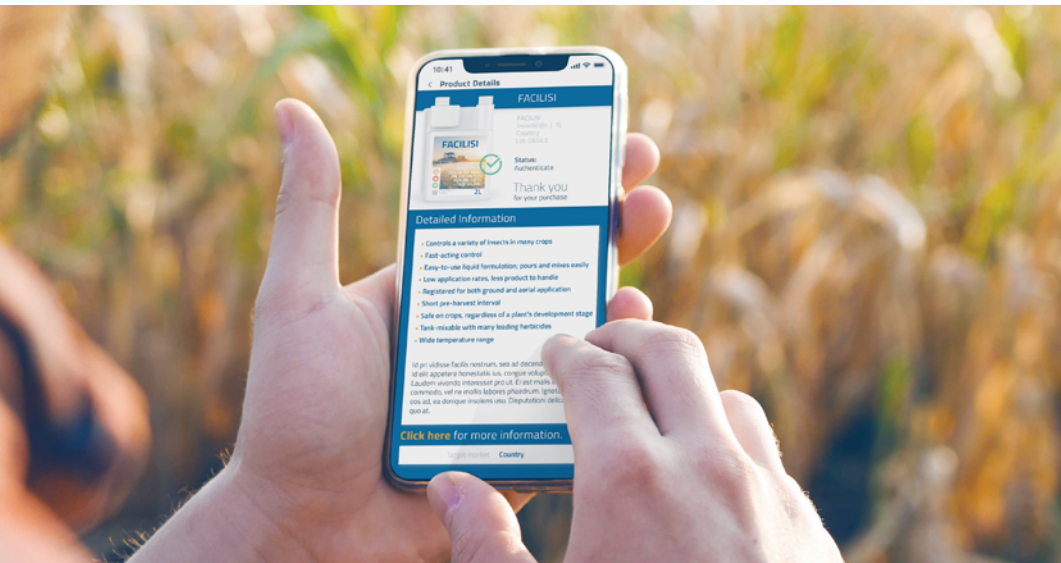


# Combating **Illegal Pesticides** With **Artificial Intelligence**

## **SOLUTIONS FOR PRODUCT AUTHENTICATION**

### **USE CASE**



### **GAME CHANGER**

Global trade in illegal pesticides has been growing in recent years, posing serious threats to agriculture, the environment, human health and the economy. The increasing number of seizures of counterfeit, fake and diluted pesticides, as well as their growing share in the global pesticide market, is a major problem for agrochemical manufacturers and their brands. Product authentication and anti-counterfeiting measures to mitigate these criminal activities have become more difficult to implement due to the increasing complexity of pesticide supply chains.

Surface scan and pattern recognition solutions have been on the market for many years, but without notable success. Powerful artificial intelligence (AI) and machine learning technologies are the most recent game changer, bringing an innovative and effective authentication solution to the next level and helping brands to truly reduce the negative impact of the illegal-pesticide market.

### **OPTEL IDENTIFAI SOLUTION**

OPTEL IdentifAI is an authentication solution developed in conjunction with leading brands from different industries and has already generated many successes. Our approach to fighting counterfeiting and fraud is a combination of traceability, supply chain visibility and mapping tools equipped with packaging signature matching technology, powered by strong AI and machine-learning capabilities.

This groundbreaking combination of expertise enables "impossible to copy" authentication methods and identifies fraudulent events at every step of the supply chain.

### **INNOVATION AND ADDED VALUE**

OPTEL IdentifAI is innovative and unique on the market. It offers the following benefits, among others:

- Various levels of authentication options
- Powerful artificial intelligence algorithms and machine-learning capabilities
- Successful scanning capabilities in agricultural environments (dirt on the product, different angles)
- No disruption on the manufacturing line
- Low cost of implementation
- Highest data security standard
- Real-time data
- Anomaly detection features adapted to your needs
- Reliable and accurate data
- Mobile-readable
- Off-line capabilities
- Flexible interface and customizable app for investigators
- No need for additional codes on product packaging
- Aggregation is optional
- Scalable to other Intelligent Supply Chain modules
- This solution can easily be leveraged to deliver other benefits such as farmer loyalty and inventory management.



# VALUE PROPOSAL FOR ALL PARTIES



## HOW DOES IT WORK, AND WHAT TECHNOLOGY IS REQUIRED?

Our technology stack includes hardware to capture accurate and reliable data in real time at high speed and a software program to empower data (authentication, supply chain mapping, visualization, monitoring and alerts).

- **For manufacturers:** Install camera on manufacturing lines to digitize lot numbers with a unique product identifier; data is stored in a private cloud platform and empowered by our software, with no need for additional serialization of the product.
- **Mobile app for distribution:** Scan pallet before shipping
- **Mobile app for farmers or end users**

Every company's needs, goals and challenges are different. Choose the solutions that suit yours:

- **Granularity:** Item or lot/batch traceability
- **Authentication level options:** QR/Data Matrix, holograms, digital pattern recognition, RFID, supply chain events and more
- This solution can easily be leveraged for other benefits such as inventory management and beyond.

## ADDED-VALUE TECHNOLOGY OPTIONS FOR MORE BENEFITS

### SIGNATURE MATCHING TECHNOLOGY

Surface scan and pattern recognition solution that digitizes the unique bottle/labeling identifier, like taking a picture of a fingerprint. This information is then stored in our cloud-based software and database, to be recognized later with an authorized user's mobile application.

### ADDING A LOYALTY PROGRAM FOR FARMER ENGAGEMENT

This solution can add value for your customers while combating fraud. Authentication technology combined with a loyalty program for farmers provides visibility from production to end user.

### AGGREGATION

If aggregation is added to the technology stack, this solution can provide complete channel visibility for precise recalls and real-time inventory management, asset circularity and more. Aggregation can help your business identify gray markets, visualize real-time inventory information (location, item number, level, expired date, cold chain, etc.), and more.

## AGROCHEMICAL MANUFACTURERS

- Reduce fraud and product counterfeiting
- **Farmer loyalty** program options
- Obtain **market insights** and analytics
- Establish **direct communication** with the end user

## FARMERS

Authenticate **product integrity** for **human safety** and **crop protection**; Leverage reward programs and educational information

## DISTRIBUTORS

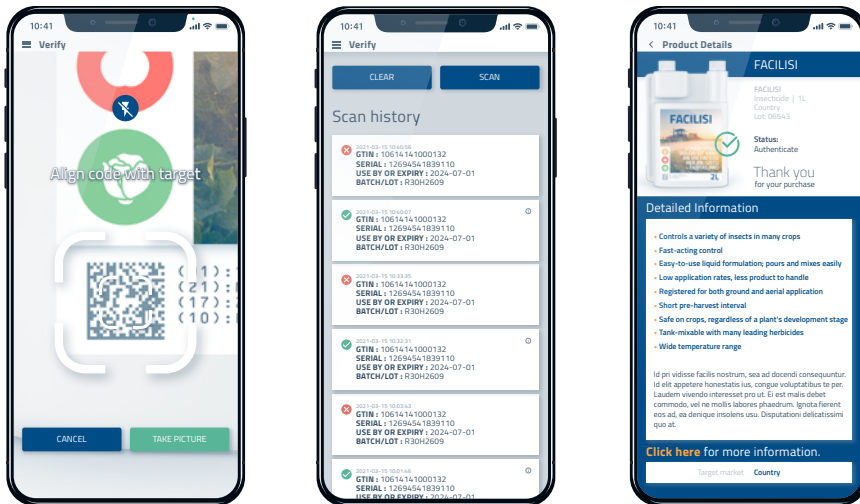
**Built trust** with farmers and manufacturers

## OPTEL'S INTELLIGENT SUPPLY CHAIN

The authentication solution is a module of OPTEL's Intelligent Supply Chain (ISC), a powerful traceability platform. ISC can digitize supply chain operations from raw materials to end user, enabling real-time visibility throughout the product life cycle by capturing and empowering data at every step of the value chain. Multiple modules make up the ISC ecosystem, helping businesses solve issues related to supply chain and operational efficiency, product safety and integrity, sustainability, brand protection and authentication, compliance and user engagement.

## ABOUT OPTEL

OPTEL is a global company with four manufacturing sites and 600 employees around the globe. The company has 30 years of proven expertise in developing and deploying track-and-trace, vision systems and traceability systems for the world's leading pharmaceutical, food and beverage, and agrochemical brands. OPTEL is a Certified B Corporation and co-founder of the Canadian AI supercluster for supply chains (Scale AI).



## CONTACT US

To learn more about OPTEL's traceability solutions, contact us at [optelgroup.com/contact/](https://optelgroup.com/contact/)

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## HAVE QUESTIONS?

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## OUR EXPERTISE – TRACEABILITY SOLUTIONS

- 30 years of expertise in track-and-trace technologies
- Connecting to most ERPs and other systems
- Client-focused
- Configurable solutions
- AI and machine learning
- Supply chain mapping and digitization tools
- Innovative authentication technologies
- Operational efficiency tools