We had originally intended the title of this presentation to be ‘The COMING Revolution in Excise Stamps and Programmes’, but I’m here to tell you today that the revolution is already here and has been here for a few years now.

Furthermore, it's a revolution that is continuing to evolve, due to factors such as the emergence of new excisable product groups and regulatory obligations at the international level, which are leading to even greater changes in the tax stamp landscape... a landscape which now also encompasses product authentication and track and trace solutions, all in one package.
Just a small clarification of what kind of products we’re referring to when we talk about the type of excise products that carry tax stamps.

Traditionally, it was just cigarettes, other tobacco products and spirits that carried stamps – since they are the products that attract the highest levels of excise tax. However, usage has extended over the years to lower taxed items such as table wine, beer, soft drinks and bottled water – as well as the new ‘kids on the block’: cannabis products and e-cigarettes.

And some countries even use tax stamps on items such as fur garments, playing cards and CDs/DVDs, but this is relatively rare and only applies to specific countries.
Let’s first go back to what it used to be like, say 40 or 50 years ago, before the era of globalisation and the subsequent explosion in illicit trade, as well as before the surge in technological innovations in security printing, serialised coding, data processing and mobile communication that we are experiencing today.

Before all that happened, tax stamp programmes, as well as product/brand protection programmes on excise products, and track and trace systems lived completely separate lives. In fact, although tax stamps have been around for 200 years or so, brand protection and track and trace technologies have only actually been in use for a few decades.

Back then, tax stamps were used solely for tax collection and proof of tax paid purposes and contained few security features – if any at all.

Product authentication (or brand protection) programmes consisted of security labels or directly applied security features such as holograms, not associated with tax collection and under the control of the brand owner as opposed to a government authority.

As for serialization and track and trace, this was not yet used on excise products but rather confined to the tracking of couriered parcels (eg. FedEx and DHL) and, later on, introduced on products such as food items and medicines for product recall purposes (as opposed to anti-illicit trade purposes).
And this is what it looks like today, at least as far as many excisable products are concerned, where tax collection systems using tax stamps are serving a dual purpose as product authentication features... and even a triple purpose as secure carriers of the unique identifying code required for track and trace.
So from this...
Automated domestic production monitoring

And this...

Smartphone apps

Field inspection tools

Track and trace

Business intelligence
So why did this merging of different functions happen in the first place?
Well, if we look first at the merging of the tax collection and product authentication functions, when tax stamps started to acquire robust security features to counteract the growing problem of their being counterfeited (due to the advent of sophisticated, and ubiquitous, reprographic techniques), it was observed that the stamps could also serve the purpose of authenticating the product they were attached to (as long as the stamps were glued onto the product securely enough).

Another benefit to using tax stamps for product authentication is that tax stamps form part of a centrally controlled, government regulated national programme, encompassing all brands within a given product category, as opposed to individual programmes implemented by the brand owners themselves where different brands carry different authentication features – making the customs officer’s job a nightmare to have to recognise all those different features.
Recent examples of countries using their tax stamps as a security feature for product authentication purposes are in the European Union. The recently implemented EU Tobacco Products Directive calls for overt, semi-covert and covert authentication elements to be placed on each pack of cigarettes sold in the EU market, and those member states (22 out of 28) that already have tax stamps in place are using the stamps to comply with the Directive.
Such as this beautiful stamp from Malta – which Marisa of the Malta Customs Department will cover in detail in the next presentation.
Moving to the third functionality: track and trace.

So why should one even consider combining serialised codes and track and trace technologies with tax stamps and product authentication features? Aren’t they in fact two different worlds, with track and trace emanating from the so-called digital world and stamps and security features coming from the more traditional, material-based, physical world?
The problem is that although track and trace systems (as opposed to SECURE track and trace systems) are fine for industries such as courier companies, where the main objective is to know where parcels are and when they are likely to arrive at destination, they are not fine for industries where the main objective is to identify and counter illicit trade.

As soon as we start getting involved with an industry which is at high risk of illicit trade, such as tobacco products, any track and trace system used to control the supply chain and identify illicit trade needs to be secured against fraud – because if it’s not secured against fraud it will be vulnerable to acts of cloning, for instance, where track and trace codes are copied and passed off as originals.
So track and trace alone, without the use of material-based security features to prevent acts such as cloning, cannot act as an authentication device – because it is too easy to copy the codes used for track and trace, so that they look real and ostensibly perform the same job as real codes.

That’s why the two are needed to be used in combination, for a high-security solution, such as that found on modern-day tax stamps.

This is not just me saying this, or ITSA saying this, but this is also what is advocated by international standards.
What International Standards Say

ISO 16678:2014 – Interoperability

- To mitigate risk of duplicated codes, authentication element should be used, by incorporating intrinsic physical security layer into code, or by having a physical security layer sitting next to it.

ISO 16678:2014 (Guidelines for interoperable object identification and related authentication systems to deter counterfeiting and illicit trade) provides a general framework for using UIDs, highlighting their strengths and weaknesses. Specifically, it identifies acts of fraud that may occur when UID codes are copied, re-originated, guessed, or reused (duplicated). It recommends that in order to mitigate the risk of duplicated codes, an authentication element should be used. This can be achieved by incorporating an intrinsic physical security layer into the code, or by having a physical security layer sitting next to it.
International standard ISO 12931:2012 (Performance criteria for authentication solutions used to combat counterfeiting of material goods) provides useful definitions of security features and authentication tools that can be used to establish whether a material good is genuine or not. In particular, it classifies authentication elements as either overt or covert.

A best practice in the security industry is to consider a mix that combines multiple overt and covert authentication elements, possibly based on a risk analysis. Such a combination not only addresses different stakeholders with targeted features and tools, but also exponentially increases the overall level of security of an authentication solution, thereby providing effective barriers against counterfeiting and imitation attempts.

ISO 12931:2012 also provides useful insights on the difference between authentication and track and trace, notably including the statement that ‘Track and trace technology when used alone is not considered to be an authentication solution.’
International standard ISO 22382:2018 (Guidelines for the content, security, issuance and examination of excise tax stamps).

The purpose of this standard is to assist tax authorities to enhance compliance with excise tax regulations by implementing new, or improving existing, excise tax stamps and associated issuance systems.

This standard refers to the standards we’ve looked at just now, while being specific to tax stamps.

ISO 22382 recommends the use of multi-layer security features on tax stamps and also recommends that the tax authority develops a track and trace system for tax stamps that allows it to find when, where and by which entity the tax stamp was applied on the product.
All this to say that a stand-alone unique identifying code for track ad trace without any physical security features, such as the alcohol tax label in this picture, is not secure enough.
But THIS is Enough
Russia

- Alcohol track and trace since 2006
- Tracks production volumes and turnover of all alcohol products at every point in supply chain up to POS
- Tax stamps carry unique code which retailers must scan to generate sale
- Mobile app used by over 1 million users
- Stamp security features include thread and holographic stripe
- Unique code printed by security printer as opposed to each manufacturer printing own codes
- $2.15 billion excise gain 2016/17 compared to previous year
Production line monitoring system
The production line monitoring system involves the following steps:
• Inline affixing of the stamp to the product;
• Individual product counting and reading of the product identification;
• A stamp/product activating camera;
• Association of the stamp to the product SKU.
The advantage of the production line monitoring system is that the tax authority no longer has to rely on manufacturers to tell it what they are producing – the system will tell it instead. Further, the system has eliminated the need for physical human intervention which had become a major risk to revenue mobilisation.

Mobile app
Under Kenyan law, retailers and distributors are obligated to ensure that all products received and offered for sale within their premises are legitimate. Because of this obligation, the tax authority has a duty to provide these operators with the means to verify such products.

For this reason the authority developed a smartphone app to assist all stakeholders in the supply chain, as well as consumers. The stakeholder can use the app to compare a scan of the QR code on the tax stamp to a scan of the barcode on the product, in order to verify that they are a legitimate match. Furthermore, the app encourages stakeholders to report products that are unstamped.
The app has helped the authority to widen its enforcement ‘army’, by ‘recruiting’ a large number of people. The authority has observed an increase in reports of non-conforming products from retailers and distributors, which has contributed almost 50% of the interventions on illegal goods by the tax authority.
So as you see, tax stamp programmes have come a long way since a few decades ago when they were simple pieces of paper serving as tax collection tools only. And this revolution is likely to continue over the next few years as a result of a number of ‘accelerating’ drivers, which may well lead to an increase in the number of countries using tax stamps and integrated track and trace systems, as well as the number of product categories to which they apply.

Let’s look at two of these key drivers.
Let’s look first at the World Health Organisation’s Framework Convention on Tobacco Control and its Protocol to Eliminate Illicit Trade in Tobacco Products – in particular the section of interest to tax stamps: tracking and tracing.

The Protocol is an international treaty aimed at eliminating all forms of illicit trade in tobacco products. It provides tools for preventing illicit trade by securing the supply chain, including by establishing an international track and trace system.

The Protocol entered into force on 25 September 2018, and has been ratified by 57 parties, including the European Union.

The 58 parties now have five years to implement the provisions of the Protocol, including a global tracking and tracing regime, comprising national and/or regional tracking and tracing systems and a global information-sharing focal point located at the Convention Secretariat and accessible to all parties.
Specifically, the Protocol calls for unique, secure and non-removal identification markings, such as codes or stamps, to be affixed to or form part of all unit packets and any outside packaging of cigarettes and other tobacco products.

It also requires that the following information be available, either directly or accessible by means of a link, to assist parties in determining the origin of tobacco products, the point of diversion where applicable, and to monitor and control the movement of tobacco products and their legal status:
(a) date and location of manufacture;
(b) manufacturing facility;
(c) machine used to manufacture tobacco products;
(d) production shift or time of manufacture;
(e) the name, invoice, order number and payment records of the first customer who is not affiliated with the manufacturer;
(f) the intended market of retail sale;
(g) product description;
(h) any warehousing and shipping;
(i) the identity of any known subsequent purchaser; and
(j) the intended shipment route, the shipment date, shipment destination, point of departure and consignee.

Each party shall ensure that this information is accessible to the global information-sharing focal point on request through a standard electronic secure interface with its national and/or regional central point.

A key requirement of the FCTC Protocol is that the parties are not to delegate any of their obligations to the tobacco industry – or at least to restrict such obligations to the bare minimum.

Although this is a health treaty involving essentially the ministries of health, revenue and customs authorities will likely be at the forefront of implementing the track and trace requirements of the treaty. Since about 90 countries and numerous states and provinces already have a tax stamp programme in place – many with the capability to integrate with a track and trace system – it seems only logical to leverage what exists already in order to comply with the provisions of the Protocol.
Another accelerator pertains to the fact that new types of regulated products have appeared on the scene, in the shape of, in particular, legalized cannabis and e-cigarettes.

Although cigarette smoking rates are generally declining across the world, the number of people who ‘vape’ is on the rise, even though the long-term public health effects aren’t certain. To plug the gap created by declining tobacco consumption, more and more jurisdictions have started taxing e-cigarettes – with the UAE being the first country to announce its plans to apply tax stamps to e-cigarettes.

With regard to cannabis products, which is another rapidly growing market following the widespread legalization of recreational cannabis, a number of US states and countries have already started implementing track and trace programmes, with or without a paper-based tax stamp/security label as a means to control the supply chain and prevent the illicit trade of this newly legalized product.
Such as these stamps used in Canada, with a very similar design, security features and secure coding to the Canadian tobacco stamps.
Founded in 2015, ITSA was formed as a voice for the tax stamp industry to advance the benefits and evolving role of tax stamp programmes in a growing industry that is becoming ever more complex.

In an era where tax stamps are more sophisticated with expanding roles in production authentication, supply chain control and enforcement, ITSA is becoming increasingly well-known to government regulators and tax issuing authorities at national and regional level and recognised as an authoritative voice for the tax stamp community.

From its original 10 founding members, ITSA has grown to an association of 24 leading providers of tax stamps and their associated components and features, advocating the use of tax stamps as carriers of unique identifiers for secure track and trace as required by international protocols and frameworks.

Another key priority for ITSA was to provide funding and take an active role (as a member of the British Standards Institution) in the development of the new ISO guidance standard 22382, for the content, security, issuance and examination of excise tax stamps, which was published in November 2018.
Today, ITSA is 24 members strong, with all members being leading providers of product and document authentication technologies, as well as track and trace and production monitoring systems. As far as tax stamps are concerned, our members provide the tax stamps themselves, their security features, their unique identifiers, the machinery used to produce them, the systems used to manage them, the devices used to verify and authenticate them and the various data management and track and trace systems into which they are integrated.

Three of our members have their headquarters in North America, one in Latin America, 15 in Europe and 5 in Asia. One member is a state security printer and the other 23 are private companies, often with operations spread across the world.

In some cases, members collaborate with other members for the provision of an all-round solution to a revenue or other government authority. For instance, one member may be the printer, one the provider of the substrate, another of material-based security features such as holograms, optical effect inks and taggants, another of the tax stamp ordering and management system and another of the unique identification, database systems and scanning devices needed for track and trace, and yet another for the inline camera systems and scanning devices needed for real-time production monitoring.

Also, in most cases, each member company offers more than just one aspect of a solution, eg. the same company could offer material-based security features, reading
devices, unique ID marking, and integrated systems for track and trace.

Some of the countries and states that currently use tax stamp and track and trace systems provided by ITSA members included: India, Slovakia, Portugal, Kenya, Armenia, Cameroon, UAE, Sudan, Belgium, Netherlands, Mozambique, Ghana, Saudi Arabia, Malta, Rwanda, Ecuador, Georgia, Colombia, Romania, Vietnam, Lithuania, Canada, USA, Brazil, Chile.

ITSA also works closely with NGOs and independent strategic, legal and technological advisors in order to have a full overview of tax recovery and illicit trade issues and to be able to advise government authorities accordingly. Our goal is definitely not to promote one particular technology over another but rather to provide a common voice, based on commonly agreed principles and best practice on behalf of all our members.
If you are a supplier of tax stamps or their related components, substrates, features and systems, and are interested in joining ITSA, please come and talk to me or contact us at info@tax-stamps.org, or visit the website to complete an application form and view the benefits of becoming a member.

We also have an associate membership category for tax authorities and other interested groups who are not tax stamp suppliers but who want to join forces with us, so please let us know if you are interested to know more about this.