Enhancing AGV Kitchen Conveyor with Barcode Scanning & Improved RFID

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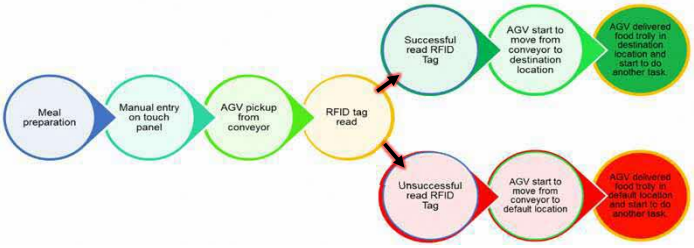
Aim

This project enhanced AGV-based food trolley deliveries by automating destination entry with barcode scanning and improving RFID reliability, reducing errors, delays, and staff workload while improving patient satisfaction and operational efficiency.

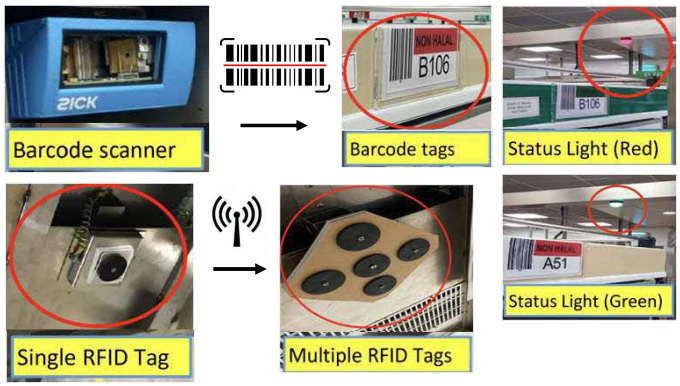
Background

The kitchen's AGV system faced issues with manual entry errors and RFID failures, causing delivery delays, increased workload, and reduced patient satisfaction, impacting overall operational efficiency and requiring frequent staff intervention.



Interventions / Implementation

This improvement project involved Barcode scanning automated destination entry, reducing errors. Additional RFID tags improved accuracy. System reconfiguration and staff training optimized workflow, while continuous monitoring ensured smooth adoption and resolved issues effectively.



Team Members

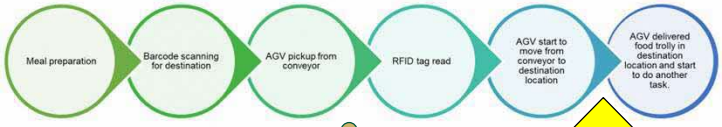
Name	Designation	Department
Balasubramaniyan Murali	Senior Engineering Assistant	Facilities Management
Ghazali Bin Mohamad	Senior Manager	Food Services
Sim Chay Mui Rachel	Senior Executive	Food Services
Noorianti Bari	Senior F&B Assistant	Food Services
Mohamed Subri	F&B Assistant	Food Services

Onward 2026

The enhanced system ensures reliability with barcode scanning and redundant RFID tags, reduces manual input, minimizes delivery errors, achieves cost efficiency, and improves patient satisfaction and staff morale, fostering a sustainable, resilient, and efficient meal delivery process.

Results & Outcomes

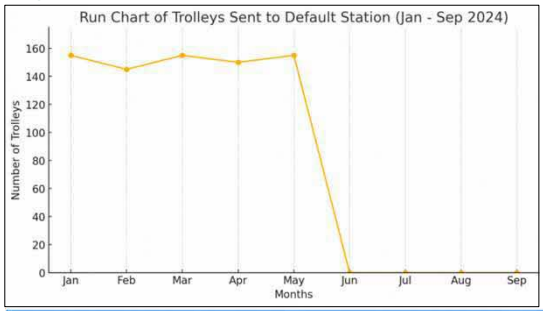
The enhanced AGV system eliminated manual errors, improved RFID reliability, saved 6 daily man-hours, ensured timely deliveries, increased patient satisfaction, and achieved $26,280 annual cost savings with a one-year payback, boosting operational efficiency and sustainability.



Saved 6 Man-Hours/Day

Annual Cost Savings

$ 26,280



Conclusion

This project significantly improved AGV-based food trolley deliveries by automating destination entry with barcode scanning and enhancing RFID reliability. The system eliminated errors, reduced delays, saved labor costs, and improved operational efficiency. These advancements ensure timely deliveries, boost patient satisfaction, enhance staff morale, and establish a sustainable, cost-effective delivery process.