

# Currency News

the confidential newsletter for currency

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Currency Conference Special Issue 2 | 15 May 2013

## Launch of the Banknote Ethics Initiative (BnEI)

Two years after it was first conceived, the Banknote Ethics Initiative (BnEI) was formally launched at the Currency Conference on Monday by its chairman, Antti Heinonen, and Elizabeth Foster Back of the Institute of Business Ethics.

The initiative is the brainchild of six industry leaders to promote ethical business practice with a focus on compliance with anti-trust laws and the prevention of corruption. As Anti explained, maintaining high ethical standards is increasingly important today – with customers and stakeholders needing confidence that these are being pursued and maintained in the banknote industry to the highest levels.

The BnEI has been established in Belgium as a not-for-profit organisation. In addition to the chairman, it will in due course have a member's committee. It also comprises the BnEI Accreditation Council, chaired by Elizabeth Foster Back, and comprising two other members – an academic with a background in business ethics, and an industry representative. Appointments to both positions are pending.

Membership is open to all organisations

across the industry, irrespective of their size and experience. Each organisation will be expected to perform to a set standard that will be audited against a framework that was developed with Good Corporation, a leading company in the field of corporate responsibility and business ethics. Good Corporation is also one of two external auditors, along with KPMG. The Council will oversee the audit reports and approve these, allowing applicants to be certified as in compliance with the BnEI.

The building blocks of the BnEI are a Code of Ethical Business Practices, a framework with eight principles governing leadership, due diligence, gifts and hospitality, intermediaries, training, risk assessment, monitoring etc, and a set of tools and templates that not only promote BnEI policies and principles, but also help guide companies to put the appropriate policies and structures in place.

The framework and policies have been devised by Good Corporation and the Institute of Business Ethics. And while many already exist in other transparency and anti-corruption organisations, the key difference with the BnEI is that – rather than self-

assessment – companies will be externally audited. This, said Anti, will give the BnEI rigour and strength, and puts it on a par with other internationally-recognised standards for health and safety, quality etc.

The six companies that have helped set up the BnEI are De La Rue, Giesecke & Devrient, SICPA, KBA NotaSys, Crane and Arjowiggins Security. Other companies have expressed immediate interest in signing up, and a number of central banks have also expressed their support. The BnEI hopes that the first companies will be certified by the end of the year, and is actively encouraging other companies within the industry to become involved.

More information can be found at [www.banknote-ethics.org](http://www.banknote-ethics.org).



*Currency News wishes to apologise for the implication in yesterday's issue that Oberthur Fiduciaire designed Libya's new series and confirms that it was in fact De La Rue who designed the new family of Libyan banknotes. While Oberthur did produce notes for Libya in the immediate aftermath of the revolution, it was De La Rue that designed the new, recently-issued series, as the article below explains.*

Following the revolution in Libya in 2011, one of the first tasks of the Central Bank of Libya was to replace the banknotes to reflect the new regime. In late 2012, De La Rue was awarded the origination and print contract for the new series following a robust international tender process, and work on the new banknotes began in earnest. Libyan designers provided the original design concepts reflecting iconic images of the country. Working in close cooperation with De La Rue's design team, these were transformed into the final banknotes. On 17 February 2013, to mark the second anniversary of the revolution, the first of the new banknotes was introduced into circulation.



## Managing Note Quality and Authenticity in the Field

With the growing adoption of note re-circulation processes and technology by commercial banks, it is becoming ever more difficult for central banks to assess the quality of notes in circulation and also check that all notes being distributed are genuine.

So says Intelligent Currency Solutions (ICS) which, in order to address these issues, has teamed up with Innovia Films to launch a solution that can be deployed universally into branch-based note processing technologies. It can also be installed on low-end cheque processing equipment or as an independent system to provide feedback from the commercial bank branches - taking advantage of hardware already in use at these locations.

The solution consists of two main modules.

First is a software package for image analysis. This accesses the raw data captured by the host system (for example a note counter, scanner or cheque processor) and then uses advanced image processing techniques to assess the level of note degradation, to give a wear level for each note against a perfect note quality. The images are then further processed and individual areas of interest on the note can be weighted to give a dedicated analysis (maybe the watermark area or a specific design feature).

The output from this analysis can then be stored and further analysed to evaluate wear characteristics, the impact of note handling technologies, or specific social/cultural aspects in note usage to see how these are impacting note quality in circulation

and also manage the trends in note quality nationally.

Second is a detector, *Verus*®, that has been specifically designed to check the authenticity of Innovia Security *Guardian*® substrate to ensure that all notes being seen are genuine. The detector can be retrofitted onto existing equipment in the branch or integrated into new equipment during the roll out phase. The design of the detector is such that it can fit into most types of note and document processing equipment, even down to low-end counter-based solutions.

According to ICS and Innovia, the combination of these two elements allows technology to be deployed to the commercial bank branches, which will assess the authenticity and quality of notes and provide constant feedback to the central bank. Where notes are being re-circulated at branch level, the solution ensures that there is still adequate visibility of the note quality trends and that any issues can be identified before they become critical.

While the initial focus of this solution has been for polymer-based notes, the image processing capabilities can also be applied to other substrates. This means that in countries with a mixed stock of paper-based and polymer-based notes, the solution can provide an analysis of relative wear and degradation rates between the various note types so that the central bank can assess real note performance and quality issues independently.

A demonstration version of the solution is available on Booth 31.

## Perfect Timing for the New \$100 Bill

Michael Lambert - now Associate Director, Board of Governors of the Federal Reserve System - was scheduled some time ago to talk at the Currency Conference on the subject of 'Preparing for a Global Launch: Lessons Learnt and Path Forward'. So the announcement, just a couple of weeks ago, that the new \$100 will go into circulation on October 8, couldn't have been more timely.



*A proud Michael Lambert, seen here with the long-awaited new \$100, which will hit the streets this October, and for which a global launch programme is now underway.*

## Bigger, Bolder, Advanced Motion

*Motion*™ has been released in several new forms since it first appeared on a live banknote - the Swedish 1,000 SEK - in 2006, but in each case it has been limited to a thread with a maximum width of 6mm. Although *Motion* has been very successful - it is now on 50 denominations in 20 countries - the technology has great potential in other formats, according to Eric Ziegler, Crane's new President, Security Technologies Group. In his presentation yesterday he shared with conference delegates some of Crane's plans for its micro-optic technology, both in terms of optical potential and time frame.

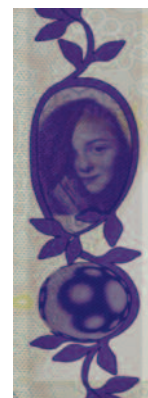
'How to make the best even better!' was the statement Eric proceeded to explain. The solution is to move to a completely new form - that of surface-applied *Motion*. By removing the limitations of the image size dictated by a 4-6mm wide

thread, the images in *Motion* can be bigger and bolder, there can be multiple and advanced effects such as switching and rotating images, and there is greater design and integration flexibility.

A good example of the latter is the possibility to incorporate a portrait, which could match the watermark and intaglio portrait on a banknote, in line with the current trend towards integrated features. The larger size *Motion* images can be applied in the form of a stripe, and, if used as a patch, the images can be positioned anywhere on the banknote.

The advantages of this new development are greater public awareness of, and ability to engage in, the feature, due to its size, unique kinetic effects and ease of verification. Another advantage is that the new feature is applied with existing application techniques.

Crane expects surface-applied *Motion* to be available as a stripe early in 2014, and as a patch in the latter part of that year.



*An example of what is in store - the portrait changes to a pattern when tilted and at the same time the icon in the ball rotates.*

## De La Rue Introduces Single Note Inspection

In a market that is increasingly demanding single note inspection to assure quality, a choice in solution is imperative. So says De La Rue which, building on more than 40 years' experience in the automated processing of issued and newly-printed banknotes, has recently introduced the DLR 9000 Single Note Inspection machine. The DLR 9000 has benefited from both the company's knowledge of banknote printing and its experience of processing in excess of 6 billion banknotes through single note inspection. Operating to the established industry standard, it has been thoroughly proved in DLR's factories and used to process banknotes that have been delivered to and issued by DLR customers. According to the company, the DLR 9000 is now available to provide real choice to all banknote printers.



## IACA Honours the Pioneers and Visionaries of Currency

A special ceremony was held yesterday to induct new members into the Currency Hall of Fame. This was established in 2011 by IACA as a posthumous honour to distinguished contributors to the currency industry, in their home countries and around the world. It provides a permanent public record and memorial of the achievements of its members.

The four candidates duly honoured were cited for their specific and far-reaching contributions to the currency industry, and the key role they played in making it what it is today.



*Adrian Baxter*

**Adrian Baxter** is described as the face of IACA, in his role of founding Senior Vice President and Executive Director. He tirelessly promoted IACA as the voice of the currency industry and was the driving force behind IACA's Excellence in Currency Awards, Guidelines, Global Payment Survey Project ... and the Currency Hall of Fame.

**Jerzy (George) Dobrowolski** pioneered the development of thin film technology for protecting banknotes. In 1968, he came up with a way to exploit a 'weakness' of optical thin films that

causes the reflected colour to change with the viewing angle, due to the interference effect. George and a colleague obtained the first patent on thin film security devices in 1975. In 1989, a 'thin film' patch was introduced on Canadian banknotes.



*Jerzy Dobrowolski*

**Peter Orchard** worked for De La Rue from 1950 to 1993 and joked that he had only been taken on because the company needed a good cricketer! However, by 1987 he had become Chairman of the company. During his time with De La Rue, Peter saw the company expand, then contract back to core businesses, weather hostile bids, and form great alliances. One key alliance, in which he was instrumental, was the formation of De La Rue Giori, for the supply of banknote printing equipment to the industry. Peter Orchard *was* De La Rue, and his contribution to the company and the wider banknote industry is incalculable.

**Rudolf (Ruud) Van Renesse** will be remembered for having brought rigour to the hierarchy of security document inspection and authentication. His most important contributions came from his focus on optical security features.



*Peter Orchard*

His book, *Optical Document Security*, now in its third edition, has become the standard reference on this topic, and led to the establishment of the Optical Document Security Conference that he chaired for many years. Ruud raised awareness, spurred the development of standards, and stimulated technology developments for optical items that are now used on the majority of currencies.



*Rudolf Van Renesse*

These distinguished gentlemen join Albert Amon, Gualtiero Giori, Siegfried Otto and John Shepherd-Barron in the Currency Hall of Fame.





**Publisher:** Currency Publications Ltd  
(a Reconnaissance International/Currency Research company)

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Currency News is published 12 times a year to report on regulatory, commercial and technical developments of importance to those specifying, issuing, producing, handling or processing of currency.

Annual subscription rate - £922 / €1152/ \$1567.  
Discounts for multiple subscriptions available - please contact us for details.

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## Louisenthal Endorses the New Euro's Features

One company that has given its seal of approval to the new €5, the first in the new 'Europa' series of euro banknotes, is Louisenthal, noting that many of the features are in common with principles and concepts it has helped to develop in recent years.

First is the watermark. According to Dr Friedrich Kretschmar, Product Manager for Louisenthal, these are one of the best known features in banknotes. And the use of a face for the portrait is an excellent choice, given that humans are primed from infancy to recognise even small changes in facial structures and expressions. Hence, even people who aren't trained in anti-counterfeit features will be able to recognise even small deviations from the original watermark that would occur in counterfeits.

Second is the security thread. This follows the same concept of smart magnetic properties that have been adopted in the new South African series, said Friedrich. 'In that case, ColourShift thin film was the carrier but the concept - which we at Louisenthal call MultiCode - is the new smart answer to counterfeiters'.

And third is the striking foil stripe on the side of the note. Louisenthal pioneered this version of diffractive optically variable feature on banknotes in stripe form, and started to include portraits within the stripe some years ago (the famous Yvonne banknote demonstrated at the Currency Conference in 2007 being an early example). The basic idea, he said, is the same as that for portraits for watermarks - namely that even non-experts can recognise small changes and hence differentiate between genuine and counterfeit versions - whether in watermarks, intaglio or foil.

'We now find that the Euro Series 2 foil elements have come to the same conclusion', said Friedrich. 'Even if this particular origination is created by another foil supplier, we see this new series in line with a new concept for referencing design elements of one feature with those of another - and the best design element in our view is the portrait. The result of this concept is a series that is better protected against counterfeiters'.

## Kurz Goes for VOLUME

Participants at the Banknote Conference last December were treated to a display of new foil-based diffractive features from Kurz in its so-called 'Anatomy' series. These have now been joined by a fourth Anatomy note, this time featuring Kinegram *VOLUME*®, which will be the subject of the company's presentation later on today.



Kinegram *VOLUME* is fundamentally different from its surface relief counterparts in that the latter comprise a series of micro-gratings that are mechanically cast or

embossed into a thermoplastic layer that is metallised to give reflectivity and display a characteristic rainbow-coloured pattern or image. Volume holograms, by contrast, are produced through optical copying of a master via laser exposure into photopolymer.

Not only is the process fundamentally different, but so is the appearance - volume holograms exhibit one colour only in a narrow viewing range, but have an exceptional diffraction efficiency that results in clear, bright images with real depth. They are also transparent.

With Kinegram *VOLUME*, Kurz has developed a process for mass-producing volume holograms as foils, which can be applied on their own or combined with their surface relief counterparts. Kurz has opted to demonstrate Kinegram *VOLUME* on its own, however, in the examples it has developed for the Currency Conference.



Focusing on the head and shoulders of an athlete, the Anatomy 90 notes feature Kinegram *VOLUME* in single colour images (one red, one green) and also one in two colour images (red and green in parallel) - all demonstrating exceptional clarity and depth, as well as some imaginative pulsing and rotating visual effects.