

Fighting the battle against brand counterfeiting and diversion

Coding and marking technology can provide a whole new level of visibility and tracking to your supply chain, empowering you to better fight the costly battle against counterfeiting and diversion.



Mimicry is often considered a form of flattery, but not when it means theft of your brands. With the profitable allure of globally-coveted brands it is no wonder that cosmetic, personal and home care products are often at the risk of counterfeiting. Aside from the potential loss of profitability is the threat of brand equity loss and erosion, neither of which are good for business. Add the act of diversion and its menacing drain on profits – for both you and your distribution partners – and the battle being waged is evident.

Managing these risks can be difficult, but with technology comes new opportunities to help you win the fight.

With easy-to-use coding solutions by Videojet, you can build a stronger foundation in support of your existing supply chain efforts. Smart coding enables far greater visibility to better protect your brands and your profitability.

This guide provides straightforward ways to utilize coding solutions to better track and audit the movement of your products and ultimately make it more difficult for others to steal your profits.



Contents

Counterfeiting and diversion steal your profits	3
The best protection: a multi-layer approach	4
Brand protection solutions	5
Solutions:	
Smart coding	6
Overt coding	7
Covert coding	8
Supply chain visibility	9
Software	10
Sample solution	12
5 steps to enhance brand protection	14

Counterfeiting and diversion steal your profits

Counterfeiting and diversion are costly, critical issues for cosmetics, personal and home care products that erode profits while tarnishing brand image, damaging consumer trust as well as threatening channel partner relationships.

Smart coding can provide greater visibility into your supply chain and help protect your profits.



Product counterfeiting, or the illegal reproduction of branded goods, often occurs with multi-national brands which are produced in multiple countries or locations.

Diversion is the sale of authentic goods outside of legitimate channels such as salon-only products being sold in mass-market retailers.

While estimates vary, reports agree that counterfeiting and diversion of cosmetics, personal and home care products is an increasing global problem. Both counterfeiting and diversion can impact any consumer brand and results in:

- Damage in brand equity and consumer trust
- Undermining of established distribution channels
- Potential risks to consumers
- Lost revenue and profits

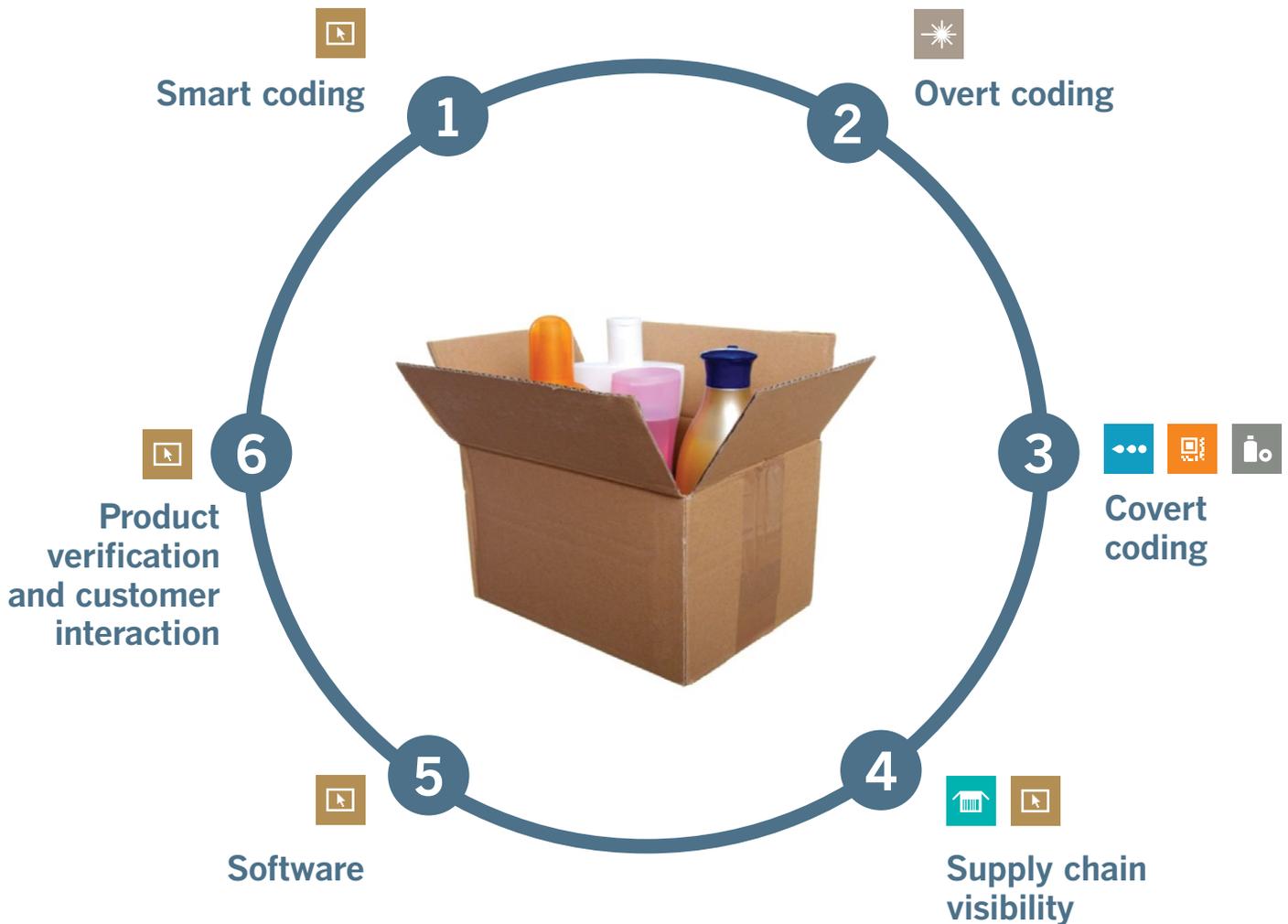
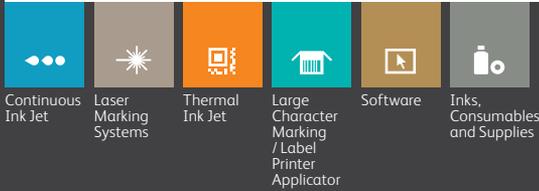
Protecting your profits from counterfeiters and those diverting your product can seem daunting because enforcement can be a challenge.

Digital marking and coding solutions enable cosmetics, personal and home care manufacturers to be proactive by implementing simple brand protection defenses.

The result? Such solutions, including smart coding, give you greater visibility and control – allowing you to audit and enforce anti-counterfeit and diversion activities throughout your supply chain.

The best brand protection: a multi-layer approach

Advanced digital coding solutions combined with integrated tracking software provides you with a daily view of your supply chain, making counterfeiting and diversion trackable.



Brand protection solutions

A combination of coding technology and software is the best approach to minimize losses from counterfeiting and diversion.



1

Smart coding

Enhance basic lot or batch codes by altering and verifying specific characters in the codes using algorithmic software to make the code more difficult for unauthorized parties to replicate

2

Overt coding

Sophisticated packaging with permanent and high-quality visible codes to instill brand confidence and prevent code removal

3

Covert coding

Invisible code for distribution partners helps identify product that may enter unauthorized channels

4

Supply chain visibility

Clear printing of bar codes and aggregate product information on shipping cases to help enable tracking and ensure supply chain efficiency

5

Software

Software interface helps ensure tracking of all products throughout the supply chain, providing traceback information from production through distribution

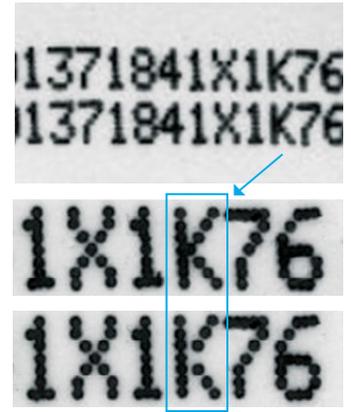
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Product verification and customer interaction

Encouraging channel partners and consumers to register overt codes online allows confirmation of product authenticity and promotes brand interaction. It also helps to provide brand protection and enables various brand promotion and loyalty programs.

Smart coding

Generate unique single item product codes for individual products on your line - often using the same digital coding technology you use today.



Smart codes, which are difficult to emulate by unintended third parties, are an important foundation to an effective counterfeit and diversion prevention system.

Preventing counterfeiting and diversion is challenging. Participants in gray and black markets often will take drastic measures in order to reproduce or resell your products for a profit. However, smart coding can help make it easier for authorized vendors to guarantee authenticity of your product.

Including a permanent lot or batch code somewhere on your product is the first step of protection. Smart coding takes a basic lot or batch code further by altering and verifying specific characters in the code, making it more difficult for unauthorized parties to copy. Below are a few ways to add more security to the lot or batch codes you already print today:

Videojet IMprints™ CodeMaster patented software generates fully random codes, derived codes and incorporates Electronic Product Code (EPC) structures, or administers codes pre-generated from outside sources, enabling tracking of each unit of product throughout the supply chain system.

IMprints smart coding

- Driven algorithmically
- Impossible to replicate without knowledge of algorithm and keys
- Easy to implement, with minimal incremental production costs
- Able to be aggregated for multiple layers of verification and traceability

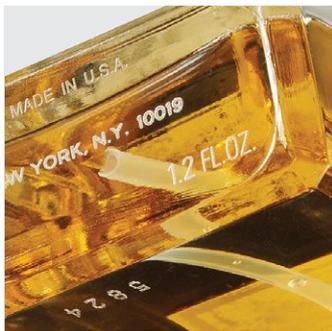
Smart Coding Technique	What it is	How it works
Self-verifying codes	These codes follow some type of pre-determined rule or pattern such as the digits adding up to a specific number or certain digits multiples of one another	A basic way to provide your supply partners with a visual check if the product they received is authorized
Interleaved marking	Two or more programmatically selected characters within an alphanumeric code partially overlap	Only accomplished with custom software on both the printer and controller, interleaved marking provides additional code protection because it is easily viewed but is difficult to replicate
Dynamically altered font	Software generated codes with small segments of different letters or numbers missing to create unique codes on each product	Subtle and therefore difficult to recognize by an untrained eye, dynamically altered fonts can still be visually inspected by supply chain partners to prove authenticity of a product
Verifiable code	Codes created by unique software-driven algorithms which can be scanned and tracked with visions systems throughout the supply chain	Impossible to replicate without knowledge of the algorithm and keys, verifiable codes add a unique fingerprint to each item

Overt coding solutions

Visible, clear, and permanent codes with laser marking systems.



Visible codes are an important layer of defense against counterfeiting and diversion.



Ideal overt codes are permanent to prevent removal by unauthorized parties. Laser marking systems can provide high quality permanent codes on many package types.

How laser marking systems work

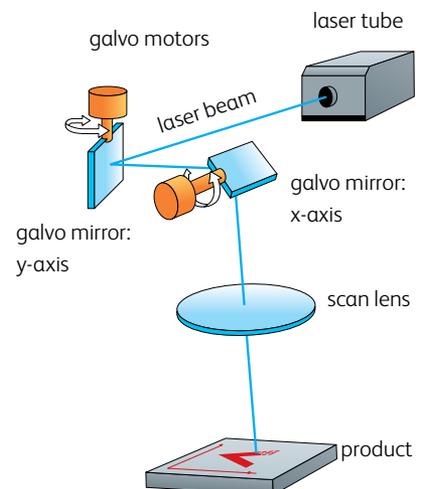
Using an RF signal, carbon dioxide (CO₂) is stimulated electronically inside the laser tube, generating a laser beam. When the laser beam is focused or steered onto the packaging material by a series of galvo mirrors through a lens, the beam is absorbed and heat develops. Codes marked with the steered laser beam are solidly filled.

Depending on the packaging type, laser technology converts the heat generated from the beam into a mark on the product:

- Color change from chemical reaction
- Engraving from melting, burning or cracking the top surface layer
- Ablation or removal of the surface coating or decorative paint of a package creates contrasting colors

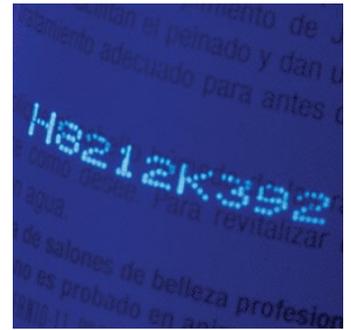
Laser codes are an ideal overt coding solution for brand protection:

- Permanent codes cannot be removed by unauthorized channels
- High quality marks help enable clear smart coding techniques and instill brand confidence with customers
- Additional text, logos, bar codes, graphics and other information can be added to enhance protection
- High reliability and price / performance ratio



Covert coding solutions

Hidden coding adds additional security and protects sensitive information.



Covert coding is concealed from consumers but visible to distribution channel partners with specialized readers.

Ultraviolet (UV) and infrared (IR) inks

An unobtrusive solution for coding and tracking products through the supply chain, invisible fluorescing inks create discrete fluorescing codes and brand information that are only visible under UV or other high frequency lighting.

UV and IR ink codes can be printed with Continuous Inkjet and Thermal Inkjet technology and are easy for channel partners to read with available vision technologies.

Covert coding is also an ideal solution for packages with limited package 'real-estate' or prominent branding.

DataMatrix coding

DataMatrix codes are two-dimensional bar codes consisting of black and white cells arranged in a square which can be encoded with text or numeric data.

DataMatrix codes are a powerful brand protection tool because they can store important supply chain and production information. When added to the package before production, additional data about each product can be tracked at each stage of production and distribution.

Continuous Inkjet and Thermal Inkjet technologies are ideal solutions for printing DataMatrix codes with either UV/IR, colored or standard black ink.

“UV and IR codes can easily be combined with unique numbering schemes to add an additional layer of brand protection.”

**Dr Mike K.
Ph.D.**

Videojet Lead Chemist
Personal care, wire and cable high contrast, security, UV cure



Supply chain visibility

Large character inkjet marking (LCM) enhances shipping cases.



Customized shipping cases can prevent unauthorized activity in your supply chain.

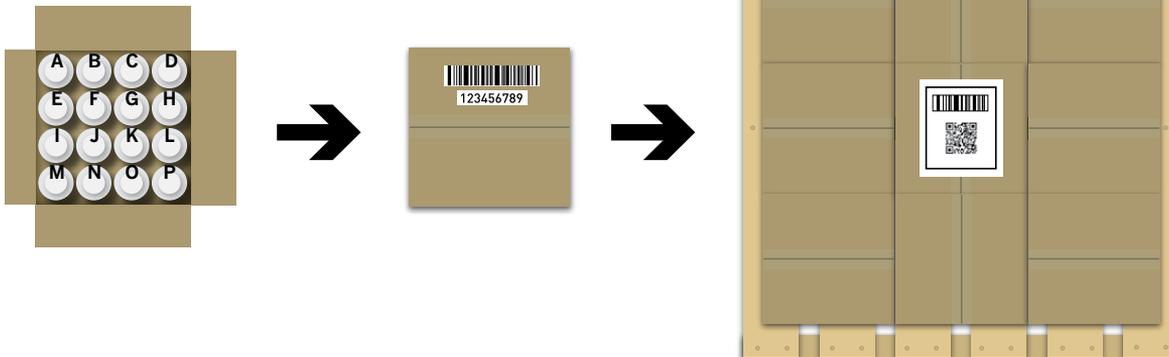
Printing a bar code on shipping cases helps enable full tracking of goods in a supply chain system. Combined with Videojet software, when a shipping case bar code is scanned by a authorized retailer, receipt information is electronically recorded and provides you with more robust supply chain visibility.

Software enables continuous monitoring of each item, carton and shipping case as it moves through the supply chain. This aggregation process is made possible by the smart coding added and verified at each step of the packaging process and helps enable product verification without opening the shipping container. And by coding on the outside, clear identification can be made without having to look on the inside.

Large character inkjet marking (LCM) can print high resolution images and codes on shipping cases with consistent print quality. Unlike other contact or label printing technologies for case coding, LCM is a reliable and cost-effective way to print high-quality information directly to shipping cases.

Adding bar codes, logos and specialized distribution information on shipping cases adds confidence to distribution partners and helps prevent unauthorized goods from entering legitimate retail channels.

Case coding makes it possible to effectively identify, date, inventory and track all items as they move through the supply chain. Supply chains, which are sensitive to counterfeiting or diversion abuse, can use this simple verification of authorized information in a bar code to prevent legitimate retailers from accepting unauthorized goods.



Videojet IMprints™ Software Suite



Combining advanced coding technology with integrated software solutions enables you to know where each product you have produced is... all on one screen.

Coding

Generates, imports and administers unique codes for tracking, security and product lifecycle management purposes. Extremely scalable.

Production line management

Interfaces with and controls key elements on production line, including a wide range of printing systems for code application and vision system verification. Supports unlimited levels of aggregation and transaction interface with downstream material handling and packing systems.

Distribution

IMprints captures product movement and fulfillment transactions and ties product shipment to specified destinations. Integrates to various warehouse management and supply chain systems.

Data

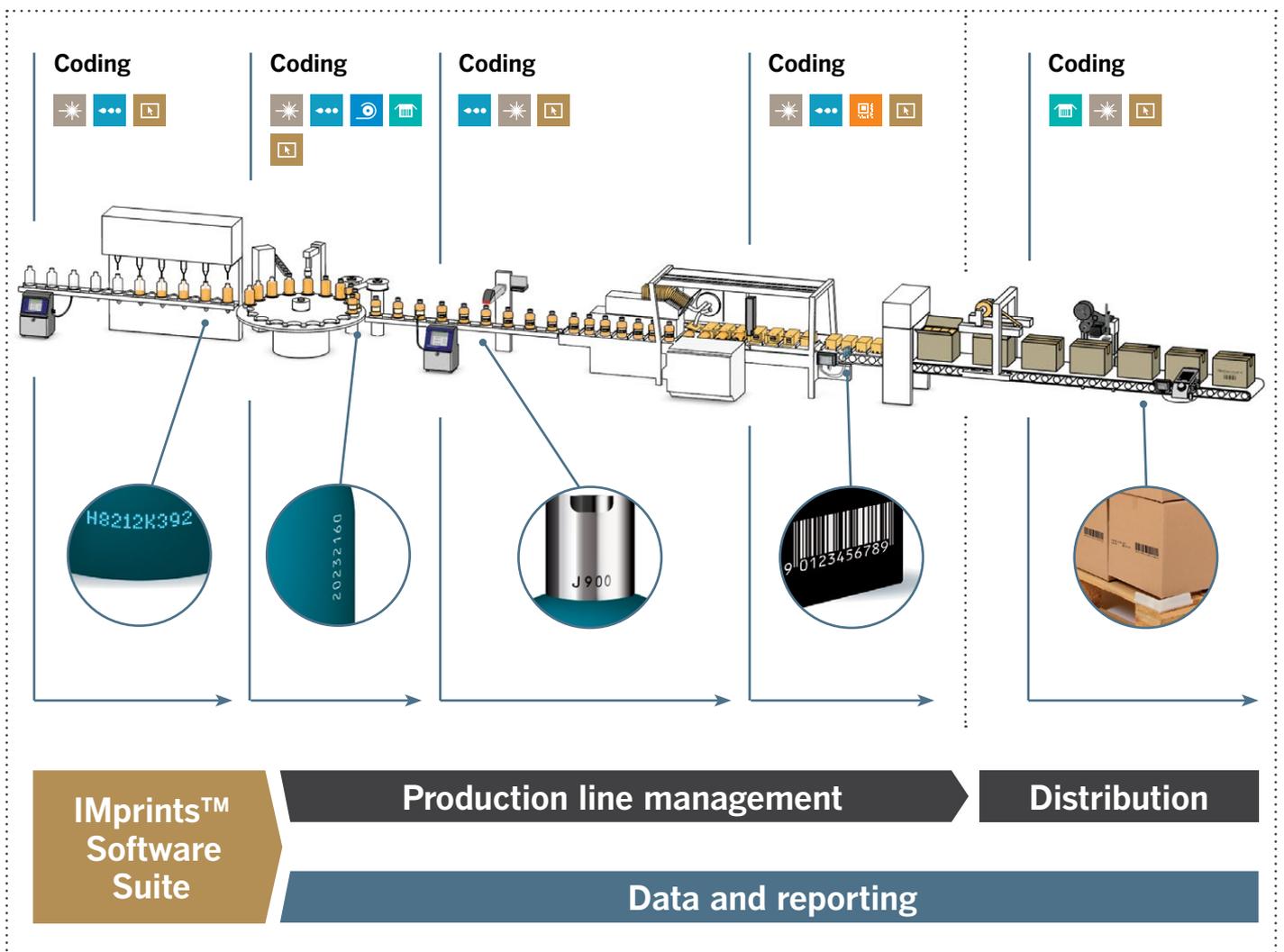
Provides collection point of item data for interface and exchange with resident ERP or other management systems. Configurable automated data upload and flexible formatting for various enterprise system needs.

Reporting

Enables full display of tracking history by product, anti-counterfeit feature, aggregation and other information in the web-based reporting tool.

Line management and supply chain visibility software

Software enables smart code creation, validation and product tracking, from production to destination.



Sample solution: salon products

Leading global high-end personal care products producer combats diversion with a multi-layer brand protection approach.



In addition to helping prevent both counterfeiting and diversion, the solution increased manufacturing efficiency and reduced shrinkage.

Customer challenge:

A manufacturer of high-end personal care products goes to market through an exclusive network of franchise-operated salons. Some salon owners can violate their distribution agreement by reselling to unauthorized mass retail outlets, diminishing the brand image and creating dissatisfaction within the legitimate sales network.

Solution:

Implementation of a multi-layered brand protection system to track and trace their products utilizing item-level, unique DataMatrix codes and layered packaging aggregation to enable inventory audits throughout the supply chain. The Videojet IMprints™ Software Suite supports the entire system from generation of unique codes and packaging line aggregations to the web-based authentication interface.

Results:

Utilizing a combination of transaction data and shipment data captured by the Videojet IMprints™ solution, the high-end personal products company has improved their channel control and relationships. They have full supply chain visibility and can identify instances of diversion and address violations in a fact-based manner. As a result, they have improved relationships with several channel partners resulting in a decrease of product diversion through unintended market channels, saving them money and re-establishing the brand prestige.



Approach: Multi-layer coding and software

Covert coding:

Serialized GS1 DataMatrix codes are applied with UV ink to the top of each bottle. Each include a Global Trade Item Number (GTIN), batch number, serial number, and production time and date.

Smart coding:

A smart code with a subset of the DataMatrix information is created in a human readable forms with at least one altered or mangled character using Videojet's proprietary scrambling algorithm

Overt coding:

The newly created smart code is added to the side of each bottle using laser marking technology to ensure permanence and readability

Supply chain visibility:

As the bottles are packed into a case, a camera captures the GS1 DataMatrix code information of each bottle and a summary is printed on the shipping case.

Software:

IMprints™ software captures all of the code data created and aggregates their relationship in a single file so that a clear record is created of each product, with separate smart code, in its designated case. Aggregated codes include:

- 1) the DataMatrix code
- 2) the laser smart code
- 3) the shipping case code

The data is then automatically uploaded to a Videojet hosted web server for easy review.

Product verification:

Shipping cases are sent to one of many distribution centers and stored until a specific salon order is received. When salon orders are filled, the DataMatrix codes are scanned and added to the IMprints™ shipping manifest to record their intended destination. Monitoring of the system quickly identifies missing product or shipments to unauthorized retail outlets. If product is found in an unauthorized outlet, their codes are entered into the IMprints™ web site which returns a customized report showing the history of that particular code, including the last authorized recipient.

5 steps to enhance brand protection

Combating counterfeiting and diversion is difficult. Legislation and enforcement is often protracted, expensive and hard to enforce. Pre-printed security packaging generally requires significant investment and is eventually uncovered and copied.

At the same time the cost of counterfeiting and diversion can be high: erosion of brand equity and trust, difficult channel partner relationships, increased liability and lost revenue and profit.

Be proactive. Follow the below steps to help ensure that your brands are protected.

1

Identify effective yet inexpensive ways to audit your products in the field.

Monitoring your supply chain is a fundamental way to keep your brands protected. Smart coding allows you to set-up and enforce simple checks in your supply chain system. These could include bar code verification of shipments, code audits and regular reporting – none of which has to be expensive or complex. Integrating software into your digital coding systems can increase supply chain visibility and help alert you to undesirable deviations.

2

Add smart coding to your high-value products.

Both overt and covert coding solutions are effective and cost-efficient options to help ensure that your products can be identified, tracked and validated throughout the supply chain. While just printing a batch or lot code on your product is a first defense, smart coding adds protection through visual or verifiable security features.

Advanced coding technologies and software can help prevent counterfeiting and diversion and enhance your supply chain visibility.



3

4

5

Create a multi-layered brand protection system that fits your product needs over time.

A robust, multi-layered brand protection strategy may include package design, smart coding, and product tracking software. A multi-layered approach does not have to be complex or built in a day. Only implement parts the system which are required for your supply chain. With a wide range of different brand protection software and digital coding technologies, it is possible to easily create a custom solution for your packaging that can evolve over time and help you stay ahead of threats to your brand.

Invest in solutions that leverage your current systems and will make the biggest impact.

Integrate your digital coders into a supply chain tracking solution that you can monitor based on your needs. With the right tools, you can control your supply chain better, and help deter counterfeiters or unauthorized retailers. Brand protection systems can also enable additional marketing benefits, such as providing new and innovative ways to connect with your customers.

Engage an experienced digital coding technology partner who offers a wide range of solutions and brand protection experience.

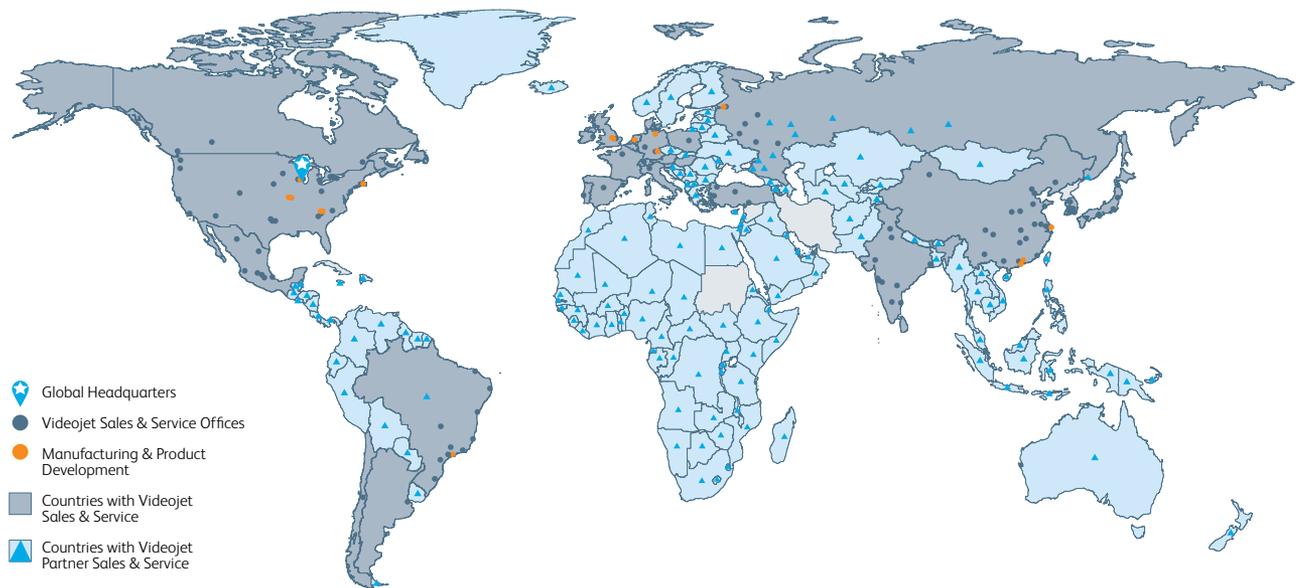
Videojet is a leader in both advanced digital coding technology and brand protection software with over 3,000 global team members to help develop and maintain the right brand protection solution for your brands.

Peace of mind comes as standard

Videojet Technologies is a world-leader in the product identification market, providing in-line printing, coding, and marking products, application specific fluids, and product life cycle services.

Our goal is to partner with our customers in the consumer packaged goods, pharmaceutical, and industrial goods industries to improve their productivity, to protect and grow their brands, and to stay ahead of industry trends and regulations. With our customer application experts and technology leadership in Continuous Inkjet (CIJ), Thermal Inkjet (TIJ), Laser Marking, Thermal Transfer Overprinting (TTO), case coding and labeling, and wide array printing, Videojet has more than 325,000 printers installed worldwide.

Our customers rely on Videojet products to print on over ten billion products daily. Customer sales, application, service and training support is provided by direct operations with over 3,000 team members in 26 countries worldwide. In addition, Videojet's distribution network includes more than 400 distributors and OEMs, serving 135 countries.



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