CODENTIFY®

PROTECTING GOVERNMENT REVENUES
SECURING THE SUPPLY CHAIN
FIGHTING ILLICIT TRADE

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How to use this interactive PDF.

There are two navigation systems in this PDF. At the top of the page you can go from section to section by clicking on that section. Also you can go through page by page by using the backwards and forwards arrows at the base of the page.

How to print.

To exit the full screen mode press 'Esc' on your keyboard. This will then give you the menu bars at the top of the screen. Then proceed to print as you normally would. To return to the full interactive screen PDF press 'Ctrl L' on your keyboard.

ILLICIT TRADE: A GLOBAL CHALLENGE

Illicit trade is a major and growing problem worldwide. Be it smuggling, counterfeit or tax evasion, governments and legitimate businesses are losing billions of dollars in revenue each year, while consumers are being exposed to badly made and potentially dangerous products.

Illicit trade is common across a wide variety of industry sectors and products. For example, it is estimated that approximately 600 billion illegal cigarettes are sold each year globally, which represents some 11 per cent of the global market. As a result, governments are losing some US$40 billion a year in tobacco taxes and legitimate tobacco companies some US$5-10 billion a year in revenue.

In the field of pharmaceuticals, the counterfeiting of drugs and medicines are increasing sharply. Estimates by the European Parliament suggest that in the European Union alone this market will grow by about 30 per cent annually up to 2020. On a global scale, such a worrying trend will only be magnified.

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DOMINANCE OF ORGANISED CRIME

Illicit trade is not just the work of small operators. Organised crime is increasingly dominant. Illegal manufacturing facilities and distribution chains have been built and substantial sums invested in technology capable of counterfeiting even the most sophisticated business and government security markers.

Interpol, the international police organisation, says that gangs which traffic illegal drugs, arms and people are also behind the illicit trade in cigarettes, alcohol and pharmaceuticals. According to the US Department of Justice, some of these groups even have ties to terrorist organisations.

Such alarming developments could not have come at a worse time. Governments worldwide are facing ever-tightening budgets while the cost of fighting such criminal structures is becoming increasingly expensive. The result: smuggled, counterfeit and tax-evaded products are ever more available and the squeeze on government tax revenues continues to grow.

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PROTECTING GOVERNMENT REVENUES AND SECURING THE SUPPLY CHAIN

For excisable products, like tobacco and alcohol, governments need to be confident that when sold in their jurisdiction the correct taxes have been paid and that the products comply with the relevant regulatory requirements.

Methods currently in use, however, like paper-based tax stamps and fiscal markers applied to packaging, or complex administrative systems, are often failing to achieve these important goals.

**For more information about Codentify®
visit www.codentify.com**

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PAPER-BASED TAX STAMPS AND FISCAL MARKERS ARE OUTDATED

Paper-based tax stamps and fiscal markers are easily counterfeited, despite the inclusion of innovative holograms, special inks and elaborate design details. Evidence shows that counterfeiters can make copies of even the most sophisticated paper stamps in as little as three weeks. In addition, they have a security deficiency because they can be stolen or lost in the period between printing and application.

Because paper-based tax stamps and fiscal markers are so easily counterfeited, they no longer provide a secure mechanism for monitoring and controlling the production of valuable products like tobacco, alcohol or pharmaceuticals. Furthermore, paper stamps are an expensive option because they lead to costs being incurred in manufacturing the stamps themselves and need secure logistical management and control. They may also require insurance of the tax value.

A new, more robust approach is needed to deal with the growing threat of smuggling, counterfeiting and tax-evasion. Codentify,® an electronic tax verification, production volume control and authentication solution that uses the latest digital technology, can provide the assurance governments need.

Codentify® makes the leap into the digital age and can meet the demands of governments that want to improve tax revenue collection, the robustness of verification processes and supply chain security.

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CODENTIFY®: DIGITAL TAX VERIFICATION

Codentify® is a technology breakthrough for the 21st century. Codentify® uses advanced digital coding technology printed directly onto product packaging which can effectively replace outdated, easy-to-copy paper-based tax stamps and fiscal markers or burdensome administrative processes.

Codentify® can combine the licensing, production volume control, tax verification and authentication processes used by governments for excisable products, such as tobacco and alcohol, into an all-in-one, fully digital and online solution.

This means the often separate, cumbersome and expensive processes currently in place can be replaced with one, comprehensive solution – Codentify®

CODENTIFY®: THE WAY FORWARD

SECURE
Impossible for counterfeiters to generate valid Codentify® codes.

SOPHISTICATED
Provides an integrated, fully digital and online solution for tax verification, production volume control and product authentication.

STRAIGHTFORWARD
Easy to integrate with existing and standard manufacturing systems and easy forgovernments and manufacturers to manage.

SCALABLE
It can be applied to virtually any product.

SUITABLE
All manufacturers, large and small, can operate it easily and at low cost.

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CODENTIFY®: HOW IT WORKS

Codentify® works via the application of a unique securely-encrypted 12-digit alpha-numeric code generated through a patented multi-layer encryption process.

The Codentify® code is printed directly onto product packaging during the manufacturing process. It is printed overtly and can therefore be used for authentication purposes.

At all times, the government is in full control of the approval process for the generation of the codes. All manufacturers, their machinery and the products to be sold in a specific country must be registered through the system with the government of that country. A server-based central information system (CIS), controlled by the government, manages this process. This acts as an effective licensing system.

Through a highly secure online connection, the CIS establishes a link with each manufacturing facility through a manufacturing centre gateway, a server installed at every licensed manufacturing facility. This, in turn, is linked to a Codentify® code generator which is installed on each individual production line within a manufacturing facility. The codes are then securely printed directly onto the product packaging.

Codentify® codes can be applied to virtually any product. When manufacturers wish to start production, they must apply to the government via the CIS for permission to generate codes. Upon successful application, the CIS will grant authorisation for the generation of Codentify® codes which can then be applied to product packaging. This is the electronic equivalent of today's ordering of paper tax stamps or an application for legal production.
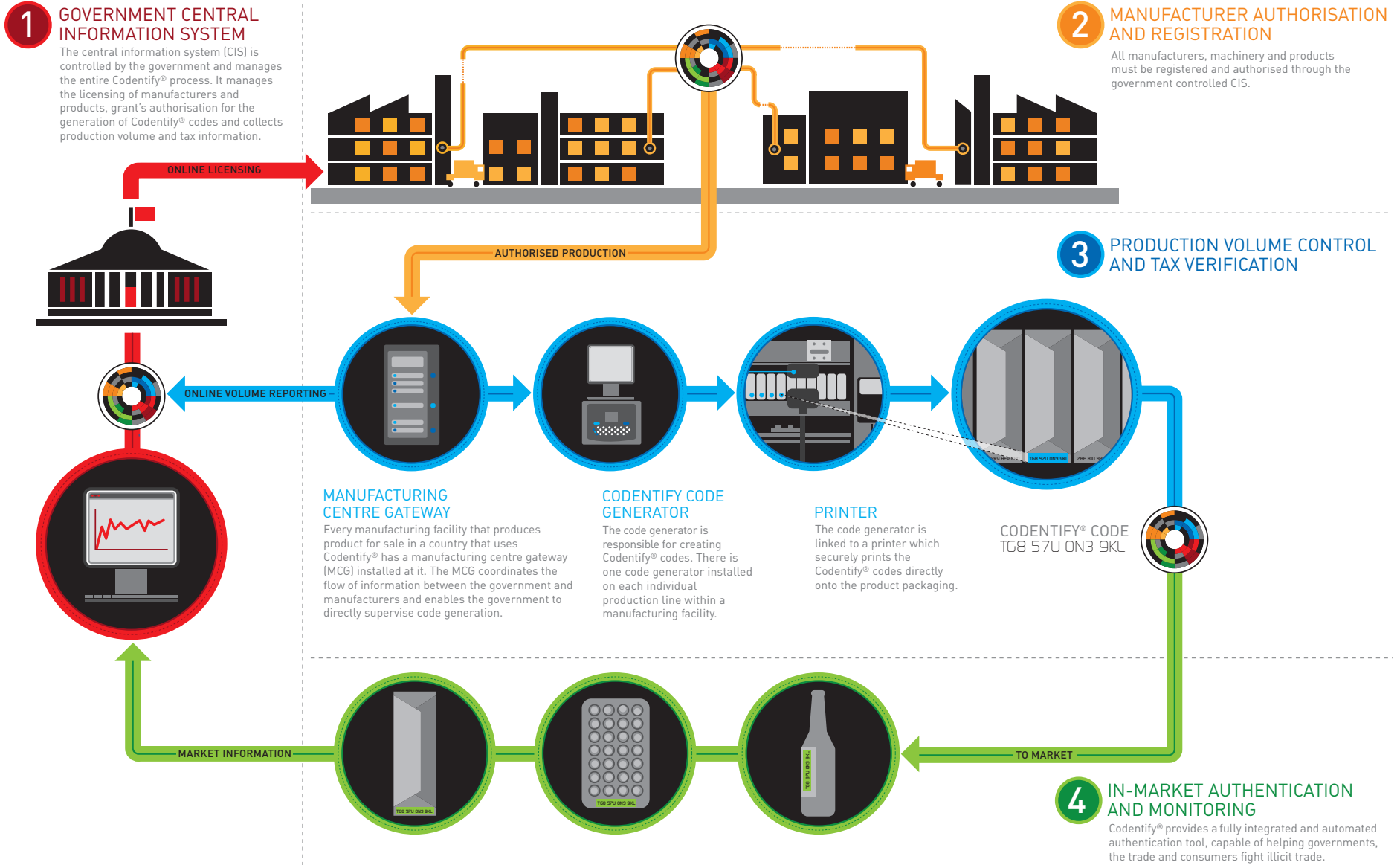
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HOW CODENTIFY® WORKS

This diagram outlines step-by-step how Codentify® works in practice.

1 GOVERNMENT CENTRAL INFORMATION SYSTEM

The central information system (CIS) is controlled by the government and manages the entire Codentify® process. It manages the licensing of manufacturers and products, grant's authorisation for the generation of Codentify® codes and collects production volume and tax information.

2 MANUFACTURER AUTHORISATION AND REGISTRATION

All manufacturers, machinery and products must be registered and authorised through the government controlled CIS.

3 PRODUCTION VOLUME CONTROL AND TAX VERIFICATION

ONLINE LICENSING

AUTHORISED PRODUCTION

ONLINE VOLUME REPORTING

MANUFACTURING CENTRE GATEWAY

Every manufacturing facility that produces product for sale in a country that uses Codentify® has a manufacturing centre gateway (MCG) installed at it. The MCG coordinates the flow of information between the government and manufacturers and enables the government to directly supervise code generation.

CODENTIFY CODE GENERATOR

The code generator is responsible for creating Codentify® codes. There is one code generator installed on each individual production line within a manufacturing facility.

PRINTER

The code generator is linked to a printer which securely prints the Codentify® codes directly onto the product packaging.

CODENTIFY® CODE
TG8 57U 0N3 9KL

MARKET INFORMATION

TO MARKET

4 IN-MARKET AUTHENTICATION AND MONITORING

Codentify® provides a fully integrated and automated authentication tool, capable of helping governments, the trade and consumers fight illicit trade.

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CODENTIFY®: EASY TO USE VERSUS PAPER-BASED TAX STAMPS

The supply chain for paper-based tax stamps involves many actors, is complex, expensive, open to fraud and can be exploited by criminals. Codentify® is secure, easy to operate and can be fully controlled by government.

Only manufacturers and machinery verified by and linked to the CIS can generate and apply valid Codentify® codes. Without government approval, no valid codes can be produced.
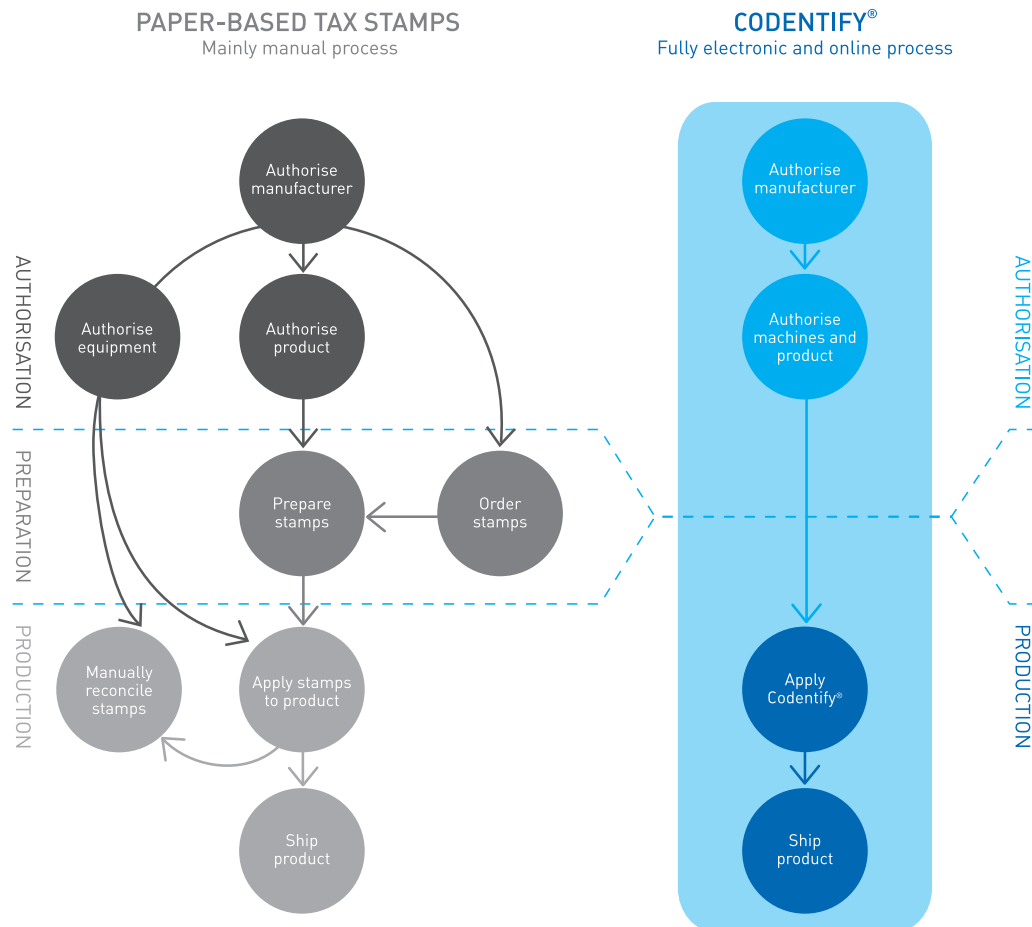
Due to the encrypted nature of the codes they do not need to be saved on a database or stored. This not only reduces running costs, but also dramatically increases the security of the system as valid codes cannot be stolen, lost or compromised.

Information contained in the codes can only be decrypted by the CIS, held and controlled by the government, using a combination of multi-layer encryption and digital signatures. Manufacturers do not have access to this data.

PAPER-BASED TAX STAMPS
Mainly manual process

CODENTIFY®
Fully electronic and online process

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MORE ABOUT THE CODENTIFY® CODES

There are a virtually infinite number of potential Codentify® code combinations.

Codentify® avoids the requirement to store the codes by encrypting the information contained within them prior to printing through a patented combination of multiple keys and digital signatures.

To verify that a printed code is valid it must be decrypted using the appropriate keys which are only held by a government-controlled central information system. No other part of the system or actor can decrypt the codes.

The information within each code can include, but is not limited to:

- Date and time of manufacture
- Machine of manufacture
- Brand and brand variant
- Pack type
- Pack size
- Destination market
- Price
- Tax level

Information relevant for tax verification and production volume control is encrypted in the codes.

Once the codes are printed directly onto product packaging they are counted and the data is securely communicated to the government. For added security, only the number of codes and not the codes themselves are communicated.

For more information about Codentify®
visit www.codentify.com

CODENTIFY®: PRODUCT AUTHENTICATION

Product authentication is about being able to distinguish genuine product from that which is counterfeit. Codentify® can be used as an overt product authentication tool, offering a new level of awareness and control for a wide set of stakeholders across the supply chain, including government authorities, the trade and consumers.
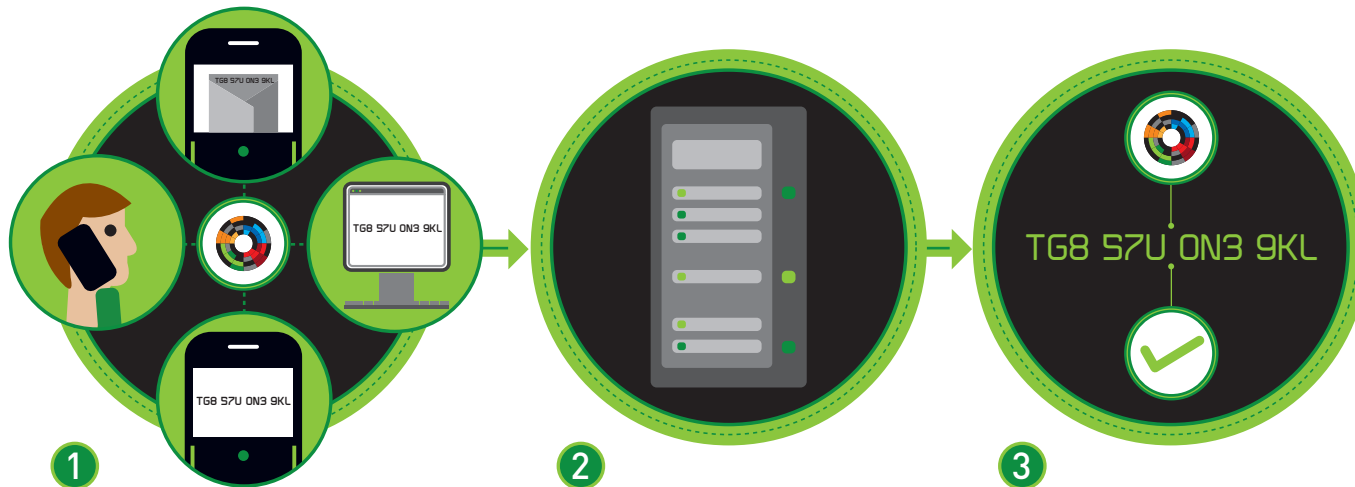
The same unique and securely encrypted 12-digit alphanumeric code that is printed directly onto product packaging for tax verification and production volume control purposes also offers an overt, human-readable authentication device.

Manufacturers and government authorities, as well as distributors, retailers and consumers can easily distinguish between genuine and counterfeit products by checking the validity of the Codentify® code over the phone, by SMS, email, or through a dedicated internet platform. Within seconds, the authenticity of the product can be checked. There is no need for costly training, reading devices, special scanners or forensic testing.

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USING CODENTIFY® FOR PRODUCT AUTHENTICATION

1

To verify whether the Codentify® code is genuine or not, stakeholders, including government authorities, retailers and consumers contact the Codentify® central information system via a phone call, smart phone scan, SMS or a dedicated website.

2

On receiving the Codentify® code enquiry, the central information system checks the authenticity of the code.

3

Stakeholders receive immediate notification of the authenticity of the code and thus of the product.

Codentify® provides a fully integrated and automated authentication tool capable of helping governments and brand owners fight illicit trade.

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CODENTIFY®: THE BENEFITS ARE CLEAR

FULL GOVERNMENT CONTROL

Only government-approved manufacturers and their equipment can generate and apply Codentify® codes and manufacture legal products. Electronic reporting provides a full audit trail.

HIGHLY SECURE

Similar to secure on-line banking systems, Codentify® uses a multi-layer encryption and digital signature process to protect the electronic authorisation and generation of codes. This eliminates the risk of codes being stolen or retrieved through hacking or interception of communication. In contrast, paper-based tax stamps and fiscal markers can be lost or stolen during transit.

ALIGNED WITH THE MOVE TOWARDS E-GOVERNMENT

Codentify® does not require complex or expensive administrative procedures. It is a fully digital and online solution, supporting streamlined and effective governance.

LOW COST

Codentify® does not involve expensive printing, storage, distribution or application processes and there are little to no administration costs for governments.

EASY TO INTEGRATE WITH EXISTING SYSTEMS

Codentify® runs on standard and off-the-shelf equipment which is already in operation at many production sites, so all manufacturers, large or small, can easily implement and use it.

INTEGRATED AND AUTOMATED

Codentify® is an all-in-one tool that can be used for production volume control, tax verification and product authentication processes, a great improvement for many governments over their existing, often numerous, systems.

PRODUCT AUTHENTICATION BY ANYONE

As each Codentify® code is unique and human-readable, every stakeholder in the supply chain, including government, retailers and consumers, can verify the authenticity of the product without the need for costly training or reading devices.

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MEETS FCTC LICENSING REQUIREMENTS FOR TOBACCO PRODUCTS

Production cannot take place without the government licensing each manufacturer, manufacturing facility, production line and product. Codentify® can therefore meet the expected licensing provisions of Article 5 of the World Health Organisation's Framework Convention on Tobacco Control (FCTC) Protocol on Illicit Trade in Tobacco Products.

PRODUCT TRACEABILITY

The application of Codentify® codes directly on to product packaging provides the opportunity to trace the product back to its manufacturing facility and machine of production, as well as the date and time of manufacture.

REDUCED ENVIRONMENTAL IMPACT

Unlike traditional paper-based tax stamps and fiscal markers, Codentify® does not require large volumes of paper, ink or other raw materials.

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CODENTIFY®: EFFECTIVELY FIGHTING ILLICIT TRADE

Illicit trade – be it smuggling, counterfeiting or tax-evasion – is a growing concern with global impact. It manifests itself differently from country to country, meaning it is clear that no one solution can effectively address every country's problem or area of focus.

Given the array of technologies and systems available, governments need to be sure that the solution they select is efficient and effective. When it comes to protecting government tax revenues, securing the supply chain and fighting illicit trade, Codentify® offers a highly advanced, secure and cost-effective solution for the 21st century.

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