



Maintain Quality, Mitigate Waste During Manufacturing with Digimarc

The Digimarc Platform enables automatic verification of packaging components in high-speed production



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OVERVIEW

Maintaining consumer trust starts with making sure that the correct product goes in the right package every time. And, quickly verifying the accuracy of labels, stickers or wrappers is vital to limiting production line downtime. Precision lessens the need for tedious manual verification, and reduces costly product recalls that can erode the confidence of consumers and shareholders.

Consumer brands need better automatic identification solutions to control quality during production.

Digimarc delivers a powerful solution that enables industry-leading inspection systems to reliably and accurately detect Digimarc Barcode in high-speed environments, helping uncover errors quickly in the parts-matching process to cut waste, save time and money. Testing with a major consumer packaged goods (CPG) manufacturer showed increased read rates, and even small improvements can mean significant savings at large scale. A survey of manufacturers by *Packaging World* magazine sponsored by Digimarc and Datalogic revealed that 52 percent shut down production lines for mislabeled products at least once a month, and 26 percent estimate that up to 5% of final products are mislabeled.

Many manufacturers use two-dimensional DataMatrix codes and high-speed inspection systems to automatically match the proper component parts during production. However, DataMatrix codes detract from the visual appearance of the product and brand, and efforts to minimize their visual impact by reducing their size increases the challenge to accurately read them at production line speeds. Digimarc Barcode is imperceptible to most consumers but detectable by cameras and sensors, offering brands the ability to benefit from automated inspection without impacting packaging appearance.

Digimarc Barcode also enables auto-identification of small, specialty labels on which DataMatrix and other visible codes are impractical due to space constraints. This unique capability allows automatic detection of parts that are otherwise manually verified – a difficult task in production facilities filling hundreds of boxes or bottles per minute. At those speeds, it takes only moments to quickly affect thousands of products when incorrect labels are loaded in production line machinery. If accidents are discovered in the plant, the cost of cleanup can be high. If not, the cost in damage to the brand can be incalculable.

Precision is crucial to cutting costs, and the Digimarc Platform delivers reliable, efficient auto-identification that provides certainty for brands and the consumers who trust them.

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“More than half of FDA recalls involve the mislabeling of products.”

— U.S. Food & Drug Administration (FDA), 2017 Recalls, Market Withdrawals & Safety Alerts

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BENEFITS

Quality Control

- Digimarc-powered automatic identification quickly verifies individual component parts matching during production to ensure products and packaging components are assembled properly.

Improved Accuracy

- Digimarc Barcode provides greater data coverage by putting data in more places and delivers robust data redundancy that improves the chances for accurate detection. In addition, Digimarc Barcode is less susceptible to problems with glare and acute angles compared with small visual codes for better read rates during production.

Flexible Configuration

- Because Digimarc Barcode offers better data coverage and redundancy, manufacturers can more flexibly configure high-speed inspection systems by pointing cameras in more areas for greater options.

Mitigate Waste

- Digimarc offers an unparalleled ability to automatically monitor even small product labels that frequently must be manually verified, reducing the cost of inefficiency and more rapidly identifying errors that may result in the wasteful disposal of incorrectly labeled products.

Reduce Recalls

- Automatically detecting errors prior to distribution is crucial to curbing costly product recalls. Food recalls cost companies an average of \$10 million in direct costs alone, according to the Grocery Manufacturers Association.

Improved Aesthetic

- An integral element of the artwork, Digimarc Barcode is imperceptible to most consumers. Yet, its detection by enabled hardware gives brands the power of automatic identification for parts matching during production, all without marring the appearance of packaging with visible codes that detract from the crucial first moment of truth.

Additional Functionality

- The Digimarc Platform also delivers value beyond production and throughout the entire packaging lifecycle compared with alternative technologies intended for a single purpose during manufacturing. Digimarc Barcode can also be used for direct interaction with consumers who scan Digimarc-enhanced packaging with an enabled mobile phone, a capability DataMatrix and many other visual codes cannot match. In addition, the data redundancy delivered by Digimarc Barcode results in more efficient scanning at retail checkout, providing important functional use beyond the factory and boosting the appeal of your brand with retail partners – a critically important competitive advantage.

SOLUTION DETAILS

With the Digimarc Platform, manufacturing customers receive:

- Digimarc Barcode for packaging containing an asset identifier (GTIN+)
- File enhancement and quality management services by Digimarc Client Services
- Licensed access to Digimarc Embedded Systems firmware for inspection systems
- Custom set up report with detailed camera focus target recommendations
- For pricing, please contact your Digimarc account representative or info@digimarc.com

HARDWARE SUPPORT

Fixed-mount barcode readers enabled with Digimarc software can achieve extraordinarily accurate read rates for product labels enhanced with Digimarc Barcode. Digimarc is collaborating with Cognex and our technology has been integrated by Datalogic, among the largest scanning hardware manufacturers.

The Digimarc Platform is compatible with the following industry-leading inspection systems:

- Cognex DataMan® 262
- Datalogic MATRIX 120™
- Datalogic MATRIX 220™
- Current list of expanding providers: www.digimarc.com/enabled-hardware

USE CASES

The ability for brands and manufacturers to instantly, accurately and automatically identify Digimarc Barcode-activated labels, wrappers, plastics and other packaging components enables powerful future applications for:

- Automated Warehouses
- Pick & Pack Fulfillment
- Robotic Inventory Management
- Logistics Automation

GET STARTED

Visit www.digimarc.com/manufacturing to learn more about Digimarc solutions for consumer brands, and get started by contacting 1-800-DIGIMARC or info@digimarc.com.

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Digimarc Corporation (NASDAQ: DMRC) is a pioneer in the automatic identification of everyday objects such as product packaging and virtually any media, including print, images and audio. The Digimarc Platform provides innovative and comprehensive automatic recognition technologies to simplify search, and transform information discovery through unparalleled reliability, efficiency and security. Digimarc has a global patent portfolio, which includes over 1,100 granted and pending patents. These innovations include state-of-the-art identification technology, Digimarc Barcode, as well as Digimarc Discover® software for barcode scanning, image recognition, as layers of its ground-breaking Platform. Digimarc is based in Beaverton, Oregon. The Digimarc Platform enables applications that benefit retailers and consumer brands, national and state government agencies, media and entertainment industries, and others. Visit digimarc.com and follow us @digimarc to learn more about The Barcode of Everything®.