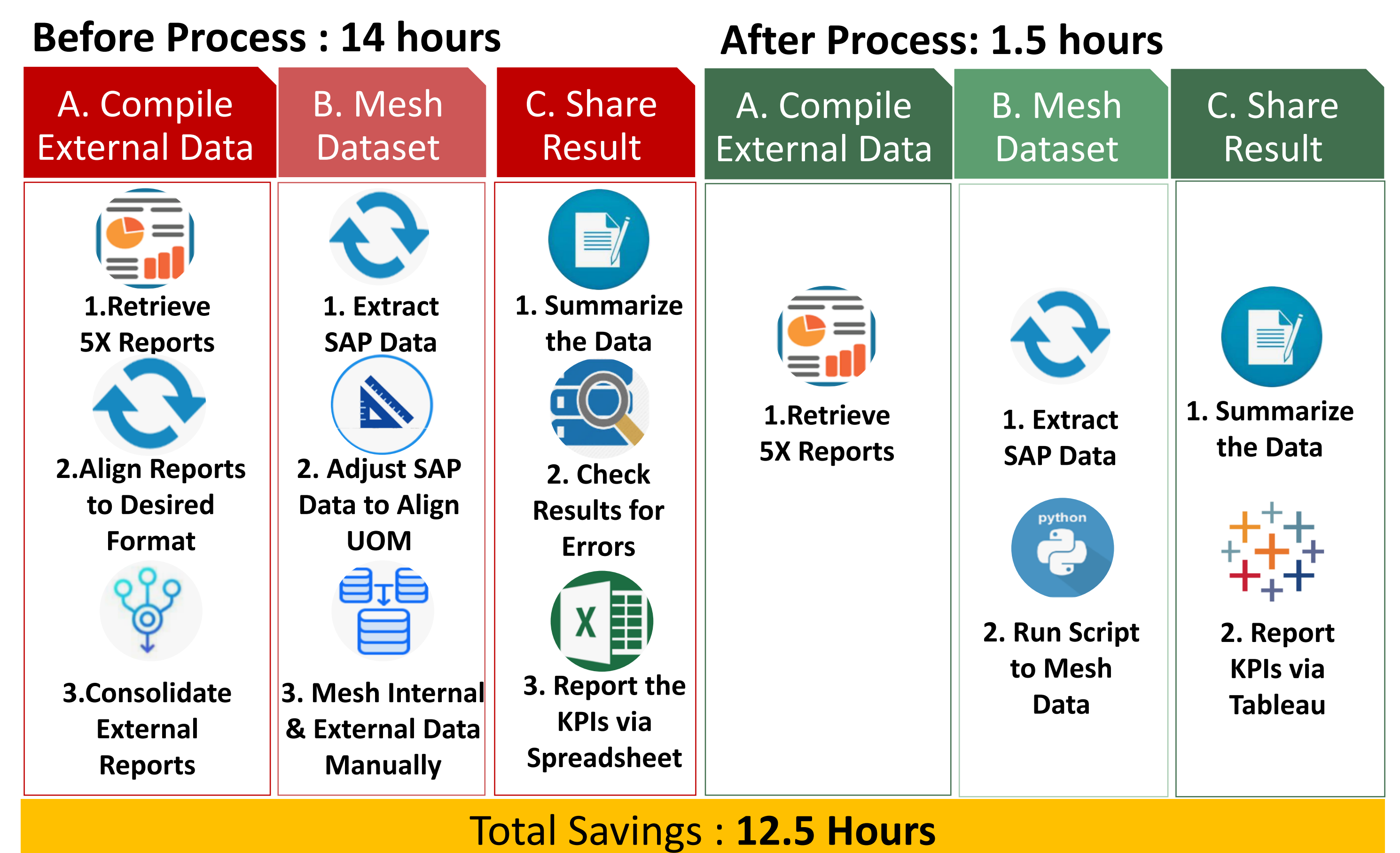
A. SIPOC Tool to Visualize End to End Process



B. Five Whys Methods to Identify Root Causes From Pain Points



A. Adopting the use of Python script to reduce the number of potential errors and time required for compilation of data.



B. Dashboard is accessible to stakeholders via a common platform

Stock Reconciliation Overview

Based on reconciliation on 01 Jun 2022

Plant	%
LHPM	100.0%
LHPP	100.0%
LSTM	100.0%
LSTP	100.0%
LYCM	99.9%
LYCP	100.0%
LZPM	100.0%
LZPP	100.0%
Total	99.5%

Key Features

- Common Access to Single, Consistent Data Source
- Summarize Views Enabling Users to Make Better Decisions & Planning
- Data Drilldown from Summary to Details is Available for Further Analysis

Results & Conclusion

With the above changes SCTF team can better focus on providing reliable information for planning with stakeholders on expiry mitigation. Some of the key highlights include:

- Inventory records between vendors/3PL and ALPS are maintained at a high level of alignment at 99% and above.
- Operational decisions such as stock transfers to effect better storage utilization across 3PLs, as well as carry out timely inventory planning and replenishment of COVID-19 stocks
- Timely reporting to detect variances and investigation with 3PLs to prevent losses and unaccounted for movements.