

Case Study

From Manual Inspection to Operational Intelligence: A Leading FMCG Manufacturer's Packaging Transformation Story

Prompt partnered with a leading FMCG manufacturer to transform a manual packaging inspection process into a digitally connected quality control platform delivering higher throughput, stronger traceability, and measurable business impact.



Industry:
FMCG Manufacturing



Application:
Secondary Packaging Inspection

+100%
Throughput

87%
Less Giveaway

₹1 Crore+
Savings

80% Less
Manpower

10x Better
Accuracy

2–3 Month
Payback

Executive Summary

In high-volume FMCG manufacturing, small inefficiencies at critical quality checkpoints can quickly escalate into significant operational and financial losses.

At one of India's leading FMCG manufacturing facilities, a manual carton inspection process that once served as an effective control point had become a growing constraint as production volumes increased. It was limiting throughput, increasing product giveaway, creating dependency on manual intervention, and reducing visibility into packaging performance.

The manufacturer needed more than a weighing system upgrade. The objective was to create a smarter, more efficient quality control process capable of improving productivity, strengthening traceability, and reducing operational losses.

Prompt partnered with the customer to design a customized inspection and traceability solution that combined automated carton inspection, real-time data capture, carton-level traceability, and automatic weight printing into a single integrated platform.

The result was a faster, more visible, and more reliable packaging operation, delivering significant improvements in productivity, quality assurance, and cost performance while establishing a strong foundation for data-driven packaging management.

The Hidden Cost of Manual Inspection

Every carton leaving the customer's packaging line represents a commitment to product quality, consistency, and consumer trust.

However, the process responsible for verifying carton accuracy relied heavily on manual intervention.

As production requirements increased, the limitations of the existing process became more apparent.

Product Giveaway and Cost Control

To avoid underweight cartons, operators frequently compensated by overfilling products. While this reduced rejection risks, it also created significant giveaway losses that directly impacted profitability.

Throughput Limitations

Manual weighing, recording, monitoring, and sorting activities slowed the packaging process and constrained overall production throughput.

Traceability Gaps

Inspection records were maintained manually, making it difficult to access historical data, investigate quality incidents, and achieve complete carton-level visibility.

Quality and Compliance Risks

The possibility of incomplete cartons reaching the market, combined with manual record keeping, increased the effort required to maintain audit readiness and quality compliance.

Labour Dependency

The inspection process required continuous operator involvement for weighing, recording, monitoring, and segregation of non-conforming cartons, increasing labour requirements and introducing process variability.

The Solution

To eliminate manual weighing and improve production efficiency, Prompt implemented a customized online Checkweigher Solution Prompt WeighSure designed specifically for the customer's packaging line.

Rather than functioning as a standalone inspection system, the solution was engineered as a connected quality control platform combining automated inspection, traceability, analytics, and carton weight printing into a single integrated process.



Solution Highlights

Automated carton weighing and inspection

Real-time weight data logging

Centralized transaction storage

Statistical production analysis

Individual carton traceability

Digital reporting and centralized monitoring

Automatic transfer of weight data to the printer for carton weight printing

By digitizing inspection and quality records, the solution enabled the customer to move beyond pass/fail inspection and gain complete visibility into packaging performance.

Inspection was no longer limited to identifying non-conforming cartons. It became a foundation for traceability, accountability, and data-driven decision-making across the packaging operation.

What Made This Project Unique?

This project required far more than a standard checkweigher installation. The objective was to create a solution that could combine inspection, traceability, weight printing, and operational visibility within the constraints of an existing production environment.

Customized Checkweigher with Printer Integration

To enable automatic carton weight printing, Prompt offered a customized interface that seamlessly integrated the Prompt WeighSure Checkweigher with the Control Print TIJ printer, ensuring reliable real-time weight data transfer.

Space-Optimized System Design

The available installation area offered limited space for equipment integration. To accommodate this constraint, Prompt engineered a compact infeed, weighing, rejection, and outfeed arrangement that fit seamlessly within the existing production space without requiring major modifications to the packaging line.

Enhanced Accuracy & Safety Architecture

To ensure stable weighing performance in a dynamic production environment, Prompt designed a fully enclosed wind-shield system equipped with integrated safety sensors.

The enclosure was specifically developed to:

- Minimize airflow-related weighing fluctuations
- Improve measurement stability and repeatability
- Restrict unauthorized access to moving equipment
- Enhance operator safety around the inspection system

These engineering innovations enabled the successful deployment of a highly reliable, traceable, and production-ready inspection solution tailored to the customer's packaging operation.

Before vs After Transformation

Before	After
Manual Inspection Process	Automated Quality Control System
Manual Records	Digital Reporting & Analytics
Limited Traceability	Carton-Level Complete Traceability
Manual Weight Recording	Automatic Weight Printing
10 BPM Throughput	20 BPM Throughput
5 Operators	1 Operator
±50 g Accuracy	±5 g Accuracy

Turning Accuracy into Measurable Savings

One of the most significant business outcomes of the project was the dramatic reduction in product giveaway losses. By improving weighing accuracy and eliminating the need for intentional overfilling, the solution helped the customer significantly reduce product giveaway from 3.0% to 0.4%.

This improvement not only enhanced packaging consistency but also reduced material losses across daily production volumes, generating **estimated annual savings of approximately ₹1 Crore and helping the project achieve payback within just 2-3 months.**

Business Impact

- 100% increase in packaging line throughput
- 87% reduction in product giveaway
- 80% reduction in manpower requirement
- Complete carton-level traceability
- Real-time visibility into packaging performance and quality metrics
- Payback achieved within 2–3 months



Customer Perspective

"The project delivered benefits far beyond weighing accuracy. Real-time visibility, digital traceability, and automated inspection helped us improve process control, reduce operational losses, and establish a more data-driven approach to packaging quality management."

— *Senior Manufacturing Leader, Leading FMCG Manufacturer*

About Prompt

Prompt is a leading Weighing and Packaging Systems provider company helping manufacturers improve productivity, traceability, and operational efficiency through customized solutions. With expertise spanning inspection systems through process automation, analytics, and connected manufacturing, Prompt partners with organizations across FMCG, dairy, food, and process industries to solve complex operational challenges through practical, cost-effective innovation.

Prompt's approach combines deep process understanding, customized engineering, and responsive execution enabling customers to achieve measurable business outcomes without unnecessary complexity.

Ready to Transform Your Packaging Operations?

Whether you're looking to reduce product giveaway, improve throughput, strengthen traceability, or eliminate manual quality checks, Prompt can help you identify hidden opportunities for operational improvement.

Let's discuss how a customized automation strategy can deliver measurable business outcomes across your manufacturing operations.