

SuperNote: Not so Super?

In a change to her announced paper, US Secret Service counterfeit specialist Lorelei Pagano surprised delegates with a presentation about the series of counterfeit \$100 bills designated *PN14342* by the Secret Service – popularly tagged *the superdollar* or *supernote*. In doing so, she debunked some of the myths surrounding this fake bill, but acknowledged that it was a very high quality counterfeit. The fake was first uncovered in 1996, and the designation ‘PN’ refers to the ‘parent’ fake bill. *PN14342*’s offspring included several variations on the first \$100 discovered, but all exhibited a flaw in the paper or printing which made the bills identifiable as fakes.

The family became more accurate as design mistakes were remedied. (Or were they mistakes? The Secret Service speculates that at least one consistent apparent error was in fact a deliberate

mistake to distinguish the fakes from genuine bills so that the criminals could prove to their distributors that these were indeed counterfeits.) But the bottom line is that these errors made the fakes detectable, contrary to some of the reporting of the series which suggested they were indistinguishable from genuine US dollar bills. Another myth that Ms Pagano dispelled was the value of the supernotes: measured by those confiscated, this was in the low millions rather than the tens or hundreds of millions sometimes reported.

Ms Pagano’s paper will not be published – at least until the perpetrators are apprehended— but her presentation on Monday morning clearly showed the exaggerations surrounding this series of fakes; notwithstanding the ‘high quality’ of these fakes.

Paper vs Polymer Debate Lives On

At Monday’s afternoon session there was a graphic demonstration that the paper/polymer debate can still ignite passions. Both sides have their entrenched positions and markets to protect, as seen in two presentations on Monday afternoon, one from Giesecke & Devrient, one from PolyteQ. Each purported to show the benefits of using, respectively, paper or polymer, but then, they would say that, wouldn’t they?

First, Dr Anton Gasteiger of Giesecke & Devrient presented a paper on cost-benefit ratios of printing substrates. He showed micrographs demonstrating that intaglio ink forms a higher deposit on paper than on polymer, and that intaglio printing also has an em-

bossing effect on paper which is absent on polymer, so that the traditional banknote feel is greater with paper. He also presented a spreadsheet showing that over an extended period polymer has a total cost which is double that of paper. Gary Wilmshurst, adviser to Securrency and PolyteQ, conversely presented figures showing that over a five year period polymer brings savings of around 25% over the cost of paper.

Mr Wilmshurst also presented counterfeit figures for four countries that are already using polymer: Australia – the first and most experienced with polymer – has seen counterfeits fall from 24 per

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Today’s Highlights

The highlight of Day Three of Banknote 2003 is the visit to the US Federal Reserve Bank of Richmond, which covers the Fifth Federal Reserve District of the US. The morning will be taken up by a tour of the Currency Technology Office, which provides support to the entire Federal Reserve System in the development and operation of automated currency processing and authentication systems.

Following the tour, the rest of the day’s proceedings will also take place in Richmond. As well as hearing about the structure, activities and function of the Federal Reserve, we will also be finding out from the Federal Reserve of New York about the circulation of US dollars overseas, and their effect on the world economy. Cash handling and processing will be the theme of much of the rest of the afternoon, with presentations from two further central banks: Mexico on its modernisation of cash-handling operations and Belgium on the role of central banks in banknote sorting. MEI covers the effects of note quality on the performance of note acceptors. SICPA, meanwhile, will be looking into the future with its presentation on banknote security in the 21st century.

DETECTION

It's A Dog's Life

The source of 40% of all US counterfeit dollars is Colombia, where a series of well-organised operations are active in producing high-quality look-alikes. The US Secret Service has established an unusual form of counterfeit detection to fight this problem.

The Canine Counterfeit Detection Program, established in 1997 in specific response to the production and distribution of fakes from Colombia, is the world's first use of dogs to detect counterfeit banknotes. So far the team comprises Mike, a Dutch shepherd dog and his handler Jaime Solis, but the program has been so successful that the Secret Service is looking at recruiting and training more dogs. And five dogs are about to 'graduate' to form a K9 unit in Colombia, in a joint initiative between Interpol, the US Secret Service and its Colombian equivalent the DAS.

The *modus operandi* of Colombian counterfeiters is the reproduction of US dollars using traditional techniques on predominantly genuine currency which has been bleached. In this process, genuine notes – the US\$1, sucres from Ecuador, bolivars from Bolivia (which share some of the US dollar's features) and even Iraqi dinars – are soaked in chemicals to loosen the intaglio ink which is then scrubbed off. The paper is treated to compensate for the surface damage caused by this process, and then printed with higher value dollar denominations using hand-fashioned offset and intaglio presses. OVI inks, watermarks and threads are all simulated through printing to produce notes which, in many cases, appear to be of high quality on initial examination.

Dogs can detect odours in concentrations of parts per trillion, and Mike has been trained to recognise the odours produced by genuine intaglio inks and bolivar paper, by bleaching chemicals and non-legitimate offset and intaglio inks. Since 1998 he and his handler have been working alongside US Customs Service in the detection of inbound counterfeits at ports of entry and warehouses. They have also visited Colombia itself to help track down some of the sources of the counterfeits. His efforts in 2002 alone resulted in more than \$5M of counterfeit currency being



Mike on the scent among conference delegates

seized and the arrest of 20 smugglers.

We were privileged to see Mike put through his paces yesterday as, unknown to the audience, one of them had been 'planted' with some counterfeit currency for Mike to detect. This he duly did, the culprit being Tom Ferguson, Director of the Bureau of Engraving and Printing, who was found to be concealing counterfeit notes taped into magazines in his briefcase (a way favoured by smugglers in bringing counterfeit dollars into the country).

And Mike's 'reward' – an old towel to chew, which he promptly tore to shreds. As they say, it's a dog's life.

Physical & Logical Security

Delegates at Banknote 2003 have experienced firsthand the type of access security that Gary Glickman would like to see banknote printers and distributors take for granted. He is the president for strategy and business development of Maximus, the company providing and staffing the access control system on-site – that is, ensuring that your fingerprint is the one on the chip card you present to gain admittance to the conference area.

As he revealed in his paper, the BEP is one of the divisions of the US Treasury for which Maximus is now installing a chip card based computer access system, with physical access possibly to be added later. The BEP is the company's first move in protecting a currency site or systems, but Glickman sees it as natural that the industry would want to be sure that people are who they claim to be and with the right to access protected sites and computer systems. Maximus has been encouraged in this move, and in its support of Banknote 2003, by Joseph (Jody) R Zimmerman, VP banking, industry and government for G&D America's Smart Card Systems division. G&D is a supplier of chip cards for the types of system developed and installed by Maximus.

Completing the Circle?

Maximus has provided at least a dozen computer terminal reader systems and the same number of staff, an indication of their commitment to this industry as a potential market. Mr Glickman told Currency News that they have had a lot of positive response from delegates. He also mentioned that some have wanted to discuss the need to protect the chip cards with high quality security printing. While the smart card and its bearer should be inextricably linked by recording a biometric on the chip, there is logic and a satisfying completion of the circle in recognising that the card itself could also benefit from such protection.

SPONSORS

Crane Meets the Durability Challenge

Crane & Co, the 200-year old papermaker and supplier of paper for the US currency, has always held a place in the banknote market and sees Banknote 2003 as an ideal forum for meeting its customers, particularly given its Washington DC location.

The on-going debate about the durability and longevity of banknote substrates is one close to Crane's heart – the US currency being known for its durability in comparison with other currencies. This is attributed to

the length of fibres resulting from the cotton/linen mix Crane uses, and which it is championing through *Marathon™* - a durable tear-resistant substrate which is claimed to outlive ordinary banknote papers in circulation by a factor of two.

Crane sees the need for increasingly durable substrates as a key challenge for the banknote industry in the immediate future, along with the need for enhanced security features that will last as long as the paper itself.



Crane's International Sales Coordinator Rose Fox shows off the house mouse-mat

Orell Füssli's New System Improves Cost and QC

Swiss banknote printer Orell Füssli sees Banknote 2003 as an ideal opportunity to meet the currency community and to learn from it through the presentations.

One of the company's latest development is the *Sheet Counting System (SCS)*. This is effectively a track & trace system for banknotes, which cuts out the need to count sheets of notes at every stage of production. Developed in-house, SCS in-

volves the application of a barcode to each sheet at the first stage of printing (offset). This barcode is read at every subsequent stage of production, finishing with information on count and batch relayed to a database which provides a complete history of each sheet produced. At the numbering stage, the barcode is correlated to the individual serial number, providing a complete log of each banknote produced.

Orell Füssli will be offering SCS to state printing works as a means of maintaining control of quality and cost, an important consideration when banknote printing is becoming more complex.

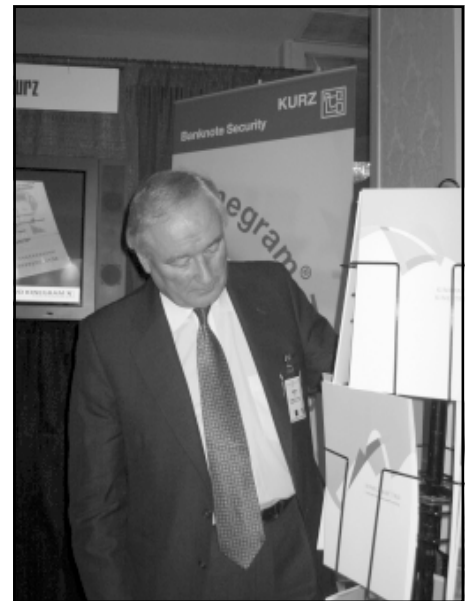
The company also uses and represents the *LaserPerf* microhole authentication system, as shown by Vice Director Ian von Fellenberg.



Kurz: Banknote OVD Pioneer

Kurz is a pioneer in supplying DOVID foils for banknotes and was the predominant supplier for the euro notes. The company is a sponsor of Banknote 2003 because it aims to further the benefits of its foil technologies for the banknote community, and wants to demonstrate its ongoing developments and unique security products, John Tye, its banknote business development manager told Currency News.

Kurz produced 14.5 billion units for the launch of the euro and continues to produce foils for replacement notes. It is also involved in developments as the



John Tye checks the literature rack on the Kurz exhibit booth

ECB plans ahead for future designs. John Tye commented that an event like Banknote 2003 allows the company to meet its customers and potential new ones; to show its latest developments – as referred to by Wayne Tompkin of Kurz subsidiary OVD Kinegram in his paper on Sunday – and generally 'to remind them we're in the banknote business!' For the future, Kurz sees the emergence of combination OVDs as the key to continuing to stay at least one step ahead of the counterfeiters.

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OVD Foils: Simplicity From Complexity

It seems that there is a quiet but significant trend in the development of foils for banknote protection, as every foil company represented at Banknote 2003 has announced a simple colour-change device. Simple to view, that is; not necessarily simple to produce.

On Sunday, Wayne Tompkin talked about OVD Kinegram/Kurz's 'novel surface relief gratings' that display a red to green colour shift when rotated through 90°. Then today Matthias Müller presented information about Hueck Folien's *Colour Switch* material, followed by Hologram Industries' Hugues Souparis description of the *DID*® (Diffractive Identification Device) foil. They all have in common a distinct and

easily recognisable change in colour with given some simple viewing angle change – a rotation or tilt. Colour Switch is available in eight colour-ways, while DID can incorporate a patterned red/green – green/red shift. Both these two are available as patches, stripes or threads.

The *zeitgeist* seems to be saying that in terms of a first level, public authentication device, simplicity is needed and perhaps DOVIDs have tended towards image complexity recently. All these companies claim their products are easy to identify but difficult to replicate. Certainly, from the information given in the papers, they require considerable sophistication to originate and manufacture.

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million in circulation to four; in New Zealand it has gone from 13 to one (both for all denominations); in Brazil low denomination fakes have fallen from 364 to 17 per million, whereas in Indonesia, for the high denomination, the figure has gone from 296 to three. The Indonesian figure, is however, at odds with the report quoted in Gasteiger's presentation on the ease with which the 100,000 rupiah had been counterfeited.

Thankfully, some objectivity was

brought into the discussion by Somchai Sringkarrinkul of the Thai Central Bank who pointed out that polymer notes have not been popular with the public, although the wear rate of the 50 baht polymer note is 200% better than paper.

In another development, the Bank of Zambia told Currency News that it is replacing paper with polymer for its K1000 and K500, which currently have a circulation life of around six months.

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