AssociatedEngineers

SKU-wise Bay Sorting System

INDUSTRY: Packaging, Food & Beverage, Warehousing

Solution: Efficient Order Consolidation & Dispatch

What is SKU-wise Bay Sorting?

- Bay sorting is a process of directing cartons or items into designated bays based on SKU code, order grouping, or destination.
- Purpose:
  - Improve dispatch readiness
  - Reduce SKU mismatch
  - Enable faster picking & palletizing
- Used in: Distribution centers, packaging lines, ecommerce warehouses.

Challenges Without Sorting Automation

- Mixed-up SKUs during palletization
- Manual misrouted cartons
- Slower order fulfillment
- Increased manpower dependency
- Higher dispatch errors
- Result: Loss in efficiency, space, and accuracy.

Our SKU-wise Sorting System: Step-by-Step

1

Scan: Camera scans QR/barcode or printed text

2

Identify: Vision software matches against SKU logic

3

Route: System instructs operator or diverter to route item

4

Sort: Carton sent to designated bay

5

Monitor: Bay signals when set is complete for dispatch

Machine Vision at the Core

CAPTURES DATA FROM CARTON: QR, BARCODE, OR PRINTED CODE

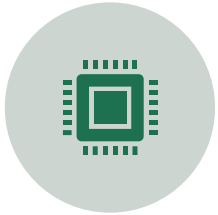
HANDLES ARTWORK VARIATION AND FONT DISTORTIONS

SENDS MATCHED SKU TO LOGIC CONTROLLER

COMMUNICATES WITH MANUAL OR AUTO DIVERTERS

System Architecture Overview

MACHINE VISION CAMERA (OCR OR BARCODE)



SKU LOGIC ENGINE (PC/PLC BASED)

DIVERTER CONTROL / MANUAL PROMPT

BAY COMPLETION STATUS FEEDBACK

HMI FOR OPERATOR INTERACTION

DATA INTERFACE TO ERP / WMS

Adaptable Deployment Options

- Fully automated conveyor integration with diverters
- Semi-automatic with operator visual prompt
- Retrofittable to existing packing stations
- Compact setups for limited floor space

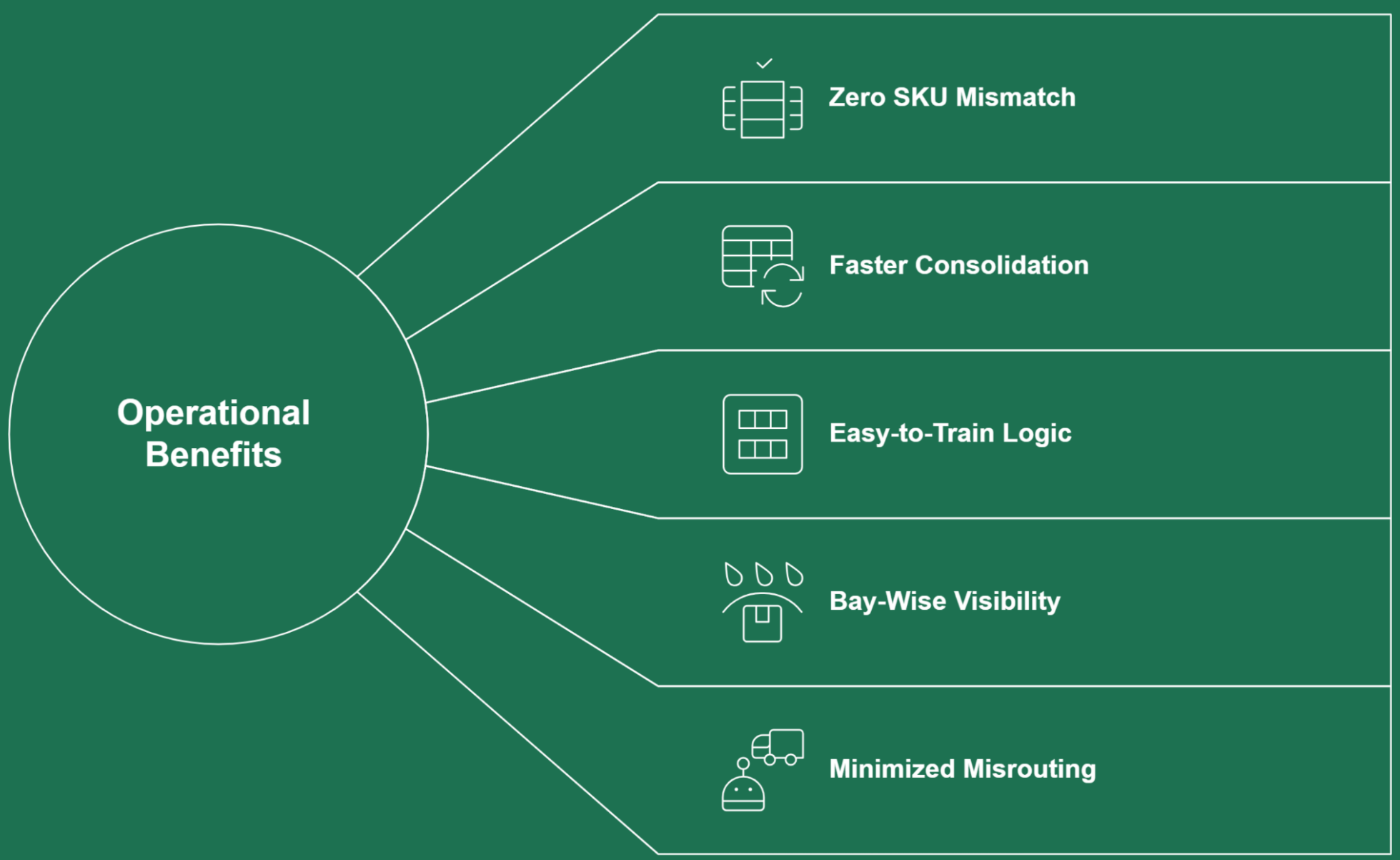
Reliability Engineering Built In

- Optimized code reader for variable print
- Integrated logic to minimize false sorting
- Fail-safe handling for unreadable cases
- Precision in handshaking between vision & diverter

Process Flow Diagram

Industries & Applications

- FMCG packaging lines
- Ready-to-ship sorting centers
- Batch-wise dispatch zones
- Multibrand distribution centers


Operational Benefits
Zero SKU Mismatch
Faster Consolidation
Easy-to-Train Logic
Bay-Wise Visibility
Minimized Misrouting

Let's Build It Together

Book a demo or share your current dispatch process.

We'll design a system tailored to your line.

www.associatedengineers.co.in