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Compliance and Quality Control in Food & Beverage with Grantek's Label Verification Solution

ADVANCING MANUFACTURERS WORLDWIDE WITH DIGITAL SOLUTIONS

GRANTEK

WHITEPAPER

The food industry is one that requires strict adherence to regulatory compliance and quality control measures. Moreover, the slightest negligence in these areas can lead to severe foodborne illnesses and product recalls, which negatively affect both consumer trust and brand reputation. As a market leader in providing industrial automation solutions, Grantek is well-equipped with the capabilities and CSIA certification to address the challenges faced by the food industry. In this whitepaper, we will explore how Grantek's Label Verification Solution offers food manufacturers an innovative and effective way to ensure regulatory compliance and quality control while enhancing overall efficiency.

INTRODUCTION

WHAT

Automated Inspection System

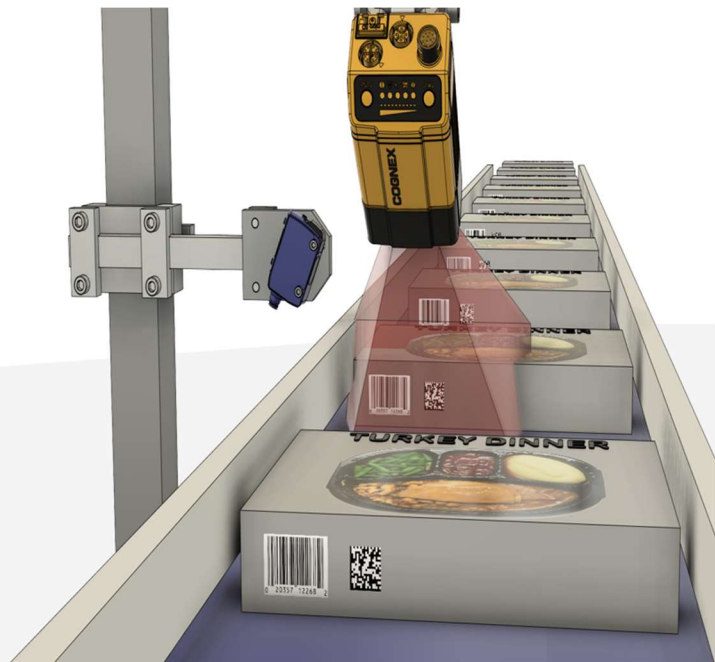
- Verifies that the correct packaging is on the line

WHO

Food and Beverage / CPG manufacturers with allergen or mislabeling recall risks

WHY

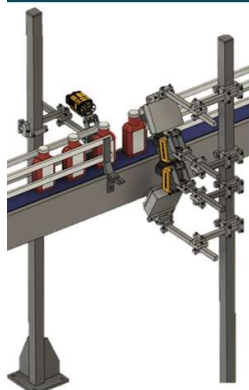
Eliminate packaging-based recalls



LABEL VERIFICATION

HOW DOES IT WORK?

1002000212313 – 16 OZ OIL VNGR TMTO (BOM from ERP)



- 420012306020 16 OZ RANCH NECK LBL (LINE STOP)



- 420012300000 16 OZ FRNT LBL OIL VNGR TMTO



- 420012300080 OZ CASE OIL VNGR TMTO



Automated Product Validation using Real-time Live Images

Real-time live image validation technology enables automated inspection of product labels and packaging by capturing high-resolution images and processing them with intelligent algorithms. This

method of validation offers numerous benefits over traditional validation methods, such as manual inspection or sampling techniques. By automating the product validation process, food manufacturers can significantly reduce human error, increase efficiency, and ensure accurate label verification at high speeds.

LABEL VERIFICATION

HOW IT WORKS

As a CSIA certified control system integrator, Grantek knows that automated product validation is critical to regulatory compliance and quality control. Real-time live images, stored missed images, and an intuitive user interface provide maintenance and operators with all the information needed for seamless integration into any existing production line, or as part of a new installation. Our solution is in alignment with American & Canadian regulations, helping you mitigate the Food Safety risk with undeclared allergens.



BARCODES

Readers scan barcodes, which represent that packaging component's material number



OCR / OCV

Optical Character Recognition & Optical Character Verification



PATTERN MATCHING

Where barcodes are not possible, the camera looks for a pattern unique to that packaging

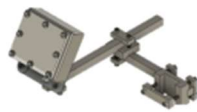
Coordinating Enterprise-wide Rollouts for High Standards

Maintaining uniform quality standards and regulatory compliance practices across multiple production sites can be challenging for food manufacturers. However, with Grantek's Label Verification Solution, companies can streamline the implementation of these processes within their facilities. Grantek has extensive experience in coordinating enterprise-wide rollouts of automated solutions, ensuring smooth integration and adherence to the relevant regulatory compliance requirements. This coordinated approach reduces production downtime and minimizes the risks associated with compliance discrepancies across different sites.

“GRANTEK CAN SOLVE LABEL VERIFICATION ACROSS YOUR ENTIRE ORGANIZATION “

GRANTEK CAN PROVIDE LABEL INSPECTION FOR:

- On Film Inspection
- In-line Inspection
- 360 Degree Inspection
- 1D or 2D Barcodes
- Defect Detection
- No Barcode - Pattern/OCV
- High Speed Applications
- Code Date Content and Quality



Compliance with American and Canadian Regulations

Granttek's Label Verification Solution is designed to meet food safety and quality control regulations enforced in both the United States and Canada. These regulations require manufacturers to prevent risks related to undeclared allergens in their products, a concern that can be effectively addressed by the system's real-time live image validation technology. By deploying this solution, food manufacturers can confidently ensure that their products comply with the regulatory requirements while minimizing potential risks associated with undeclared allergens.

COMPONENTS & DETAILS

REPORTING CONCEPTS



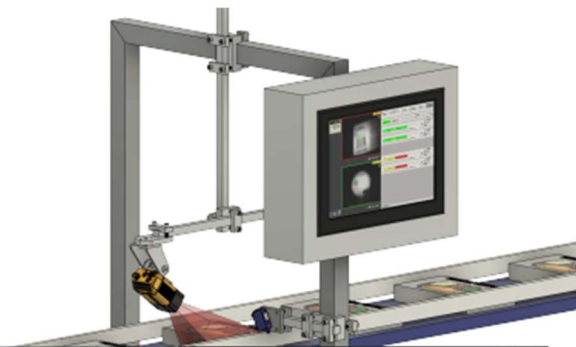
LINE OVERVIEW



LINE PERFORMANCE



POWER BI



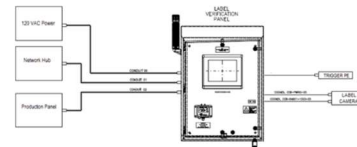
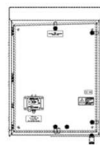
Customization and Flexibility offered by Grantek's Solution

One of the most significant advantages of Grantek's Label Verification Solution is its flexibility and customization capabilities, ensuring that a minimal loss of plant footprint is experienced during the implementation process.

OUR COMPLETE SOLUTION FOR LABEL VERIFICATION CAN PROVIDE:

- 01 LABEL VERIFICATION**
Verification of any 1D or 2D barcode from UPC to Data Matrix to Code 128. Expertise with full vision toolsets allows for label verification even on packaging without any barcode.
- 02 CODE DATE INSPECTION**
Grantek can seamlessly integrate code date or serialized on-demand printing inspection as part of a full packaging validation solution.
- 03 DEFECT DETECTION**
The flexibility of our solution allows for integration of full machine vision toolset cameras for defect detection, including: over/underwrap, carton counting in bundles, or improper/damaged packaging.
- 04 CUSTOMIZATION**
Industry standard PLC, HMI, and vision hardware allows for full customization of functionality, user interface, run rules, line interface, and reject control.
- 05 SKU MANAGEMENT**
Integration with other systems to provide SKU lists, BOM's automatic SKU selection/line changeover or web-based SKU management and local changeover where other systems are not available.

OPEN ARCHITECTURE



REUSABLE ENGINEERING

- Label Verification Panel acts as Operator and Control Center
- Interface to Camera(s), Reject(s), Plant Network, and Production Lines



FLEXIBLE

- Communication with Production Lines over Discrete I/O or Ethernet/IP
- Communication with all Cognex Models
 - Dataman for Barcode Reading
 - InSight for More Complex Inspections



OFF-THE-SHELF INDUSTRY STANDARD HARDWARE

- Fully Customizable
- Easy to Stock and Support
- Industry Standard PLC/HMI
- Cognex Vision Hardware

The system employs PLC, HMI, and vision hardware, which can be tailored to address the specific functionality requirements of a facility. Additionally, the customizable user interface, run rules, line interface, and reject control options enable seamless integration into existing production lines.

MES Integration

Incorporating MES system integration into your production process can greatly enhance efficiency and streamline operations. Imagine having automatic SKU selection at your fingertips, resulting in quicker and more accurate inventory management. Alongside this, you would have the added benefit of historical reporting, providing valuable insights into past performance and trends. To further ensure product quality, cutting-edge defect detection can identify faulty items, while code date inspection keeps track of expiration dates. Combining these features simplifies your workflow, allowing you to focus on improving and growing your business.

Conclusion

The adoption of automated solutions, such as Grantek's Label Verification Solution, is crucial for ensuring regulatory compliance and quality control in the food industry. This system not only addresses the stringent food safety regulations enforced in the United States and Canada but also offers a customizable and flexible solution that minimizes production downtime and enhances efficiency. By integrating such innovative technology into their operations, food manufacturers can mitigate risks associated with non-compliance and maintain a strong reputation for delivering safe and high-quality products.

For over 40 years, top manufacturers in Food & Beverage, CPG and Pharmaceuticals have called upon Grantek to solve their most complex business and manufacturing challenges. Grantek automates Pharmaceutical and Food & Beverage manufacturing operations, including integration with business systems for seamless solutions. Grantek helps customers meet the stringent requirements and challenges of the 4th Industrial Revolution. Grantek's team of professionals located in 9 offices across the globe deliver solutions in Smart Manufacturing, Manufacturing Automation and Industrial IT/Cybersecurity as well as Manufacturing Consulting services. Call 866.936.9509 or email info@grantek.com to learn more.