

# Digimarc + Omron

Modernizing Digital Product  
Identification in Industrial Automation  
with Digital Watermarks



**OMRON**

**DIGIMARC**

## Modernizing Digital Product Identification in Industrial Automation with Digital Watermarks

The [Digimarc + Omron](#) industrial automation solution is designed to combat the challenges currently faced by manufacturers and brands striving to stay competitive, adapt to changing market conditions, and meet the requirements of high-quality, sustainable, customized products. There is increasing need for automated control and quality checks in several critical areas, including:

- Preventing incorrectly matched components and mislabeled finished products
- Increasing the overall speed and accuracy of manufacturing
- Streamlining the distribution and fulfillment of packaged goods
- Enabling the recovery of packaging materials after use by consumers

Failure to address these challenges results in added cost and lost efficiency but can also have more serious consequences. For example, labeling mix-ups have caused products to be shipped without proper disclosure of allergens like soy, wheat, and peanuts – posing real health risks and resulting in expensive recalls.

Innovative production processes are helping manufacturers and brands address these critical areas delivering increased efficiency, helping ensure quality and regulatory standards are met, and providing actionable and real-time data insights.

### The Solution

Digimarc + Omron's innovative approach to digital product identification represents a transformative new force in industrial automation. With expertise spanning more than four decades, Omron's industry-leading machine vision technology and Digimarc's experience in [digital watermarking](#) come together to modernize production processes in exciting ways.

With new capabilities unlocked through the partners' joint solution, machines can identify, inspect, and initiate track and traceability features quickly and accurately, often at remarkably high speeds. As a result, brands and manufacturers achieve significant improvements in efficiency, quality, traceability, security, and compliance across industrial operations. The powerful combination of industrial automation expertise and advanced digital watermarking technology introduces a fully integrated solution to modernize industrial facilities, while meeting the demands of increasingly stringent regulatory standards and customer expectations.

Together Digimarc + Omron deliver an innovative industrial automation offering that improves accuracy and reduces waste and inefficiency in production, fulfillment, and distribution facilities by delivering superior automated inspections compared with traditional codes or manual human spot checking. This includes the capture of real-time data that can be collected, stored, and analyzed to derive actionable insights for optimizing operations.

## Solution Overview

1. **Enhance:** Embed digital watermarks into product labels and substrates. Digimarc digital watermarks are added to existing artwork files and printed using existing print processes, without the need or cost of adding specialty inks or new materials.
2. **Detect:** The [Omron FH Vision System and FHV7 Smart Camera](#) offer advanced digital watermark detection capabilities in addition to standard vision tools. Unlike other methods, these systems are quick and simple to configure for digital watermark inspection, as precise alignment or positioning of the product is not required.
3. **Identify:** Once activated, Omron detects the digital watermarks and identifies any product mixing issues. Detection rates are vastly improved across many packaging shapes and types compared to traditional inspection solutions.
4. **Collect:** Real-time data and insights create a digital connection to physical products and unlock the ability to foresee problems before they escalate.



## Key Features

- **Automated Quality Control Checks:** Minimize human error and prevent incorrect matching of finished product components or mislabeling. Advanced inspection systems like Omron and digital watermarks can detect defects more accurately than human inspectors.
- **Sustainable Packaging Solutions:** Enhance environmental sustainability by optimizing resource use and reducing waste. i.e. Removal of shrink sleeves can lead to more sustainable packaging, reduced carbon footprint, and lower packaging costs.
- **Precise Order Fulfillment and Distribution:** Provides the necessary identification on the production line environment, making codes more easily readable by inline scanners/cameras, even at high production speeds.
- **Post-Consumer Material Identification:** Reliable, automatic identification of packaging collection and materials entering material recycling facilities (MRFs), while generating sustainability metrics.

## Benefits

- **Reduce Production Waste and Mixing:** Automates quality control checks in manufacturing facilities to prevent incorrect matching of finished product components or mislabeling.
- **Reduce Labor and Increase Speed of Goods Processing:** Automates the processing, sorting, and shipping of packaged goods to fulfill orders from production and fulfillment to distribution.
- **Improve End-of-life Identification and Sortation:** Automates the identification of packaging collection and materials entering material recycling facilities (MRFs) and generates sustainability metrics.
- **Better Data Collection and Analysis:** Improves inventory management by providing real-time tracking and forecasting to ensure materials are available when needed, reducing downtime and inventory holding costs.

## Digimarc + Omron – A Powerful Combination

Throughout the product lifecycle, from incoming goods to waste recovery, Omron provides a solution for agile manufacturing, distribution, fulfillment, and enduring quality and traceability of products and packaging. Omron is the go-to solution for any machine vision application, able to offer products for triggering, panel products, machine control, and vision inspection. With advancements in inspection systems coupled with increased computing capacity it has opened the door for a newer and superior method of product identification in the form of digital watermarking.

[Digimarc Automate](#) is a quality assurance solution that ensures physical goods are manufactured using digital watermarks — a hidden signal — that can be read deterministically without error at production speeds. Unlike QR codes and other visible symbologies, Digimarc Automate does not alter the appearance of the physical good, can be reliably read at high production speeds, and has low to no error rates. Digimarc Automate helps companies that manufacture and sell physical goods deliver on demands for increased consumer product safety and sustainability.

## Conclusion

The complementary strengths and capabilities between Digimarc + Omron will deliver innovative solutions that address the evolving needs of the manufacturing industry, drive operational efficiency, and enhance product integrity and security. The partnership between [Digimarc](#) and [Omron](#) will transform the path to modernize industrial automation.