

INNOVATION EVERYDAY



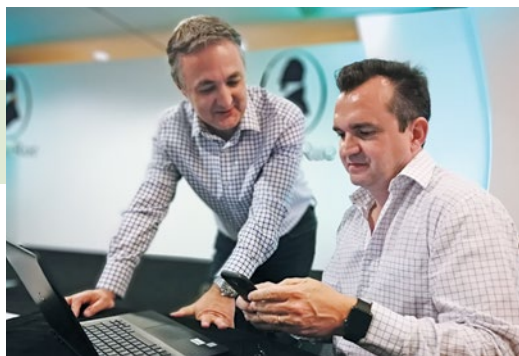
HELPING TO STOP ILLICIT TRADE

With Andrew Gilbert and Jerome Pichot



De La Rue's approach is to incorporate the benefits of existing systems and software platforms for all stakeholders.





Andrew Gilbert (left), track and trace solutions expert.

Jerome Pichot (right), product authentication specialist and veteran in cross border trades.

Illicit trade stunts economic growth, damages brands, and risks the health and safety of consumers. Illicit activity – such as smuggling, diversion, counterfeit, fraud and tax evasion – is a major strategic problem for governments.

Illicit trade is the fastest area of growth in organised crime. It's currently valued at \$1.7tn, equivalent to the GDP of the tenth largest economy in the world. One in 10 cigarettes is illegal; over a quarter of alcohol consumption is believed unrecorded or illicit; and nearly a quarter of consumers have unintentionally bought counterfeit goods online. It really is big business. Product authentication and track and trace solutions can help address the challenges of illicit trade. And once established, the same solution can be easily rolled out across other product types, including alcohol, tobacco and sugary drinks. All of this will help governments raise tax revenues and reduce health risks to citizens.

Changing regulatory environment

Although governments haven't made product authentication of tobacco compulsory, the massive loss of revenue and increasing pressure from the World Health Organisation point to the potential benefits that a tax scheme would bring. The FCTC (Framework Convention for Tobacco Control) has been a key influencing factor. Its Illicit Trade Protocol for Tobacco Products is an international treaty that aims to eliminate all forms of illicit trade in tobacco products. It calls for countries to cooperate and create a global solution to a global problem.

The guidelines refer to a solution that includes secure authentication combined with a digital code for data management, supply chain control and full track and trace from source to consumption. This would help volume control, tax collection, and detection of illicit products, meeting the international obligations of the FCTC.

An integrated approach

Trade today travels through complex cross border supply chains involving governments, manufacturers, regulators and distributors. To bring all these stakeholders together in the fight against illicit trade, the various systems must be able to operate as one.

De La Rue's approach to product authentication is to incorporate the benefits of existing systems and software platforms of all stakeholders. This means working with all parties to ensure we meet their needs, while also providing control and visibility of regulation for the authorities. This way, we can implement a flexible, modular and open-source model quickly and at low risk.

We're already operating a number of complex supply chain track and trace contracts across Europe, the Middle East and Africa. And this new integrated approach is one that builds trust and confidence for all players in the system.

US \$1.7tn

Current value of illicit trade, the fastest area of growth in organised crime



INNOVATION EVERYDAY

CASH IS PART OF THE FUTURE

With Dr Nikki Strickland



Cash in circulation will continue to grow well into the future. Our role is to make sure banknotes meet the needs of future users and future cash cycles.



Dr Nikki Strickland, cash matters subject expert and inventor of cash cycle management software DLR Analytics™.



The value of cash in circulation continues to rise in nearly every country around the world. In fact, there are approximately \$7tn worth of banknotes and coins in circulation today.

Cash continues to play an integral role in the global economy. It's meeting people's needs in a unique way. Millions of people around the world depend on it, and significant portions of society would be severely disadvantaged if they couldn't get or use cash when they needed to.

In short, the world cannot function without it. Even in the UK, a country where alternative payment mechanisms are widely available, a recent 'access to cash' report concluded that 17% of the population would struggle to cope without cash¹. It would need huge investments, over long timescales, all around the world, to match the universal nature of cash.

Clearly there are alternative payment methods, which have grown rapidly with new technologies, and research shows that many different payment methods will co-exist with cash. But globally, the growth in value of cash in circulation over time continues to remain closely correlated with growth in GDP and population.

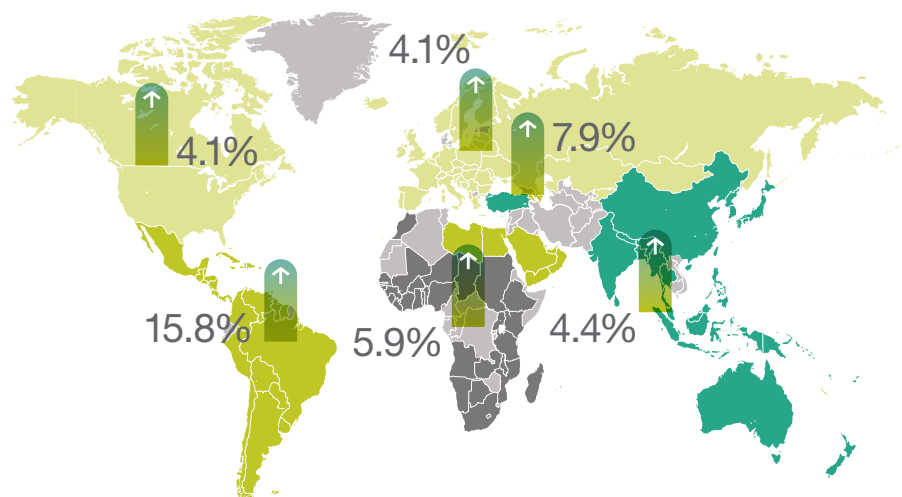
Cash has a certain resilience to sudden changes. For example, there was a programme announced in India in November 2016 to move away from cash reliance toward digital payments. But two years later, there is more currency in circulation and its use is growing faster than before.²

At De La Rue, we play a key role in keeping cash relevant, viable and competitive. We design banknotes that are fit for purpose – those for storing wealth have very different needs to those used in daily transactions. Our Safeguard[®] polymer is durable, and suitable for use in harsh circulating environments. We also design security features that anticipate the future purpose of banknotes. And we use our DLR Analytics[™] cash cycle service to help central banks reduce the cost of providing cash.

In summary, cash in circulation continues to grow and is expected to do so well into the future. Our role is to make sure banknotes meet the needs of future users and future cash cycles.

Regional CAGR % growth of the volume of cash in circulation

Numbers are based on bank statistics, annual reports of 134 issuing authorities, IMF data 2013-17, and specific central bank web pages. Two countries with high inflation in Latin America have pushed up the average in the region, which would otherwise be 5.8%.



Notes:

1 <https://www.accesstocash.org.uk/media/1087/final-report-final-web.pdf>

2 <https://www.indiatoday.in/india/story/demonetisation-more-cash-rbi-data-1384452-2018-11-08>

INNOVATION EVERYDAY

TECHNOLOGY TO BEAT THE COUNTERFEITS

With Julia Dean



Julia Dean, material development expert.

Criminals are always innovating and the ability and skill of counterfeiters is constantly improving. In an industry that contributes to the trust, security and integrity of critical infrastructures that enable society to function, we have to be even more innovative in order to stay ahead. Collectively, we have seen more development and innovation in our industry in the last 30 years than in the previous 300, and there is no sign of this trend slowing.

The intricacy of counterfeit today means that no single feature remains completely safe. But by taking a combination of approaches to layer with multiple features you create high barriers to entry and a solution that requires so much unweaving and detailed decoding it makes any attempt of tampering simply futile. Below, we briefly examine some of the approaches that we use to fight against such threats.

Intelligent layering

There are several techniques to ensure our products are intelligently layered and offer the maximum security possible. One of the first methods is to create a solution that is so eye-catching, physically interactive and easy to authenticate that it immediately draws the user's attention to any tamper evidence or variance from the original. This puts the consumer in control and at the first line of defence. De La Rue's Ignite® is a case in point – a security thread that layers dramatic colour shift technique with advanced microstructure technology to create a highly distinctive effect and easy end user authentication.

Clever design integration is a tool we also use to stay ahead. By combining the visible with the invisible design techniques to create a hidden layer under the surface, and by adding bespoke forensic properties, such as magnetics and taggants, it enables machine readability and provides even greater protection against the threat of counterfeit or alteration. De La Rue's Enigma®, for instance, combines physical and digital security with highly specialised, chemically created elements with a unique signature and can only be detected by special sensors.

We blend the visible and invisible in our identity offerings too. The bio-data page is by far the most protected in a passport. Here, the holder's personal details will be printed onto a uniquely watermarked page with additional design features and print layers, then further safeguarded via a holographic laminate patch which is heat sealed to the sheet. For a polycarbonate datapage, details are lasered into the very core of the component and this is then further protected with additionally applied surface features and techniques.



Digital integration

Adding in digital security is another method that we use to fight against counterfeit and fraud. As part of our track and trace solution, we can identify where a product is within the supply chain and by scanning its code, we can authenticate when and where it was made and where it is destined for. We use layers of unique coding in combination with physical labels and features to prove its journey from source to consumption. Intelligent tags, Near Field Communication (NFC) and multi-factor authentication (MFA) also enhance protection. Digital tools such as blockchain will become more prominent as the market continues to evolve.

Expert security

With over 200 years of experience across the banknote, identity and product authentication sectors, De La Rue has always remained one step ahead of the counterfeiter. We use global expertise, extensive analysis, multiple technologies and a sophisticated layering of overt, covert, forensic and digital features while also always looking for new approaches, new innovations and new security methods, which ensures we will always remain at the forefront of this fight.