

# Better Living Through Innovations

Turning Waste into Resources Through a Closed Loop System-  
Smart waste management system/innovation in recycling

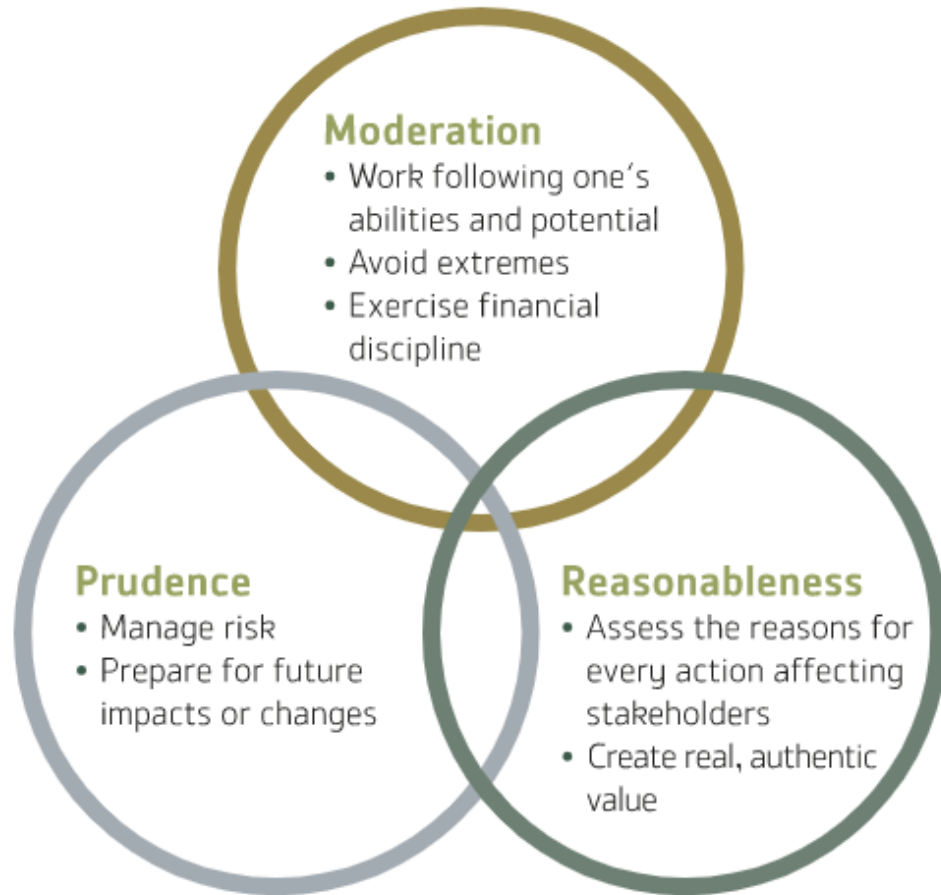
12 November 2020

Setha Thavisri

Thai Beverage Public Company Limited



## Sufficiency Economy Philosophy (SEP)



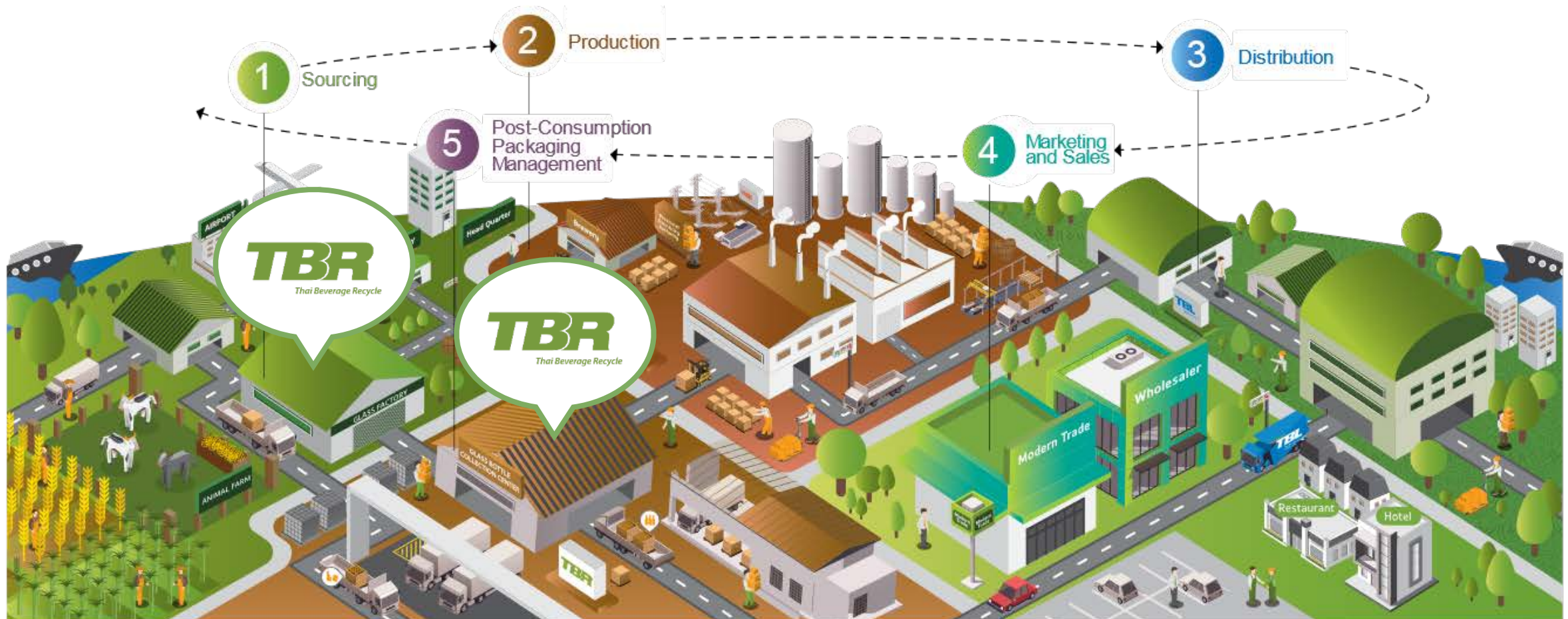
## United Nations Sustainable Development Goals (UN SDGs)



# ThaiBev's Value Chain



## Glass Bottle Procurement & Post-consumption Packaging Management



# ThaiBev Waste Management Framework



Maximizes resource utilization throughout the value chain using the 3Rs Principles



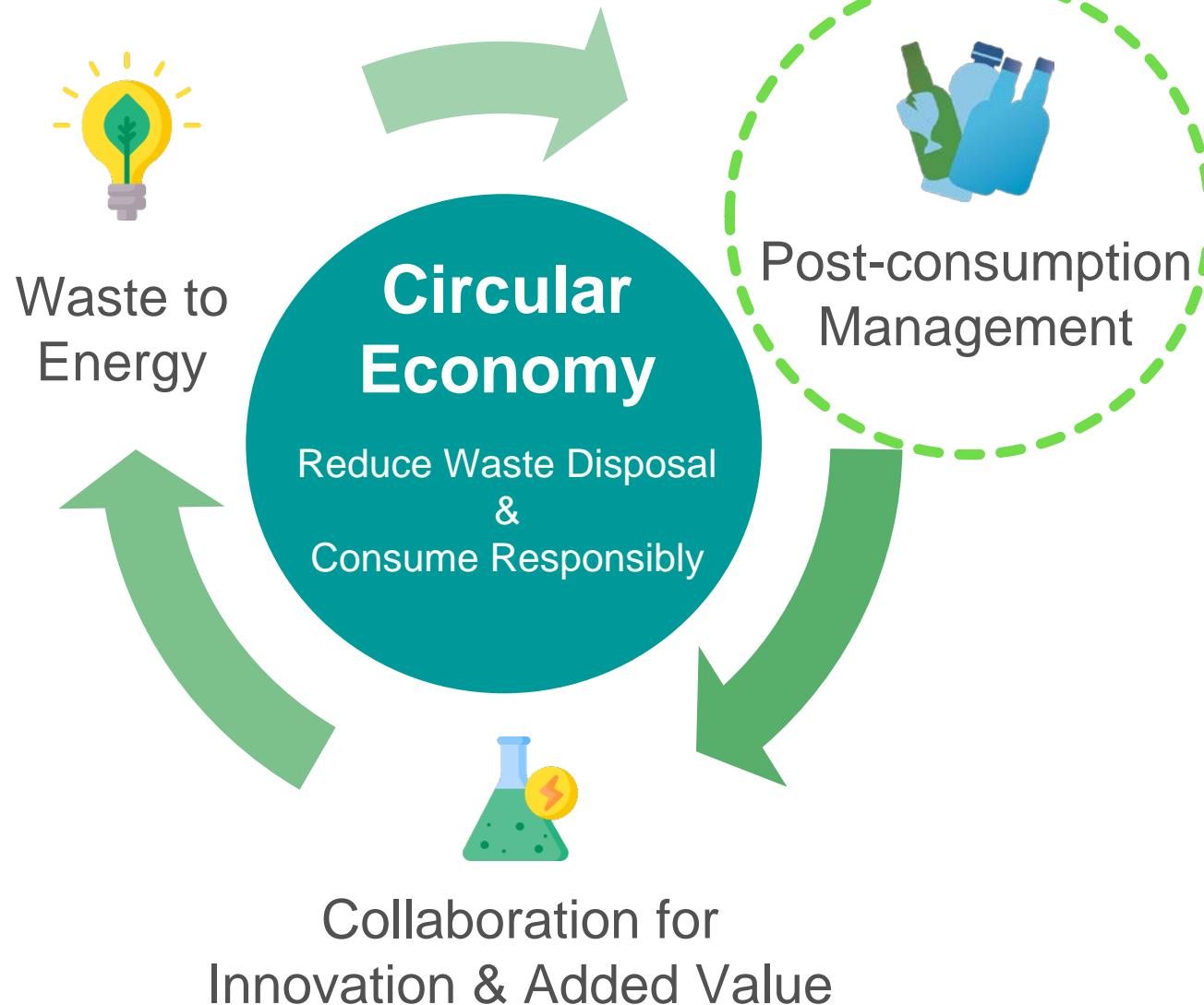
**Reduce**



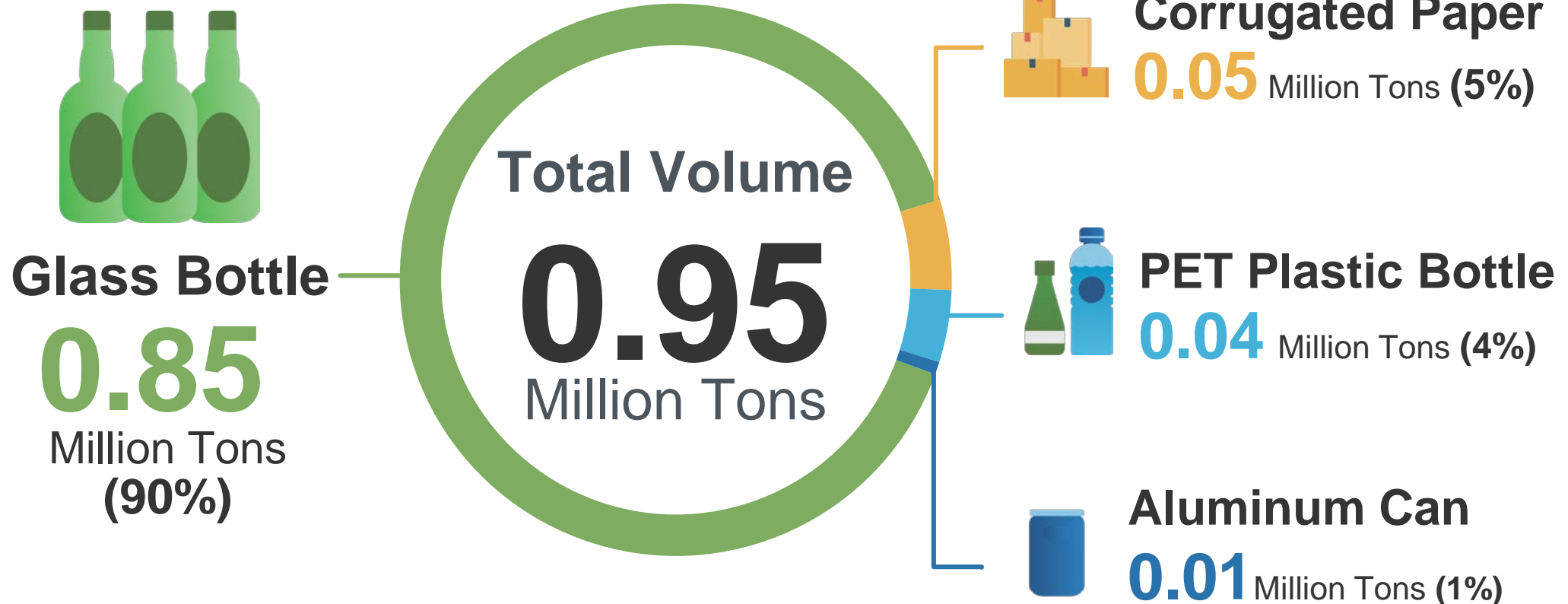
**Reuse**



**Recycle**

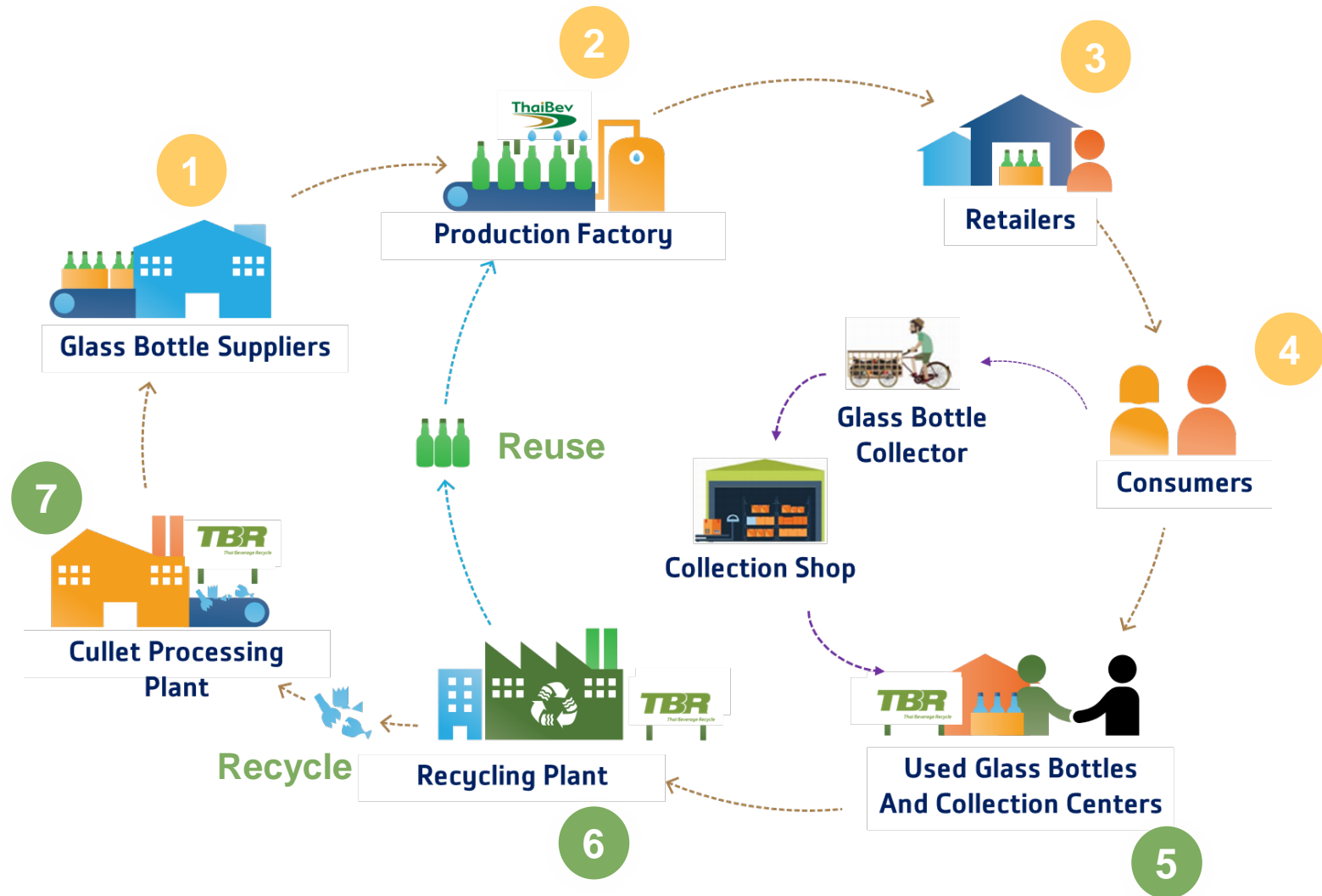


# ThaiBev's Packaging Consumption



# Closed-loop Packaging Management

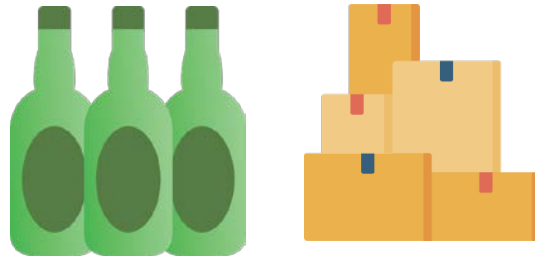
## Glass Bottle Life Cycle



# ThaiBev's Packaging Targets



ThaiBev has set clear short-term and long-term packaging management goals, classified by types of packaging material.



**Target 2025**

**100%**

of glass and paper packaging sold in Thailand are retrieved for reuse or recycling



**Target 2030**

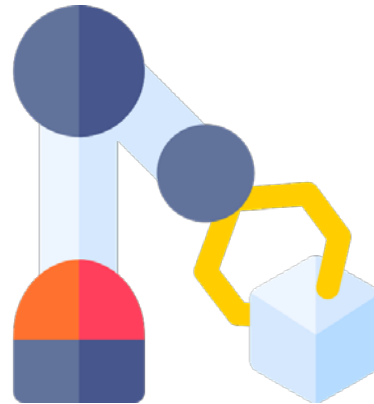
**100%**

of PET bottles and aluminum cans sold in Thailand

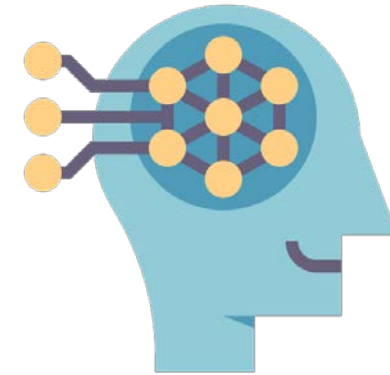
# Post-consumption Management Enhanced by Digital Solutions



Data Analytic



Robotics Technology

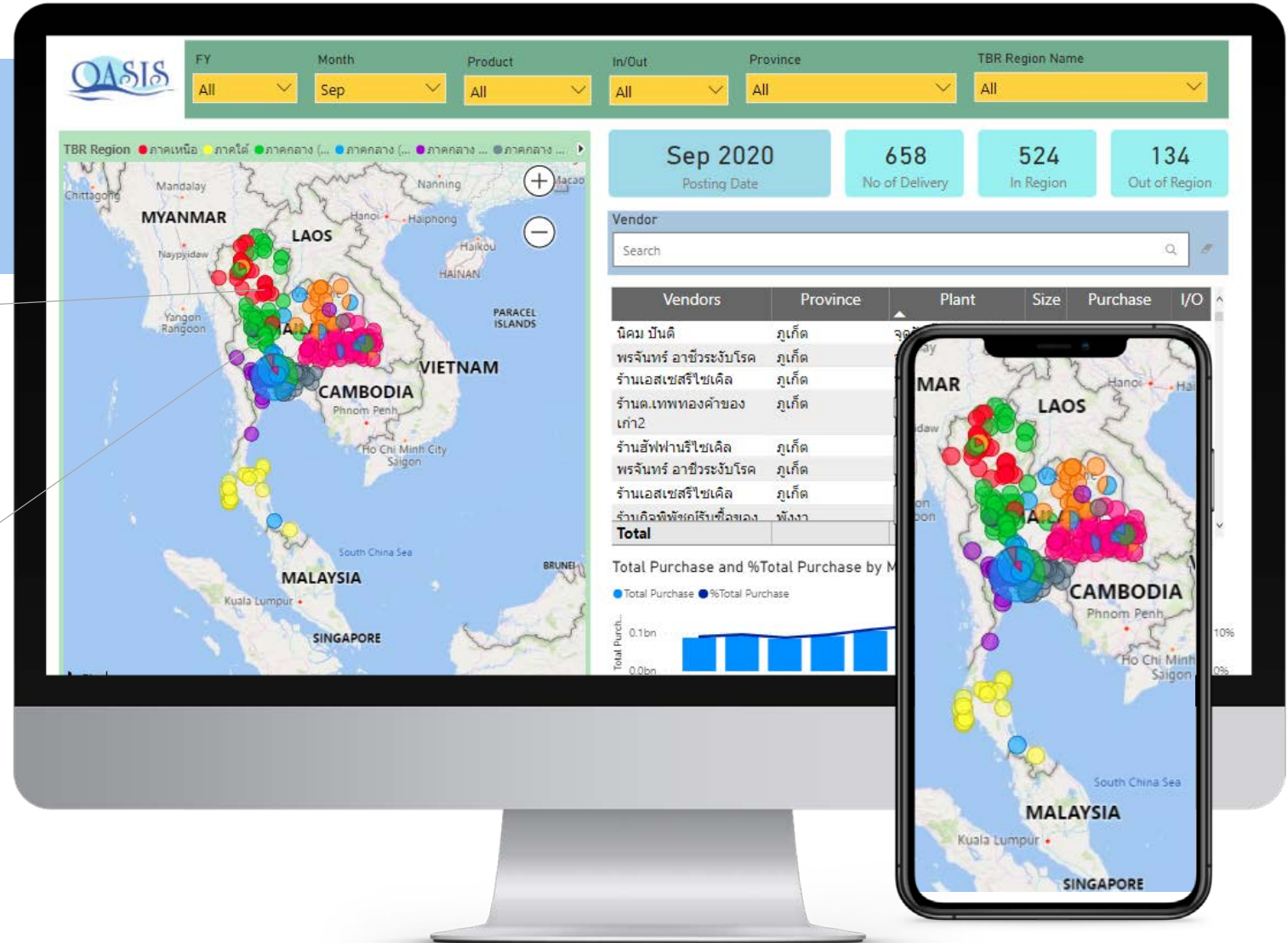
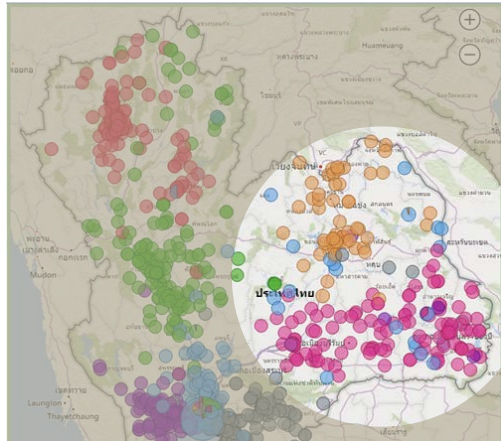


Artificial Intelligence  
Technology (AI)



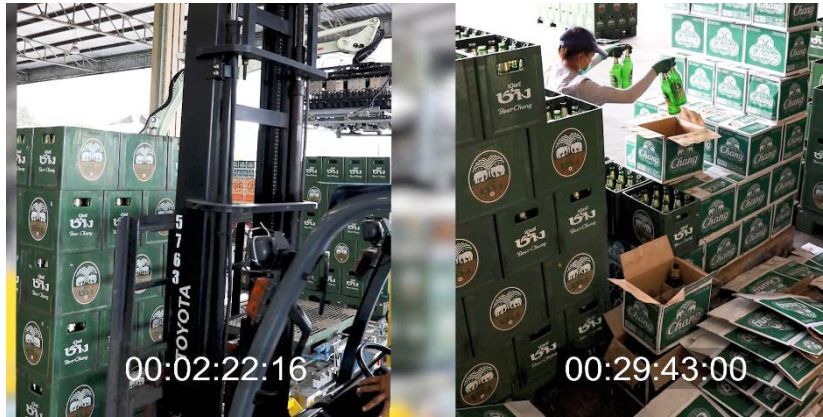
# Data Analytic

Improve strategic decision making in the supply chain management



# Robotics Technology

## Automated Bottle Sorting Machines Faster & Labor-saving



Productivity  
**+250%**



# Artificial Intelligence Technology (AI)

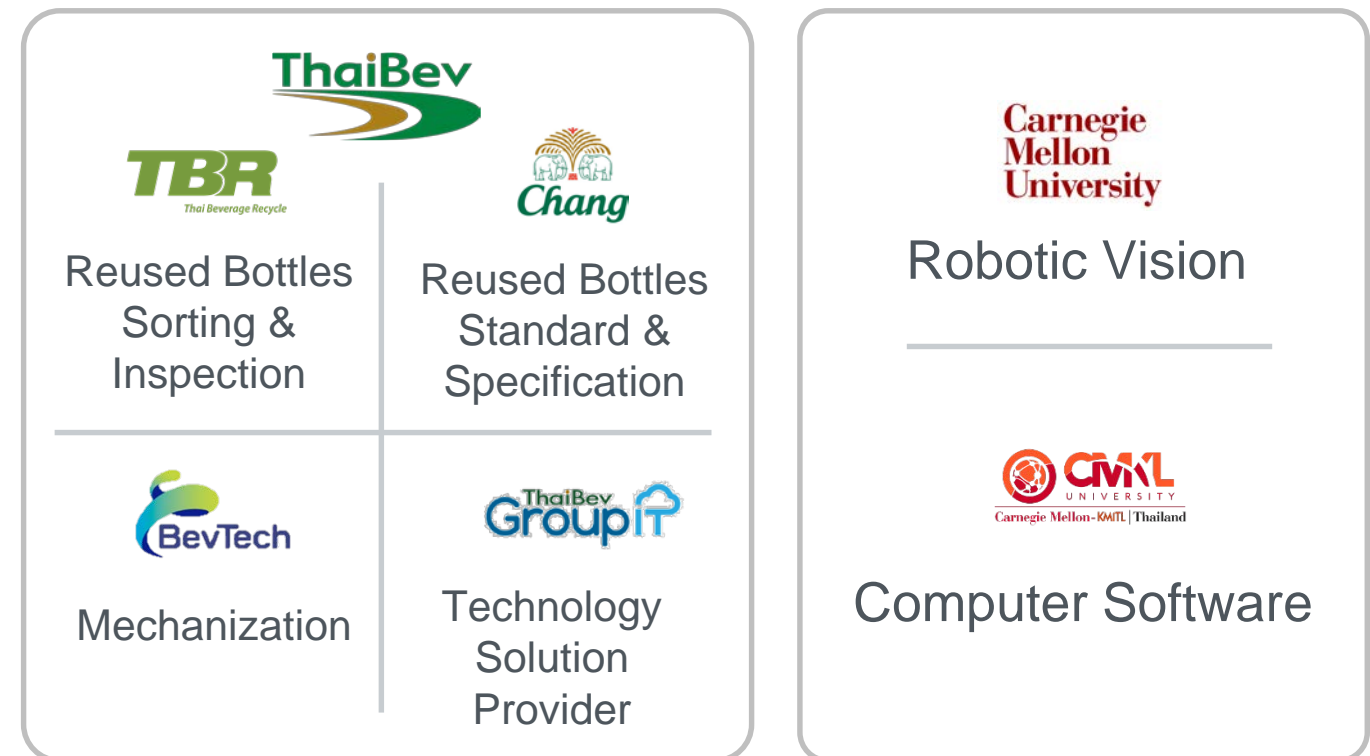


## Reused Bottle Classification by AI Image Recognition

### Efficiency & Expertise



## Collaboration Program: Oracle Project

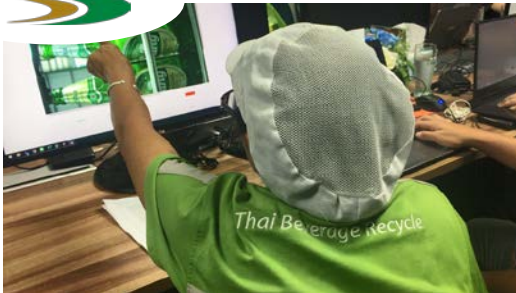


# Artificial Intelligence Technology (AI)



## Reused Bottle Classification by AI Image Recognition

ThaiBev



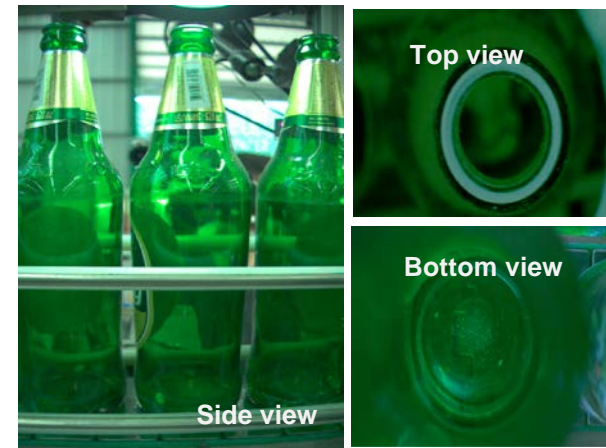
Data Learning

Carnegie Mellon University  
CML UNIVERSITY  
Carnegie Mellon - 40411, Thailand



Knowledge Transfer

Algorithm → Model Software



Lab-scale



Production

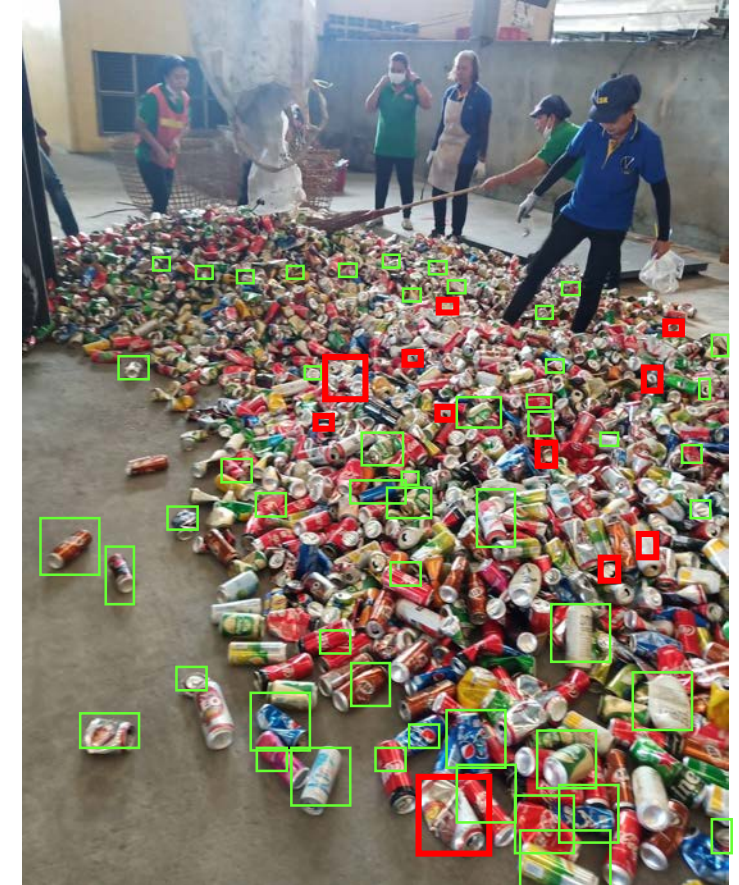
\*Go live in Dec 2020



# Future: Extend to Other Packaging Materials



Plastic & Aluminum



# TSX

## THAILAND SUSTAINABILITY EXPO 2020

Sufficiency for Sustainability  
พอเพียง ยั่งยืน เพื่อโลก

1-4 October 2020  
Samyan Mitrtown



**>10,000**  
Participants

**5.2 million**  
Social Reached

**2.8 million baht**  
Income Distributed to  
Social Enterprises

