

INNOVATION EVERYDAY

# TECHNOLOGY TO BEAT THE COUNTERFEITS

With Julia Dean



**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.



Julia Dean, material development expert.



### 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.