AMAZON ECO-FRIENDLY SYSTEM

- Spring 2021
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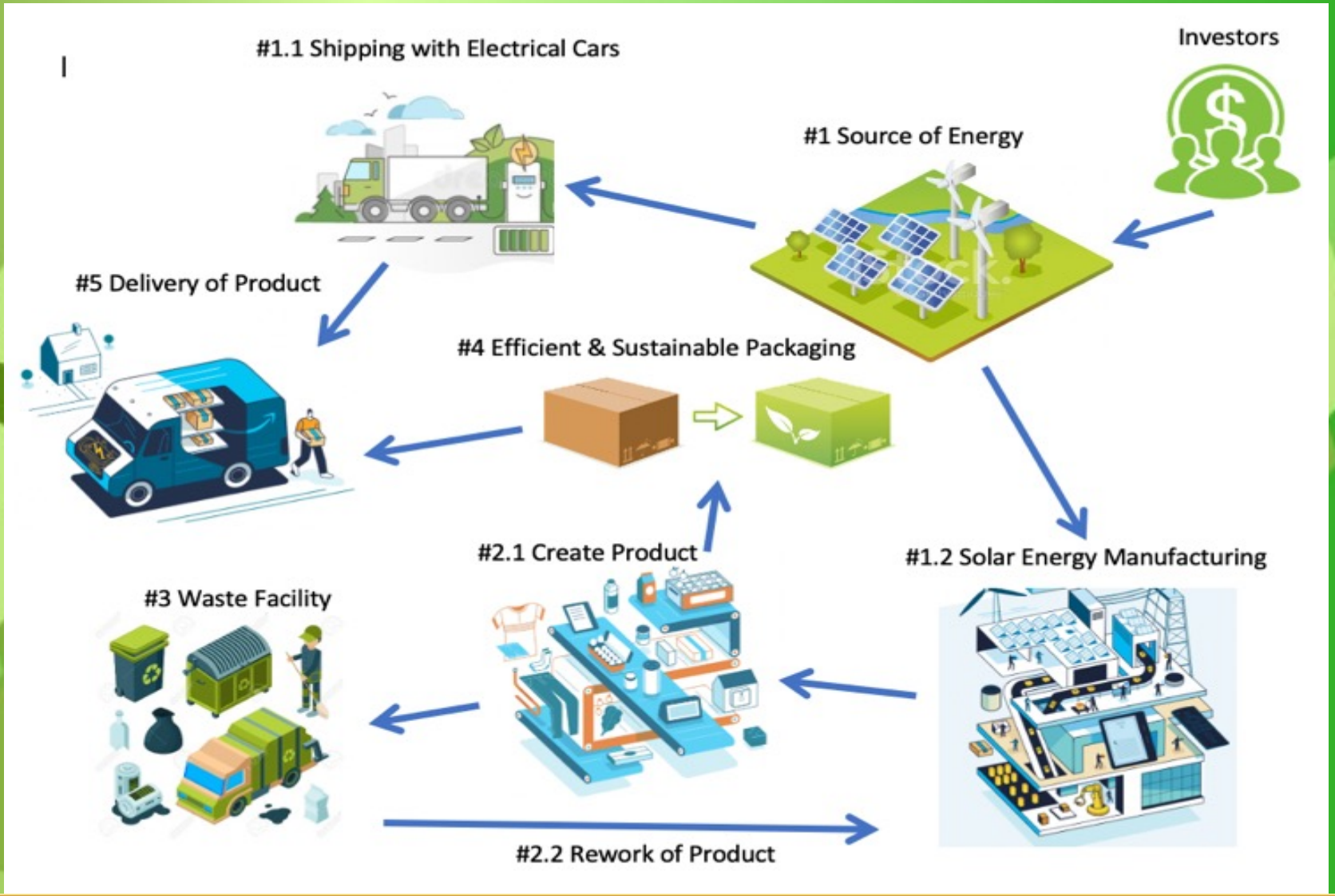
Concept of Operations



System Decomposition and Requirements

Requirements Validation and Verification Plan

Requirement ID	Requirement	Requirement Validation	Verification Plan				Verification Plan
			I	A	T	D	
1.2.3	12000 solar panels shall be installed to generate 20,000 kWh per day.	The electrical engineer will analyze that the solar panels are producing the required amount of kWh per day to power the warehouse.		X			Each solar panel output will be calculated by the amount of hours of direct sunlight (6hrs) x 290 watts which is the average wattage of a solar panel. This would give us the required kWh to power the warehouse in a day.
1.2.7	The inverter shall convert DC electricity to AC electricity.	An inverter will be used to convert the DC electricity from the solar panels to AC electricity to power the warehouse and provide the electricity.	X				The assigned electrical engineer will make an inspection every week or when issues are seen to ensure the inverters are working properly they convert the DC electricity to AC electricity needed by the warehouse to operate correctly.
2.1.5	Supervisor shall keep employees on track by the amount of packages they have completed every hour.	Supervisor would track the operator´s daily work by monitoring every workers' hourly performance.				X	The supervisor will have an estimated amount of completed packages done by each employee. The employees must demonstrate all completed packages, the amount should equal or surpass the estimated value from the supervisor.
2.2.2	Employee shall take the broken or scratched product to the waste container after manager approval.	Once broken product is detected, the employee notifies the manager to continue taking it to the waste container where it would be processed.				X	The employee takes the broken or scratched product to the designated waste container using safety equipment such as gloves to prevent injuries like cuts.
3.1.1	The waste facility shall pick up waste container.	On a scheduled trip the waste company will pick up the container filled with damaged material and take it back to its plant.	X				The waste company will pick up the container weekly and treat the material through the process of recycling in order for the material to be used again.
4.1.4	The employee shall choose the packaging according to the order size.	The package sizes will be determined by the size of the product and the amount of products that will be packaged. The employee will check the computer to see the package that has to be used for that order.		X			The employee will check the Box on Demand system to use the correct size of packaging that will be used for the order.
5.1.2	Transporter shall scan package labels to confirm orders.	The employee will scan each product before loading it on to the van to update the system that it is being shipped. It will also send a notification to the customer that it is currently being shipped.				X	The transporter manually scans each package individually using the scanner.
5.1.4	Transporter shall set destinations to deliver products to customers.	The transporter will input the address of the closest customer and from there the next and so forth.				X	The transporter manually sets different destinations onto a GPS creating a route to follow for the delivery of the customer packages.

Subsystem and Part Design

Employee Training Checklist

Date: _____ Time: _____

Manager: _____

Employee: _____

Test	Passed	Failed
Label Printer		
Tape Dispenser		
Choosing Package Size		
Cardboard Box Assembly		
Inventory System		
QR Code Scanner		
Forklift		

Overall Test Results: _____

Employee Signature: _____

Manager Signature: _____

Waste Container Pick-Up Log

MONTH: _____

Date	Time	Picked up by	Signature

Damaged Product Approval

Date: _____ Time: _____

Employee Name: _____

Product #_____

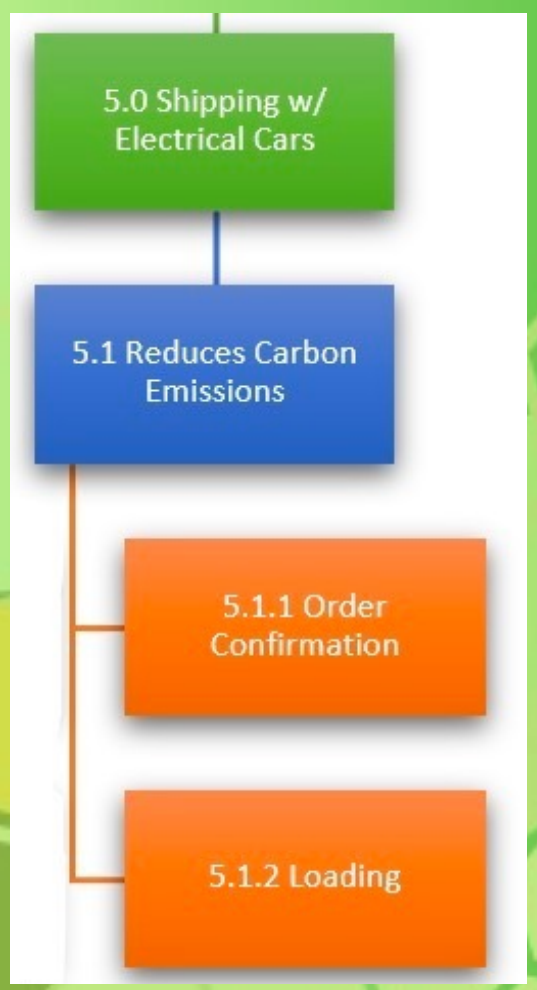
Manager Signature: _____

Package Completion Check

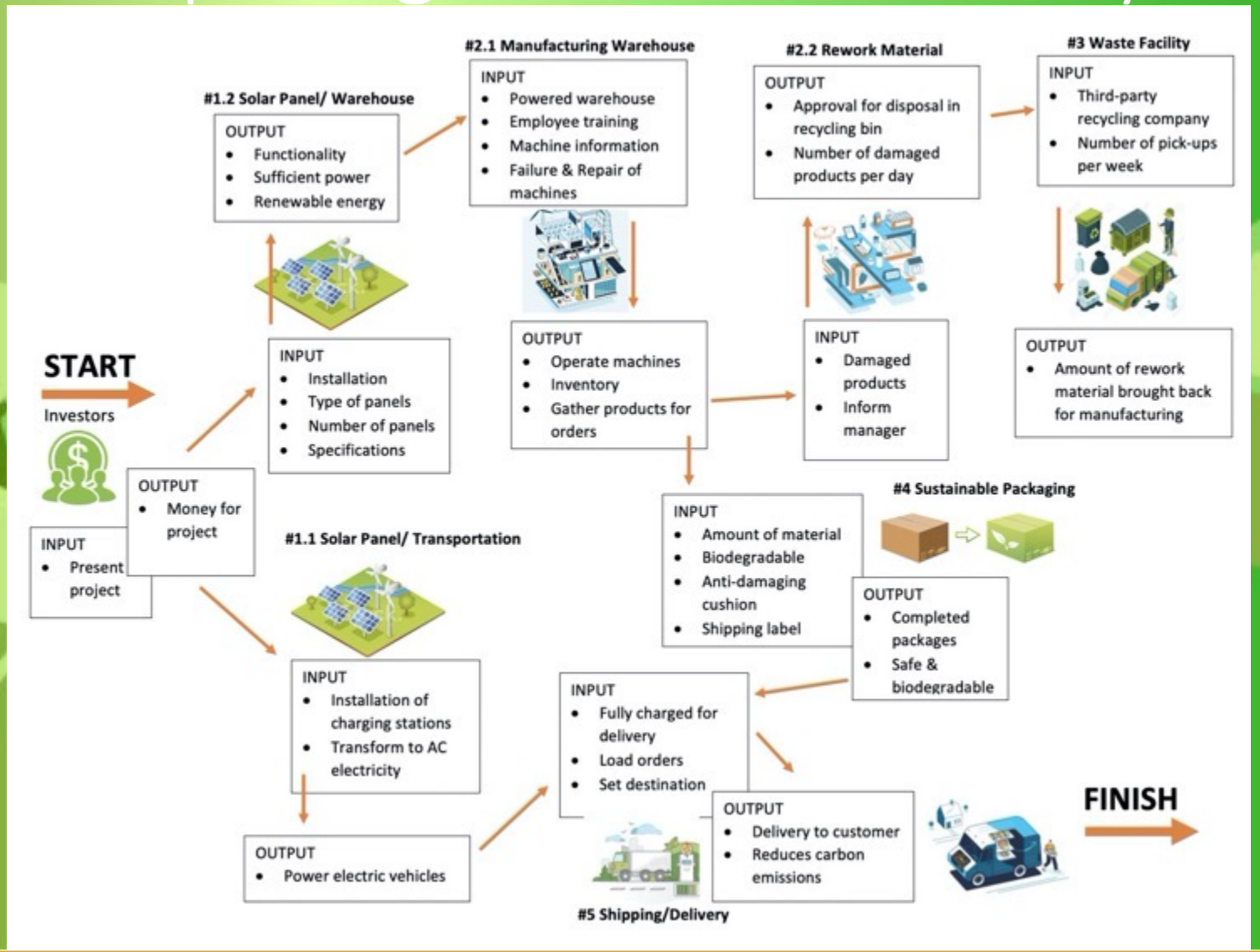
Manager: _____ Date: _____

Employee	Time	Packages Completed	Signature

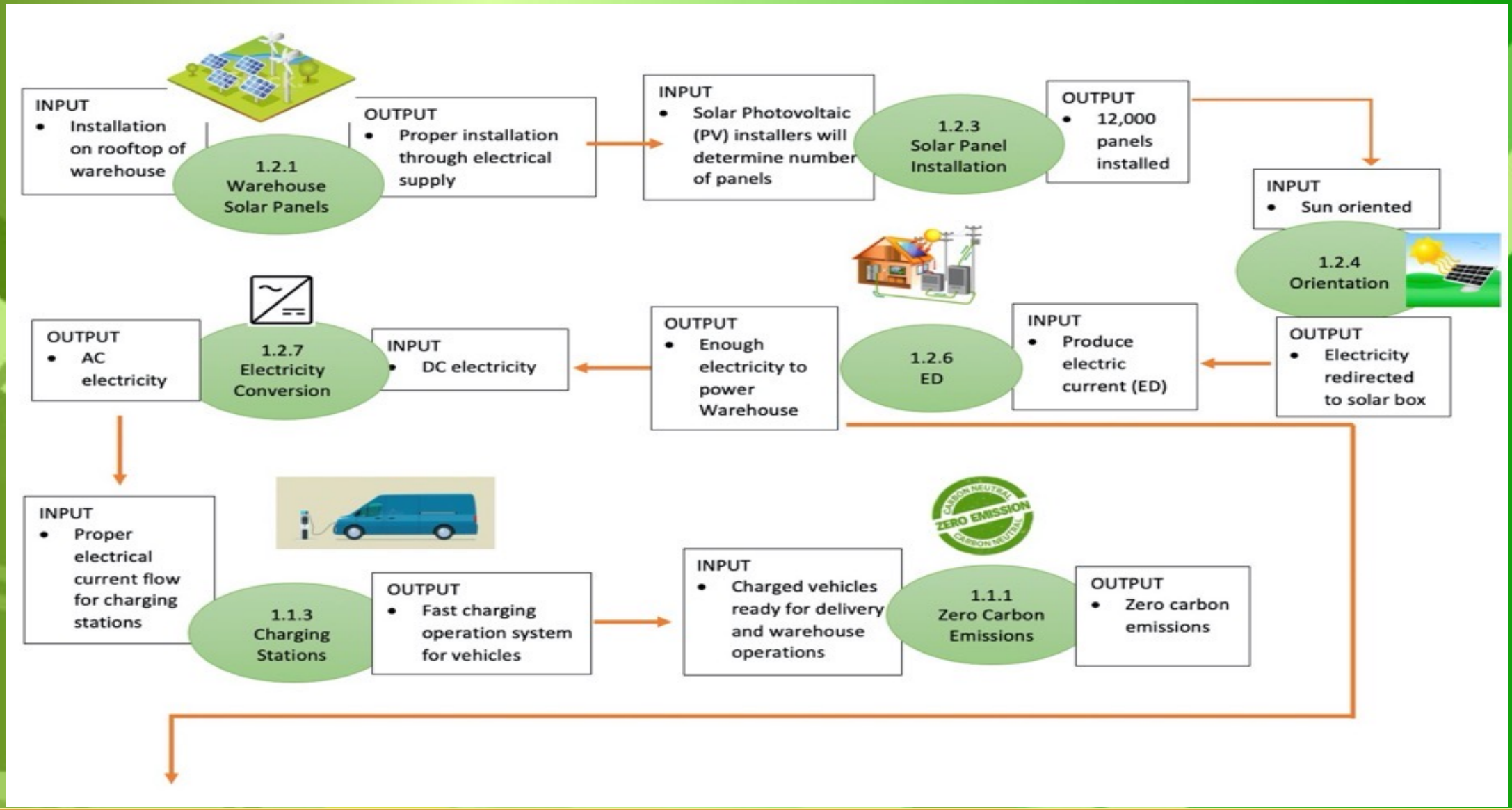
Subsystem and Part Design



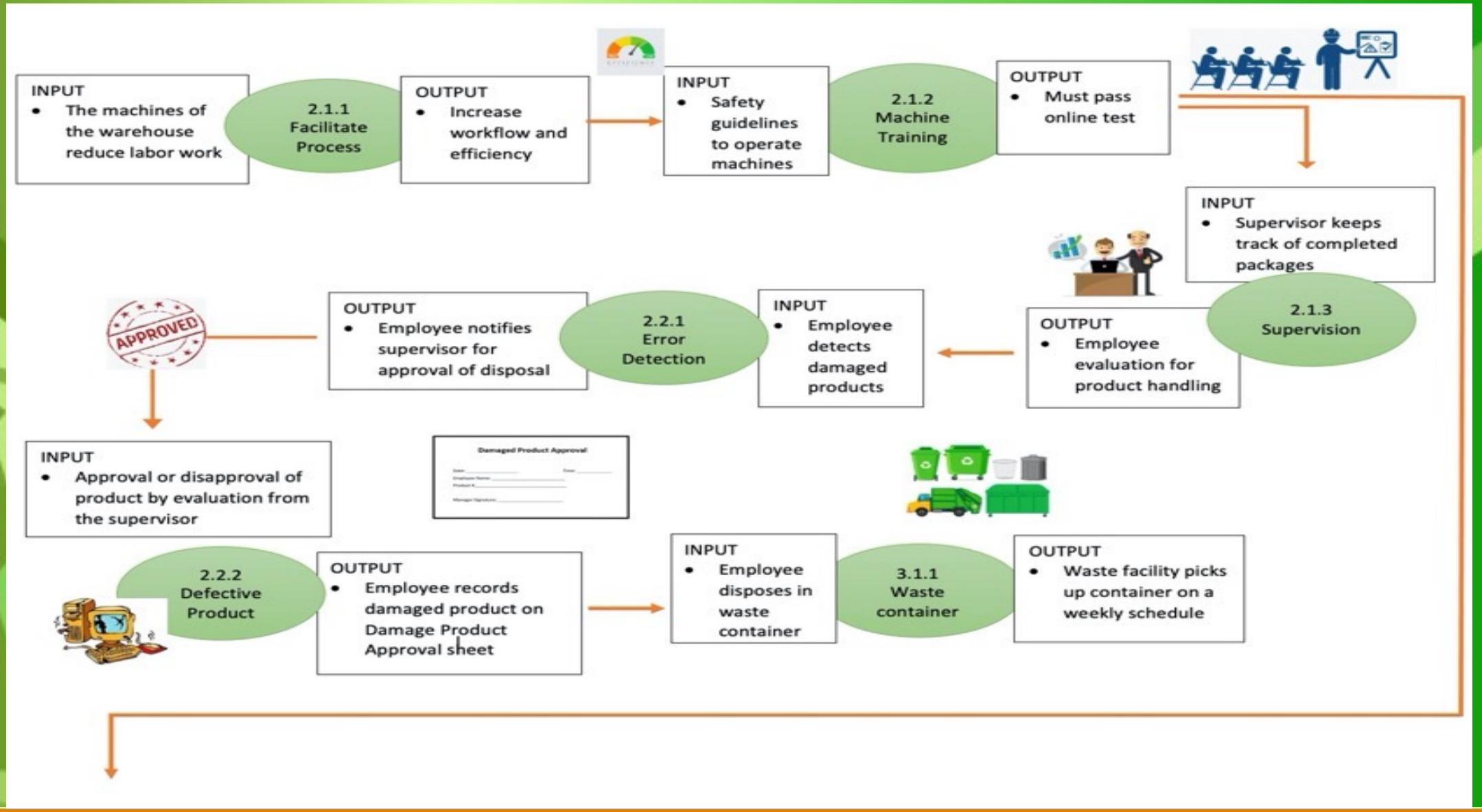
Recomposing Parts into Final System



Validating Overall System



Validating Overall System



Validating Overall System

INPUT
- Confirm order products in inventory/stock

4.1.1 Product Inventory

OUTPUT
- Gather product(s) for order(s)

INPUT
- Employee checks system for size of product for package use

4.1.2 Packaging

OUTPUT
- Choose packaging according to size

INPUT
- Biodegradable packaging material

4.1.3 Material for packaging

OUTPUT
- Made up of four layers of paper and water base cushioning.

INPUT
- If needed employee adds extra cushioning material

4.1.5 Damage Prevention

OUTPUT
- Prevents product from damages

INPUT
- Employee seals and places shipping label on package

4.1.6 Package Completion

OUTPUT
- Employee scans label to update system for delivery

INPUT
- Transporter scans label to confirm order delivery

5.1.2 Order Confirmation

OUTPUT
- Transporter loads packages

INPUT
- Transporter sets delivery destinations

5.1.4 Route Destination

OUTPUT
- Scan package to notify customer of delivery
- Deliver products to customer

FINISH

QUESTIONS?