



CURRENCY NEWS™

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Don't Cry for Milei, Argentina

■ By Francisco Mandiola, FMA Secure

Apologies to Andrew Lloyd Webber and Tim Rice for twisting the title of the theme song for the musical *Evita*, but it was too good an opportunity to pass up given the current and prospective state of Argentina's currency following the election of the maverick candidate Javier Milei as President last November. In this article, Francisco Mandiola of FMA Secure explains what is happening in South America's second largest country and economy, and what it means for the currency.

One week after Argentine President Milei was voted in, several economic publications in the region made clear that he and his government had their initial work cut out for them. The nation's poor made up over 40% of the country, about 10% were homeless and those employed could be certain that inflation and foreign exchange rates were not going to improve overnight.

Despite this, President Milei remained firm in his commitment to 'shock' the country onto a path of eventual economic stability, no matter how difficult.

The main problems that Mr Milei faced (and faces) were the following: a wildly volatile exchange rate, risk of hyperinflation, huge budget cuts for the government, privatisation of fully or partially-owned national corporations and finally, the nation's debt with the IMF, valued at the time of election at a little over US\$46 billion, with interest payments looming over the horizon

and not enough funds to pay them. Which naturally leads us to our pet subject – currency.

At the time of Mr Milei's inauguration, analysts estimated that Argentina's central bank, Banco Central República Argentina (BCRA), could boast of approximately US\$10 billion in negative reserves, assuring low confidence for the Argentine peso (ARS) and effectively strapping the BCRA from using its (negative) dollar reserves to attempt to control the wildly disparate official vs. unofficial exchange rates (near 200% at the end of 2023).

During some of his initial public interventions, Mr Milei went as far as to lay the blame squarely on the BCRA for authorising excessive emissions of currency to enable the government machine to keep operating, and he threatened to not only 'dollarise' the economy but also



People in the News

The Central Bank of the Republic of Turkey has appointed **Fatih Karahan** as its new Governor. He was previously a Deputy Governor and replaces **Hafize Gaye Erkan**, who resigned earlier this year.

The Supervisory Board of Polish Security Printing Works (PWPW) has appointed **Marcin Wojdat** to the position of President of the Management Board of the Company, replacing **Piotr Ciompa**, who was dismissed in January. He was formerly in charge of governance and compliance at the research institute Gemius and, prior to that, spent 15 years with Warsaw's local government as City Secretary with responsibility for civic affairs.

Crane NXT has appointed **Hans Lidforss** the new role of Senior Vice President of Strategy. He will be responsible for advancing the company's strategy and creating new avenues for growth, including identifying and executing opportunities for M&A, growth ventures, and partnerships. He joins Crane NXT from Sensata Technologies, where he was Senior Vice President, Chief Strategy and Corporate Development Officer.

Meanwhile Crane Currency has appointed **Laura Wheeler** as Strategic Program Director. She was formerly the Chief Commercial Office and Executive Board member of Portals.

The International Hologram Manufacturers Association (IHMA) has elected **Dr Mark Deakes** of ITW as the new Chairman (see page 8) replacing **Dr Paul Dunn**, who has stayed on the Board as an advisor. The IHMA has also elected two new Board members – **Jim Keller** of OpSec and **Alexandre Noizet** of IN Groupe.

Matt Lewis has joined Currency Research in the role of Vice President / Director of Asia Pacific. With 30 years of experience in financial markets, he has held senior positions in Travelex running their wholesale banknote business in Asia Pacific and, more recently, with the Westpac Group managing their retail cash distribution. He replaces **Melanie Hawgood**, who is moving to a part-time position with Currency Research and who will be supporting the transition to Matt.

More States Consider Cash Legislation

Florida, Wisconsin and Vermont are the latest states to consider introducing legislation to force cash acceptance.

In Florida, a bipartisan bill is underway that, if passed, will require businesses to accept cash with no added fees or conditions. The legislation would apply to in-person businesses, and except those which operate online, by phone or mail, and those offering services such as accountants, attorneys and financial advisors.

A bipartisan bill is also under consideration in the Wisconsin legislature. Introduced in late 2023, it would prevent establishments from refusing cash for any in-person transaction of less than \$2,000.

Meanwhile in Vermont, a Senate bill proposes that businesses will need to accept cash for transactions under \$1,000. If passed, it will come into effect at the start of July. Discussions about whether the bill is needed or not have included reference to the increasing frequency of natural weather events due to climate change.

Similar legislation requiring businesses to accept cash has already been, or is in the process of being, enacted in Arizona, Connecticut, Colorado, New Jersey, Massachusetts, Mississippi and the District of Columbia (DC), as well as by local governments in Atlanta, Detroit, Los Angeles, New York City, Philadelphia, San Francisco and Philadelphia, and Washington DC.

At the federal level, a bipartisan bill – the Payment Choice Act – was reintroduced to the US Senate last July, aiming to prohibit businesses nationwide from refusing cash payments, or charging a higher price to use cash.

Sweden and Norway move to sustain cash

Over in Europe, meanwhile, the governor of Sweden's Riksbank has called for legislation to require banks to accept deposits of banknotes and coins, an activity that has almost entirely ceased.

At the same time, the Riksbank wants legislation to ensure that cash can be transported to and from retail businesses. The current system relies on one private company, and this has been identified as a weakness in the system.

While cash usage has continued to fall in Sweden, a Riksbank report shows 44% of people having a negative attitude to this, up from 36% in 2022. The report also identifies difficulties in the transition

to digital technology. The Riksbank wants payment providers to simplify payments and identification and to offer more widely technical solutions such as biometrics.

Finally, the central bank wants banks to offer more accounts with limited functionality rather than denying access to payment accounts for groups they identify as being risky customers.

As in Sweden, Norway – another global 'leader' in transitioning to digital payments – is also looking at rules to ensure consumers can pay with cash.

The move seeks to ensure 'security for those who are reluctant to use digital payment solutions,' as well as boosting society's preparedness for emergencies, Justice Minister Emilie Enger Mehl said in a statement.

The proposed measures will ensure that customers can pay with cash at any sales location where other types of payment are accepted.

Switzerland and Austria affirm importance of cash

In Switzerland – which, by contrast, is still an enthusiastically pro-cash country – the Swiss National Bank (SNB) has stressed that cash is the most widely-accepted payment method due to 'a broad desire among the population for cash to continue to be available' and that 'cash will never disappear from use.'

According to SNB Vice Chairman Martin Schlegel 'physical cash will never disappear from use in Switzerland, despite the popularity of payment apps.' He warned against the negative impact of a reduction in banking branches and cash machines, saying the SNB was 'prepared to take action if the downward trend accelerates.'

A similar view prevails in neighbouring Austria, whose Chancellor is advancing plans to recognise the right to use cash in law, instructing the Finance Ministry to work with the central bank to develop proposal to this effect.

Austrians are among the highest cash users in Europe and the Chancellor's office says the planned legislation will be 'a constitutional protection of cash as a means of payment' to ensure people can pay with cash whenever they choose. It will also 'secure a basic supply of cash' in cooperation with the Austrian National Bank.

BEP Pushes Ahead with Modernisation, Expansion and New Series

The Bureau of Engraving and Printing (BEP) has published its annual report for 2023 – the first under Acting Director Charlene E Williams, who was appointed to the position after the retirement of Len Olijar last July. In turn, she will be replaced by incoming Director Patty Collins, whose appointment was announced earlier this year.

During FY 2023, BEP fulfilled the Federal Reserve Yearly Currency Order (YCO) on schedule and under budget. In addition, it shifted focus to essential projects in support of the United States Currency Program's (USCP) long-term initiatives, made 'great' progress towards the next series of US banknotes, remediated deferred equipment maintenance, completed equipment upgrades and installed new equipment.

The BEP also completed the expansion of its Western Currency Facility (WCF) in Fort Worth, Texas and broke ground for the new facility in Beltsville, Maryland.

The FY 2023 YCO was for a range of 4.5-8.6 billion notes. The BEP delivered 5.7 billion notes (versus 6.4 billion in FY 2022). The 2023 production reflected a swing back to \$1 notes (nearly half), after several years in which global demand was driven by high denomination notes, particularly during the pandemic.

The 2023 currency delivery resulted in revenues of \$973.3 million, and an excess of revenue over expenses of \$117.3 million.

The cost of goods sold decreased by \$24.1million to \$614.7 million in FY 2023. This was due, in large part, to a decrease in the quantity of notes produced and delivered, with the majority of the decrease in the higher cost \$20, \$50 and \$100 notes, as well as material savings achieved from expansion of the Single Note Inspection (SNI) reclamation process.

Over the past year, the BEP continued to make investments in expanding and replacing its facilities, updating manufacturing equipment and implementing process improvements. It installed new energy-efficient equipment and process improvements which will help reduce operating and environmental costs well into the future.

These include the installation of physical vapour deposition (PVD) plating at the DC facility and multiple nonsequential Large Examining and Printing Equipment (ns-LEPE) at both facilities. The BEP also continued to migrate from 32-subject to 50-subject sheets and to utilise SNI across all

denominations to minimise product spoilage.

These investments enabled the BEP to realise savings of more than \$16.7 million in manufacturing costs, of which \$15.9 million was in reduced spoilage alone (now standing at 7.2%) resulting from the reclamation of 342 million notes at both facilities and the diversion of 376.5 tonnes of currency waste paper from disposal.

After more than five years, BEP's expansion of the WCF is now complete. It now stands at 93,000 m², adding much needed space for new process capabilities and environmental improvements, additional vault storage, and administrative space to support future generations of currency design and production.

The expansion also provides flexibility in anticipation of transitioning production from the current facility in Washington, DC (DCF) to the new currency manufacturing facility in Maryland. The District Area Currency Replacement Facility (DCRF) project is on track to break ground on construction in 2024, with the site and building plans officially approved by the National Capital Planning Commission (NCPC) in April 2023. Production is expected to begin at the new facility in late 2028 or early 2029, pending unforeseen issues.

'These facility upgrades – along with our investments in new printing and processing technology – will support the production of the next generation of banknotes with increasingly complex designs', said the BEP.

The report hinted at what the next family of notes, called 'Catalyst', will look like. The designs will be increasingly more complex than the current ones. They will incorporate improved counterfeit deterrence features, and a raised tactile feature to assist the blind and visually impaired. BEP has already performed testing on the new designs, as well as testing other product and process improvements.

The first note in the new series, the \$10, is due to go into circulation in 2026, followed by the rest of the notes at roughly two yearly intervals.

Crane to Acquire OpSec

Crane NXT, whose subsidiaries include Crane Currency, Crane Authentication and Crane Payment Innovations, has announced it has signed a definitive agreement with Investcorp Technology Partners to acquire the optical technologies and brand protection specialist OpSec Security for \$270 million in cash, subject to customary adjustments.

OpSec Security was formed through an acquisition by Applied Holographics plc of OpSec, both pioneers in holography, at the end of 1999. The new company operated in the ID, credit card, security print, brand protection and packaging markets, supplying major companies in the sports, software, clothing, pharmaceutical, telecommunications, motor, stationery, and other consumer products industries.

At one time it was also a supplier of the diffractive films used for thread in banknotes, including for Finland, Hong Kong and Bangladesh. But in recent years it has concentrated on the brand protection market, building on its optical and materials capability with a portfolio of scalable software platforms that enable the traceability of products, manage the licensing of brand properties, and detect and enforce against online brand use and content infringement.

Crane first entered the brand protection market in 2020 with a range of security labels and packaging films based on its proprietary micro-optics technology, which it has branded PROFOUND™. It believes, with good reason, that the acquisition of OpSec will expand its capabilities across the entire product and brand authentication value chain.

Commenting on the acquisition, Crane NXT's President and Chief Executive Officer Aaron W Saak said: 'OpSec is an excellent fit with our portfolio of technologies that secure, detect, and authenticate our customers' most valuable assets. This acquisition will enable us to leverage our complementary expertise in anti-counterfeiting technology and drive growth and sustainable value creation as a trusted partner to clients.'

OpSec expects to generate approximately \$130 million in revenue for fiscal 2024 (excluding Zacco, the intellectual property management and protection company acquired in 2023 that will remain with Investcorp). Crane NXT expects the acquisition to be accretive to adjusted earnings per share in 2025 and to achieve double digit return on invested capital by year five.

The transaction is expected to close in the second quarter of 2024.

A Positive Picture for Cash Companies in 2023 – Part 2

Last month, we covered the annual results of four of the major companies in the cash sector –Crane NXT, Loomis, NCR Atleos and Diebold Nixdorf. After the predicable challenges of the COVID years and their aftermath, 2023 was a good year for all.

This month is the turn of Brinks, Prosegur, Orell Füssli, Koenig & Bauer and Spectra Systems. Again, all turned in a positive performance for the year.

Record results for Brinks

2023 proved to be a particularly good year for Brinks, who reported record results in all key performance criteria, ie. in revenue, adjusted EBITDA, EPS (earnings per share) and cash flow.

Revenue of \$4.87 billion was up by 7% versus 2022. Organic revenue growth was 9% and acquisitions accounted for 2% growth, but the foreign exchange impact was a negative 4%. Adjusted operating profit (EBITDA) of \$867 million was 10% higher, pushing up the operating margin to 17.8% from 17.4% in 2022.

Revenue growth was achieved in three of the company's four regions – by 1% in North America to \$1.6 billion (the company's largest region), by 10% in Latin America to \$1.3 billion and by 22% in Europe to 1.13 billion, although rest of the world revenue fell marginally by \$5 million to \$804 million. Operating profit increased by 16% in North America to \$185 million, by 1% in Latin America to \$280 million, by 27% in Europe to \$125 million and remained the same in the rest of the world at \$164 million.

Guidance for 2024 is positive for all key performance criteria, with revenue forecast to increase by 6% and adjusted EBITDA by 11%.

Good performic marred by forex impact at Prosegur

Prosegur's revenue growth in 2023 of 3.3% increased sales to a record €4.3 billion, despite the impact of exchange rates (-39.3% versus -5.7% in 2022). Operating profit, EBITDA, fell by 2% to €459 million, reducing the operating margin from 11.2% to 10.6%, and EBIT fell by 3.7% to €280 million. Net profit fell by 6.6% from €84 million to €79 million.

Prosegur Cash achieved solid organic growth of more than 50% but although strong increases in price and volume were achieved in all regions, revenues were impacted by foreign exchange and fell by 0.6% to €1.86 billion. Profitability fell by 15.4% to €220 million, and the operating margin fell from 13.9% to 11.8%, impacted by the adjustment of hyperinflationary accounting. New products now exceed 30% of sales.

The company judged its business in 2023 to be a successful operational performance and expects 2024 to provide positive growth, when it intends to focus on operating efficiencies that contribute to margin improvement and cash generation.

Growth all round at Orell Füssli

Orell Füssli pronounced 2023 a successful business year, in which its growth strategy gained traction, all divisions achieved revenue growth and its operational efficiency improved.

Revenue in 2023 was above expectations, increasing by 7% to CHF 232.2 million. EBITDA increased by 16% to CHF 29.8 million, operating profit (EBIT) by 25% to CHF 18.1 million and net profit also by 25% to CHF 14.6 million.

Security Printing recorded revenues of CHF 77.152 million, a 9.5% increase over 2022. Production was fully utilised due to the good order volume, with the percentage of banknotes for export again very high, including orders from Paraguay and Madagascar among others. Operating profit (EBIT) also increased, by 8.36% to CHF 10.58 million, while the EBIT margin remained the same at 13.7%.

The improved performance was attributed to progress in efficiency and sustainability, as well as the modernisation of machinery and process improvements that boosted productivity, improved quality and reduced carbon emissions.

The division expects a further increase in sales in 2024 but an EBIT margin slightly below 2023 due to the product mix in the current order backlog.

Industrial Systems (ie. the numbering and serialisation specialist Zeiser) has turned itself around after a poor 2022. Revenue increased by 36% to CHF 21.59 million and operating profit (EBIT) by 284.1% to CHF 3.55 million, resulting in the EBIT margin jumping from 4.4% to 16.5%. It is predicting a further increase in demand and good business development in 2024.

BEP order boosts Koenig & Bauer

According to Koenig & Bauer's preliminary figures, it met its forecast for 2023. Revenues were up by 12% to €1.32 billion, which was at the upper end of its guidance of €1.3 billion. Operating profit (EBIT) was up by 35% to €29.9 million, which was also within its forecast of €25-€35 million.

Of particular interest is the company's Special Segment, which includes the Banknote Solutions business. Revenues totalled €413.7 million at year end, slightly down on the previous year's figure of €417.1 million. EBIT, at €23 million, was only slightly short of the previous year's figure of €23.2 million.

But looking ahead, order intake in the Special Segment increased by 37.1% from €393 million at the end of 2022 to €538.8 million at year end 2023. In the fourth quarter alone, order intake amounted to €268.1 million, underpinned by an order from the Bureau of Engraving and Printing.

Spectra banks on sensors and polymer

Spectra Systems reported another profitable year. Revenue increased by 3.4% to \$20.28 million, adjusted operating profit (EBITBA) by 3.9% to \$8.4 million and PBTA by 6% to \$8.23 million. The results were driven by sensor development milestones and prepayments, record sales of covert materials to a central bank and strong optical materials sales.

Last December Spectra Systems acquired 100% of the shares of the UK security printer Cartor, the operations for the remaining 10 days of the fiscal year of which were incorporated into Spectra's accounts.

Commenting in the results, Spectra's CEO Nabil Lawandy noted that the company had made further progress in 2023 with revenue, adjusted profit before tax and amortisation and adjusted EBITDA all ahead of the previous year. The acquisition of Cartor, he said, was transformative as it brings security printing into the core capabilities of the company. It also brings many optical materials opportunities through the company's existing sales pipelines and provides Spectra with a secure supply on a par with the two largest polymer substrate suppliers.

Looking ahead, he stated that 'the combination of the sensor revenues, expected to begin with the execution of the manufacturing contract, as well as the increased opportunities for optical materials and downstream polymer substrate sales are expected to result in record revenues, cash generation, and continued long term growth.'

News in Brief

■ De La Rue Reaches Climate Leadership Status

De La Rue has announced that it has achieved an A- in its 2023 CDP Climate Change Questionnaire, which means it has reached leadership status (A and A- scores).

CDP (the Climate Disclosure Project) is an internationally recognised sustainability reporting platform, working on behalf of nearly 750 investors representing £108 trillion in assets. Operating since 2002, the scores it publishes enable stakeholders to evaluate the environmental performance of a company against a trusted international benchmark.

'The importance of good quality climate disclosures has never been more pressing, particularly in light of the immense impact the climate emergency poses to our global economy and the limited time we have left to limit global temperature rise and reach net-zero' said De La Rue, adding that it is committed to be transparent in terms of climate disclosures and will continue to demonstrate its leadership in addressing climate risks and its contribution towards a low carbon future through the CDP.

CDP scored over 21,000 companies on their environmental disclosures for 2023. 358 companies, De La Rue included, made the Climate Change A List, 31 made the Forests A List, and another 101 the Water Security A List.

■ Pakistan Investigates Notes with Blank Backs

The State Bank of Pakistan (SBP) has stated that it is investigating how some misprinted Rs 1,000 banknotes were issued to commercial banks, after a video went viral showing a series of the notes with no print on the reverse.

The quantity of defective notes was reported to be 'miniscule' by a spokesperson for the SBP, who said that despite the printer (Pakistan Security Printing Corporation) having a robust system in place to double-check the quality of printed notes and reject defects, there is still a chance for some misprinted notes to be mistakenly circulated. But as a result, 'internal controls are being further improved' to avoid this type of incident in the future.

In January, the SBP began the process of designing a new series of banknotes, targeted at combating counterfeiting, in particular of the Rs 5,000. As part of this, it has denied rumours that the new series will be produced on polymer, stating that the notes will continue to use cotton-based paper produced by Pakistan's

Security Papers Ltd, using primarily local raw materials.



■ RCM Tracks Integrity of Gold

The Royal Canadian Mint (RCM) has announced that it has implemented a Distributed Ledger Technology (DLT) solution that now makes it possible to perform end-to-end tracing and certify the provenance of gold deposited and processed at its refinery. This solution has been applied in collaboration with aXedras, and its Bullion Integrity Ledger™.

The solution will record the transaction history of both incoming material and also gold bullion bar products, so that whoever has custody/ownership of the gold bar will have the ability to see the custody history. It will also the transfer and new ownership of a gold bullion bar.

The solution also allows the RCM to attach a provenance record to each gold bullion bar to enable the owner to view the origin of the gold within the bar. This could be responsibly sourced gold of a specific origin, such as a single mine, Canadian-mined gold, recycled gold, or co-mingled gold that includes the blending of responsibly sourced gold, internal recycled material recovered as part of the normal refining process, such as re-used anodes, and residual gold cleaned from refinery processes.

Parties registered as platform users, such as refining clients, armoured car carriers/logistic providers, financial institutions, and bullion distributors and dealers, will be able to access this data directly.

■ Burning Banknotes

Da Afghanistan Bank (Afghanistan's central bank) has stated that, in the past year, it has collected and burnt approximately 5.2 billion worn-out banknotes.

The current series was first issued in 2002, following a redenomination, with various subsequent upgrades. But the quality of notes is said to be exceptionally poor, even before the Taliban returned to power in 2021 – due to a combination of excessive handling, lack of automated counting and sorting machines, and an inability to obtain new notes. An international embargo on international payments and a freeze on its assets prevented the central bank from obtaining new banknotes for over a year,

but a new consignment of banknotes was eventually delivered in late 2022.

Also, in 2021 the Taliban banned the use of all foreign currency, leaving locals with no choice but to use the worn-out notes. Previously the use of US dollars had been widespread, along with, on the country's borders, the Pakistan rupee.

■ French Mint Jumps Gun on New Euro Coins

The French state-owned mint Monnaie de Paris is having to remint 27 million euro coins – in denominations of 10, 20 and 50 cents – because the first designs didn't meet approval from the European Commission.

According to the Monnaie de Paris, it applied for approval of the coin designs – the first new ones since the coins were introduced in 2002 – in accordance with existing procedures, following its proposed draft design in September 2023. In December, the European Commission (EC) noted that it would not approve them due to 'lack of visibility' of the 12 stars of the European flag that encircled the design, but production of the new coins had already started due to 'the irreducible production time', with distribution originally intended to start at beginning of this year.

In a statement clarifying its position, Monnaie de Paris noted that it had proposed a new version of the designs 'in less than 72 hours', which has since been validated by the EC. The design proposal was then transferred to the euro members states for approval, which occurred on 21 December, and minting of these updated versions has now begun.

Monnaie de Paris states that the unvalidated versions comprised 2% of its annual production of 1.4 billion coins in 2023. All 27 million coins will be recycled to produce new coins in 2024 and it will bear the costs (estimated to be up to 1.2 million, not the state).



New versions of the French €1 and €2 coins were introduced in 2022. The designs of the national sides of the new 10, 20 and 50 cents will feature effigies of the renowned Frenchwomen Simone Veil, Joséphine Baker and Marie Curie respectively, alongside the image of the Sower which appears on the current coins.

Counterfeit Corner

■ By Kerre Corbin, Currency Counterfeit Specialist

Many counterfeiters use a common method of counterfeiting called ‘bleaching’ to create their fakes. This technique is frequently observed in countries that have the same size banknotes across all denominations, such as the US dollar.

So, how does it work?

A counterfeiter will remove the ink from a genuine banknote (usually a low denomination) using strong household chemicals, such as oven cleaner or graffiti remover, then print a larger denomination on the blank genuine substrate.

If the intaglio ink is particularly difficult to remove, they may soak the banknote in the chemical solution and heat in a microwave. Some counterfeiters have even used electric toothbrushes to scrub the surface!

An inkjet or laser printer is commonly then used to print the larger denomination.

There are several benefits (to the counterfeiter) in using this technique:

1. All the paper/polymer substrate features remain in the blank substrate. Watermarks, security threads, paper fibres, iridescent ink, embedded white/colour ink layers, polymer tactile marks and any covert substrate features will not be scrubbed off the surface.
2. The counterfeit detection pen will still recognize the banknote as genuine because the paper is genuine. See the Counterfeit Corner article in the October 2023 edition of Currency News for more information about the counterfeit pen.

Let’s look at an example of how the US changed their banknote design to help deter this type of counterfeit. The previous design (1996 style) had a watermark image that matched the portrait on each banknote denomination. The counterfeiter could easily bleach a \$5 and print a \$100 image on the blank genuine paper, as the security threads were in a similar location to the left of the portrait.

In the current design (2004 style), the \$5 watermark was changed to a numeral ‘5’ to help deter this type of counterfeiting method. In addition, the security thread was moved to the right of the portrait, and in the location where the security thread used to be, an additional watermark was added, three ‘5’ images in a vertical orientation.

Monitoring the techniques used to counterfeit banknotes should be an integral part of determining how to improve the counterfeit resiliency of your country’s currency.

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Around the World – Counterfeiting Update

A new periodic series of articles in Currency News™ will summarise information on counterfeit currency around the world, starting in this issue with the Czech Republic, Ghana, Kosovo and the Philippines.

Steep rise in Czech Republic

The Czech National Bank (CNB) identified 3,539 Czech banknotes and coins worth CZK 5.648 million as counterfeit in 2023, a steep rise of 2,419 over 2022.

Of the 2,135 Czech banknotes worth CZK 5.6 million identified as counterfeit in 2023, 57% were the 2,000 koruna note, followed by the 5,000 koruna (28%) and 1,000 koruna (9%).

CNB experts gave 80% of the counterfeit banknotes a grade of 4 on a five-point security scale (similar to the marking system in Czech schools, with a grade of 5 being the worst). These counterfeits either had no security features or only unskilled imitations of them. In second place were grade 5 banknotes, ie. banknotes whose reverse side and face side orientation were wrong, monochrome banknotes and one-sided banknotes. In 2023, the CNB seized a total of 395 of these banknotes.

The CNB also seized 11 altered banknotes, the quality of which was poor, and 1,393 fake 20 koruna coins worth CZK 27,860, the quality of which was said to be good.

In addition, the CNB seized 1,033 imitations of banknotes and coins. These included theatre and film props, promotional items and souvenirs, teaching aids and vouchers for discounts on goods and services, ie. copies of money which were not produced to be put into circulation.

‘No-Counterfeit’ Regime in Ghana

The Bank of Ghana has made the bold claim that it is close to a no-counterfeit regime, having put in place strict measures to monitor currency in circulation in the country and urging the public to handle notes properly to help maintain their integrity.

Head of Currency Management, Dominic Owusu, stated that ‘in Ghana, counterfeit(ing) is not a problem for us. We are far below when it comes

to counterfeiting and when you look around on the continent, we are one of the few making sure we don’t have many counterfeits within the economy. We are now somewhere around seven banknotes per million when it comes to counterfeit(ing)’.

Stepping up in the Philippines

In the Philippines, anti-counterfeiting operations by Bangko Sentral ng Pilipinas (BSP) have led to the confiscation of more than 46,000 counterfeit banknotes worth over P35 million since 2010.

Since 2010, it has conducted 129 anti-counterfeiting operations that led to the apprehension of 212 suspects. It has filed 194 cases related to counterfeiting, of which 78 have been resolved, with 76 cases resulting in the conviction of the accused.

Coins the problem in Kosovo

In Kosovo, the problem of counterfeits appears to be more relevant to coins than banknotes.

The Central Bank of Kosovo (CBK) has issued a statement to the effect that it has successfully coordinated inter-institutional meetings to draft and implement effective strategies to fight the circulation of counterfeit money, especially €2 coins.

These include the removal of fees for depositing coins, ensuring the supply of new coins via commercial banks, and regulatory amendments regarding cross-border transportation of coins, resulting in the withdrawal of a significant number of counterfeit coins.

Specifically, from December 2023 until March 2024, business and citizens deposited 2 million €2 coins, of which 47,168 coins have been withdrawn as being suspected of counterfeits. In turn, the CBK issued 6.75 million new coins of all denominations via commercial banks without applying a fee. This commitment, it says, has contributed to the decrease in circulation of counterfeit coins, facilitated identification and increased public awareness.

In the implementation of new regulatory measures, a limit has been set of 100 coins that can be carried over borders, even if their value is below the declaration limit of €10,000.

... Don't Cry for Milei, Argentina

to close the central bank as responsible for the continued devaluation of the Argentine currency.

Another issue cited by Mr Milei was the rules limiting the amounts of foreign currency that citizens and companies were legally allowed to purchase, known as 'cepos'. Since 2011, Argentines were subject to 11 different cepos, effectively handicapping foreign currency transactions by constantly changing the rules for these.

In tune with his libertarian views, Mr Milei also stated that he had no problem with regional banknotes should Argentina's individual states decide to issue these but, he was quick to point out, this would be at their own risk, going on to say that he, personally, believed that these 'quasi-currencies' would end up causing more harm than good since they were unlikely to be popular outside of their own markets.

Both the cepos and the large number of banknotes issued by the previous administration contributed greatly to Mr Milei's desire to shut down the central bank.

For context, when Alberto Fernández assumed the presidency in 2019, things were quite different: there were only about 5.2 billion banknotes on the street at the time, and the ARS 100 banknotes represented a little over 50% of those in circulation. However, at the end of Mr Fernández's presidency by year-end 2023, over 9.4 billion banknotes were circulating in Argentina, an 80% increase from 2019, with the largest denomination, the ARS 2,000 note, worth a little over US\$2.

Numbers have continued to climb, both in amounts and inflation. Currency in circulation at the start of this year is shown in the table below, as the BCRA had to continue issuing banknotes to pay outstanding debts.

As of March, and despite talks about the issuance of an ARS 5,000 note, that denomination has been shelved as the ARS 1,000 and 2,000 banknotes were

considered more than sufficient for the time being. There have been rumours that smaller denominations (ARS 10, 20 and 50) will soon be eliminated, as the ARS 2 and 5 were not too long ago. Many companies are not interested in receiving payment in smaller notes, as the transport cost is far higher than their actual value. Moreover, many consumers don't even wait for their change when it is in the smallest denominations, but no decision to eliminate banknotes has yet been made. Even ARS 10 coins still circulate in Argentina despite the fact no new coins have been ordered by the BCRA due to negative seigniorage.

Sources say some members of the new government preferred an immediate jump to denominations of ARS 20,000 and 50,000, but this was unfeasible due to the large number of cash transactions prevalent in Argentina. As in most countries, digitalisation is growing, but to date, over 40% of all financial transactions in Argentina are still in cash and of those, many are used in black market transactions, making specific denomination usage and future production needs impossible to predict accurately.

In fact, the BCRA very recently announced that they had approved banknotes of ARS 10,000 and ARS 20,000, which are expected to circulate after the second quarter of 2024 (see page 16), and fortunately, after a few months of Milei's team in office, the possibility of BCRA's closure and/or the dollarisation of the Argentine economy have taken a backseat to other, more pressing economic concerns.

To address this, the government proposed a new law in late February that would make negative seigniorage a crime punishable by law for those government officials who allow for production and emission of cash without requisite evaluations and the necessary approvals. The main thrust of this law is to avoid governments using the production of banknotes to 'artificially finance the work of the State'.

Mr Milei wants the law to 'put behind bars the President and Board of the BCRA, even the President of the nation himself and any government officials' that insist on enforcing unnecessary banknote emissions.

But emissions have continued, with 6 billion banknotes issued in the first month of Mr Milei's government.

The anti-seigniorage law is just one of many ambitious projects that Mr Milei wants to push forward as part of his goal to reduce government spending to a fraction of what has been the custom in the past decade. His goal is that all government activities be actually funded by real government revenue rather than a printable one.

As a fan of Austrian economist Friedrich Hayek, Mr Milei believes in the competition of 'free' currencies to allow choice by the individual to use the currency that he/she considers the most stable and reliable without the interference of national government. Different providers of currencies, including the existing one, would compete in the market and the 'winning' currency would be the one that is most valued by the public.

This theory is the basis for Mr Milei's belief that dollarisation will be a natural result of citizens' preferences in his plans for the Argentine economy in a far briefer period of time than most economists would believe possible.

However, to be fair, Mr Milei is a maverick who won an election despite entrenched and incredibly strong opposition. He will need all of his motivational and charismatic talents to convince Congress members to help with his crusade, even though he has publicly referred to the institution as a 'nest of rats', not the happiest of word choices.

But don't cry for Argentina yet. At the time of this writing, Mr Milei's economic team announced that the BCRA has begun accumulating dollar reserves again thanks to the forced stability that was a result of the realistic devaluation of the peso. Inflation, which was at 25.5% in December, dropped to 20.5% in January and 13.2% in March.

Suffice to say that with these unexpected improvements in the economy in the first 100 days of Mr Milei's government, it remains to be seen if his legislative proposals affecting currency will come to fruition in whole, in part, or at all, in the months to come.

FMA Secure offers advisory services for companies operating in Latin America, with a special emphasis on currencies, authentication and secure documents for both public and private clients.

Denomination in ARS	Units (millions)	% of Total	Value in USD (official exchange rate)
2,000	394	3.77%	2,44
1,000	5.747	54.94%	1,22
500	1.339	12.80%	0,61
200	448	4.28%	0,24
100	1.408	13.46%	0,12
50	238	2.28%	0,06
20	405	3.87%	0,02
10	481	4.60%	0,01

Total Notes in Circulation: 10.5 billion (Source: BCRA, January, 2024).

The SIR – the Next Frontier in Security Images

The International Hologram Manufacturers Association (IHMA), which 20 years ago launched the Hologram Image Register (HIR) – often described as the ‘jewel in the crown’ for the trade body – has recently expanded the register to incorporate all optically variable security images. The result is the Security Image Register (SIR), the only database of its kind for the security community, which safeguards copyright and helps deter attempt to copy security images, inadvertently or otherwise.



Dr Mark Deakes

Currency News™ spoke to the newly-elected Chairman of the IHMA, Dr Mark Deakes, to find out more about the IHMA and the newly-launched SIR, what it involves, how it benefits manufacturers and issuers, and how it will help advance the security of overt features for banknotes.

Q: *Congratulations on your election as Chairman of the IHMA. Please would you provide a brief overview of your education and work experience, indicating their relevance for this role.*

A: Academically, I have degree in Chemistry and a PhD in Physical Chemistry, as well as an MBA.

Following my PhD I began my working career with Sun Chemical in the UK EuroLab as a research chemist formulating coldset lithographic inks. I then joined De La Rue where I worked for 15 years in roles involving R&D, process engineering, new product development and technical management, and technical sales for tax stamps, product authentication and ID products.

This was followed by a position for five years as Director of Optical & Authentication Technologies for Reconnaissance International, where I

was also the IHMA General Secretary. During this time, we grew the IHMA membership, transformed the finances of the association, transitioned the Hologram Image Register from a manual to online process and introduced new policies and member benefits. These experiences were great, and I learned enormously.

I then headed back to De La Rue to head up their technology research area for a couple of years and also became the elected European IHMA board member, before being approached by ITW to lead their R&D efforts in holography.

So, I think my technical, holographic, sales, previous IHMA experience and industry knowledge and network coupled with my academic credentials bring a holistic approach and view to the role with unique insights. This is enabling me to ‘hit the ground running’ and build on the good work my predecessor (Dr Paul Dunn) and board spearheaded.

Q: *Can you provide some background now to the IHMA?*

A: The IHMA is a not-for-profit organisation founded in 1993 to represent the interests of hologram manufacturers and the hologram industry worldwide. It is dedicated to promoting the interests of the hologram industry internationally and to helping users achieve their commercial, aesthetic and authentication objectives through the effective use of holography.

Currently we have around 80 members from across the globe and are looking to grow the membership.

Q: *How important is the security element of the membership of the IHMA, and within that, banknotes?*

A: The security element of the membership of the IHMA is very important, in fact it underpins the association. That’s not to say members who are not in the security sector are not important; they are equally important – there are just less of them in the world.

Banknotes remain and will continue to remain a very important product for our members who serve this market sector. Around a third of all banknotes incorporate a hologram or DOVID (Diffractive Optically Variable Image Device).

And despite the growing trend of alternative payments, physical banknotes and banknote holograms are not going away. Together banknotes and banknote holograms are not only unique blends of science, innovation and creative art, they are a nation’s calling card representing its heritage, culture, brand and unique place in the world. Banknotes are the backstop and anchor for payments. Much like the physical passport remains the backstop for international travel.

Q: *Given the multiplicity of applications for holographic technology, do you think this ‘degrades’ its value as a security feature.*

A: No not at all. Whilst holography’s applications are wide and continue to grow, the growth in different applications shows the technology’s incredible versatility, richness and diversity, albeit in different applications compared to security features, which most people will probably associate holography with.

I continue to be amazed and in awe of versatility of holographic technology in areas such as head up displays, sat navs, medical diagnostics, sensing applications, educational purposes, product development, communication...the list is endless. The technology is one of the few that has diverse applications that can serve and benefit humanity.

Q: *The IHMA has recently launched the Security Image Register (SIR), as an expansion of the Hologram Image Register. Can you give the background to the register and explain the change?*

A: The use of holograms on banknotes and other secure documents as part of a robust authentication and security component solution is supported through the registration of security images on the new Security Image Register, which was previously called the Hologram Image Register. Originally launched in 1993 and run by the Counterfeiting Intelligence Bureau on behalf of the IHMA, it is the only system of its kind for the authentication community.

It is a centrally held global database of secure OVDs, which now numbers over 10,000, and enables hologram and OVD manufacturers and producers to verify, at the time a new OVD is being designed or originated, that the design, or elements of it, do not infringe copyright. It also deters the inadvertent copying of existing OVDs.

It has evolved from the HIR to the SIR to reflect the broader changes and trends in the market. Holograms, dominant though they are, are not the only overt security feature component choice in a well thought out authentication solution, and at the IHMA we are very aware of this.

Combined with the change in the market, some members who produce holograms also produce other security features, so

we have listened, consulted and thought hard before making the change. The overarching idea was to maintain security whilst making the register broader and more inclusive to other OVD technologies.

Q: *In addition to holograms, what other technologies are now eligible for registration?*

A: 12 additional primary OVD technology groups (13 in total including holograms) can now be registered, which include caustics, colour change, dielectric, DOVID, lenses, plasmonics, photonic crystal, print, reflection, polarization, waveguides and sub-wavelength gratings, and a combination of these. All were previously eligible but only if integrated with holographic technology. They are now eligible as stand-alone or combinational features, whether or not they include a holographic element.

Some primary OVD technologies are further sub-grouped to enable a more accurate description of the specific technology utilised.

In total there are 22 sub-groups, and this may change as new technologies emerge.

Q: *What are the benefits – from the perspective of members (suppliers) and end users (eg. printers, central banks)?*

A: Apart from promoting legitimacy and credibility to customers, the benefits are primarily based around copyright protection and ownership, which is common theme of conflict between OVD manufacturers, but also at times between manufacturers and customers.

To provide some background, international copyright law is based on the premise that copyright automatically vests in the originator or creator of an original work. This falls within agreed standards set out in the Berne Convention, standards which all countries' copyright laws are required to meet.

If, as a customer, you pay for an OVD / hologram, you do not automatically own the copyright on the design or the master image, even if it contains your, or your end customer's, copyrighted logo or artwork. It's surprising how many senior managers in large companies do not understand this point. As a customer, you can only own copyright if you provided the full security image design or, alternatively agree in writing with the OVD manufacturer to re-assign copyright to you.

Moreover, if an OVD / hologram or design already exists you cannot replicate it without the written approval of the hologram copyright owner, NOT the customer (unless, of course, it has been re-assigned). In other words, the original design and image copyright will always reside with the originating company.

Understanding the basic rights and ownership of copyright within an OVD design and its manufacture plays a key role in the integrity of their use as a security product. Failure to understand these basic rights leads to the inadvertent creation of counterfeit OVDs, legal and costly battles over ownership, incurring additional licensing costs, revenue loss and provides clear opportunities for counterfeiters.

Registering security images with the SIR can help avoid all these issues.

Q: *How does the SIR work?*

A: There are two steps to registration.

First is the design check, which is key, whereby all the various graphical features of the security image along with its corresponding copyright information are submitted to the CIB. They will then use that input to interrogate the database. When the checks have been completed, and there is no match or partial match to an existing image, the member will be advised via a reference clearance notification and can then proceed to manufacture and full registration, which is the second step.

On completion of the image, the applicant submits all of its optical security and physical characteristics, along with information on proprietary methods and technologies and a physical sample, at which point a digital registration certificate is issued.

If, however, the design or an element of the design (eg. a logo) already exists on the database, the CIB will issue a warning notification, along with information on how to proceed.

The SIR thereby ensures the design is owned by the manufacturer and no other image exists, or it identifies a potential conflict.

Q: *Can a secure repository ever be truly secure? How do you go about ensuring that the integrity and confidentiality of the data is maintained?*

A: Firstly, the SIR and database is run and maintained on behalf of the IHMA by the CIB, which is part of the Commercial Crimes Services, the anti-crime arm of the International Chamber of Commerce which is recognised globally.

The SIR database complies with the latest standards for security and also has resilience built into the systems and platform.

Moreover, members can only submit their images for registration and the only access they have to the database is for their own current and historical records. This ensures total security of the database.

Q: *Can you provide any examples of how the register, or rather its forerunner, has been used to determine copyright and/or prevent counterfeiting?*

A: Without breaching any confidentiality, the HIR register has been successfully used in determining copyright and preventing inadvertent duplication and/or counterfeiting in a number of incidents. I can think of several copyright issues when I was General Secretary of the IHMA where the HIR database was instrumental both in ensuring copyright was safeguarded and in flagging up counterfeit attempts.

Likewise, there have been several times when the HIR database has been pivotal in assisting enforcement agencies to take down organised counterfeiting of security documents.

Q: *The SIR will obviously only succeed if the end customers/users want it and request its use of their suppliers. How are you going about promoting it to both suppliers and end-users?*

A: The IHMA is promoting the use of the SIR via a number of channels including online webinars, social media, and presentations at industry conferences which include delegates from central banks, issuing authorities, counterfeit experts and law enforcement.

We are also targeting articles in industry newsletters, partner associations and PR media networks.

We are promoting the SIR in particular to end users/customers such as central banks, and we are also working on a specific service for government law enforcement agencies, and in particular forensic document examiners within these agencies, several of whom have approached us, to help support their work.

Q: *Does registration, or do you foresee registration, being a condition of standards or tenders?*

A: It already is in some cases. For example, a database of security images is part of the Intergraf ISO14298 Management of Security Print Process, which states that 'all requests for new security foil images shall be verified as unique using a database of security foils. If a duplicate is detected, it must be reconciled to verify if a counterfeit is being requested. All new security foil images shall be registered using a database of security foils'.

Whilst the standard doesn't actually name the HIR (and, now, the SIR), it is the only such database of security images in existence.

But I don't foresee registration being an absolute mandatory condition across all standards for this sector. Personally, however, I would always advocate registration on the SIR as good practice to ensure IHMA members' customers receive the highest level of confidence and assurance.

... The SIR

We are aware of tender pre-conditions where an organisation has to be a member of the IHMA to participate in tenders and we would recommend this, provided it is compliant with any legal requirements.

Q: *Is registration of images limited to members of the IHMA, or can anyone register their images? If not a member, how are they validated?*

A: Indeed, registrations are welcomed from non-IHMA members, for whom there is a charge for this service to cover costs (it's free to IHMA members). Non-IHMA members wishing to register will go through an approval process with the IHMA Secretariat to ensure the company is bona fide and compliant with the IHMA code of conduct, after which they will be referred to the CIB.

But in addition, given the interest among producers of non-holographic optically variable security features and their customers, we have just agreed an amendment to the IHMA membership criteria so that such producers can also now become members of the IHMA as well. This is because, if they become habitual applicants, then it works out much cheaper to be a member than to pay separately for each image search and registration.

Q: *If the SIR, as the cornerstone of the IHMA, covers all security features based on optically variable effects, and members don't have to be hologram manufacturers, then will you change the name of the IHMA?*

A: Not at the moment. That said, this is something the board has wrestled with from time to time, so never say never.

Like all organisations we must evolve and adapt to the external environment, but the success of the IHMA has meant that its name and brand has become well known which is something we are proud of and are keen to grow and maintain.

On 17 April, the IHMA will be holding a webinar, which is open to all, on the Security Image Register – with presentations from the IHMA and the CIB as well as SURYS and OpSec, two long-standing IHMA members and frequent users of the database, concluding with an interactive Q&A session.

Click here to register: www.bigmarker.com/reconnaissance-intl1/IHMA-Webinar-SIR-The-Next-Frontier-in-Security-Images

Turning Cash into Compost

Last July, Currency News™ reported that BioBanknote, the developer of solutions for repurposing end of life banknotes, and the Banco Central de Reserva del Perú (BCRP) were conducting a composting test with the waste from banknotes withdrawn from circulation. This article provides the results of that trial.

The BCRP uses cotton paper for its banknotes, and unfit notes are destroyed by being shredded and converted into briquettes, and then generally taken to landfill dumps.

BioBanknote has developed some alternative procedures based on the principle of the circular economy that allows the waste from unfit banknotes to be used as an input in the production of organic fertilisers through composting processes. This procedure has already been successfully used by the Central Bank of Colombia, and led to a proposal to run a similar composting trial with the BCRP, which was carried out during 2023.

The trial was carried out in three parts:

1. Analysis of unfit banknote samples in a laboratory to establish the chemical and physical characteristics of the waste material and to determine the ratio of carbon and nitrogen in it. These are important factors, says BioBanknote, when deciding if the material is viable to be used in composting processes. In this case the results were considered acceptable.
2. Field test in a composting plant. BCRP and BioBanknote, with the participation of the local firm, Control Ambiental Perú, decided that a test quantity of 5.9 tonnes of briquetted unfit banknote shreds was sufficient to carry out the industrial test.

The test was carried out under normal composting conditions of materials of organic origin, taking into account the results of the laboratory analyses. A key requirement was to control the behaviour of the mixture in the six intensive compost treatment piles. Throughout the test period, the temperature, humidity and aeration were maintained at set levels. The material in the piles was turned weekly in order to maintain its homogeneity. This ensured that at the end of the process, the resulting material complied with the standards and regulations that govern compost production.

After the first six weeks, the complete biodegradability of the briquette material was verified, and it was possible to continue with the maturation process that took another

six weeks. During this test period, the material acquires the required consistency and humidity needed for it to be used either as a high quality soil amendment or as compost.

3. Once the composting process was completed in week 12, a 3-kilo sample of the final product was delivered to the BCRP in order to check the quality and condition of the fertilizer. The laboratories selected by the BCRP verified the quality and gave their approval to the product obtained.

Comparative balance

The results obtained in the industrial test turning 5.9 tons of briquetted banknote debris into high quality soil amendment/compost material was compared with putting it in landfill. This was done in accordance with established calculation procedures for such a comparison. The results by Environmental Control Peru found that the benefit of this organic treatment was equivalent to:

- (a) Reduction of emission of 15 tonnes of CO₂ into the atmosphere
- (b) Carbon capture of 259 trees planted in urban areas over 10 years.
- (c) The production of 1.7 tonnes of compost for fertilisation and soil conditioning.

Conclusions

According to BioBanknote, there were four conclusions from the trial.

First, compost is an appropriate and sustainable solution for the management and reuse of waste banknotes printed on cotton already removed from circulation.

Second, it is essential to establish the characterisation of the briquette material to establish the necessary conditions to ensure the material will compost properly.

Third, the environmental benefits created can be quantified demonstrating the positive differences composting has compared with sending material to landfill.

And fourth, when this material is used to fertilise trees, the additional capture of CO₂ is highly beneficial for the environment.

Best in Design and Innovation in EMEA Recognised at 2024 Awards

The Regional Banknote and ID Document of the Year Awards form part of the industry's High Security Printing (HSP) EMEA conference. This year's awards were presented at a special ceremony during the conference dinner in Sofia on 5 March.

The awards were made for two categories – Best New Banknote and Best New Commemorative Banknote, with Morocco, Lesotho and Poland all receiving recognition.

In a new category, held for the first time this year, there was also an award for the Best New House Note – with Koenig & Bauer Banknote Solutions and Komori sharing the honours.

Best New Banknote

Bank Al-Maghrib is rolling out a new series of banknotes in four denominations, the first since 2012. Designed and produced by its printworks Dar As Sikkah, the first two new notes in the series – the 100 and 200 dirhams – issued last November and this January respectively - received the Best New Banknote award.

Both banknotes feature a portrait of HM King Mohammed VI. The main theme of the new 100 dirham banknote is the Moroccan Sahara. The key security features are a registered 5mm wide Galaxy® windowed security thread, which matches the gold-to-green colour shift and movement effects of the SPARK® Live denomination numeral.

The second note in the new series, the 200 dirham is themed on the economic and industrial development achieved under the King's leadership. As with the 100 dirham note, the 200 dirham has an optically variable windowed security thread – this time RAPID® – along with SPARK® Live for the denomination numeral.



Best Commemorative Banknote

There were two winners of the Best Commemorative Banknote award.

First was the Central Bank of Lesotho (CBL), for the 200 maloti issued in July 2023 to mark the 60th birthday of HM King Letsie III, who has reigned since 1996. It is the first time a commemorative note has been issued in Lesotho, and, reflecting the King's passion for the environment, the CBL chose the Green Banknote from Louisenthal, which is made from cotton from renewable sources, has a lower carbon footprint and is more durable than standard cotton banknotes.



The key security feature is a 4mm dynamic RollingStar® i+ 'Moon' thread on the reverse, the carrier foil for which was made from 70% recycled PET.

The substrate itself is a greener version of Louisenthal's Hybrid ADDvance® - composed of 75% 'Cotton Made in Africa', and 25% FSC®-certified wood pulp, making it the first banknote to be made with the Cotton Made in Africa certification.

Furthermore, the substrate is protected by thinner layers of PET film, reduced from 6µm to 4µm on each side (30% less plastic and 5% less weight). Additionally, mineral-oil free inks were used for the Simultan printing.

The second award winner was Narodowy Bank Polski (NBP) for the 20 zloty commemorative banknote dedicated to the famous

Polish astronomer, economist and mathematician Nicolaus Copernicus, marking the 550th anniversary of his birth, and the 480th anniversary of his death.

The note was produced by PWPW on CCL Secure's GUARDIAN™ substrate, and the design is a dynamic celebration of the life and work of Copernicus, alongside whose portrait several security features are embedded into the substrate. They include a large transparent blue window containing CCL Secure's Cinema™ feature, which shows multiple images of the earth rotating around the sun, paying homage to the astronomer's groundbreaking heliocentric theory.

The feature is complemented by a clear transparent window containing a yellow spot colour, vignette line work and shadow images, providing further depth and movement and historical context to the other planets orbiting the sun (ie. the heliocentric system).



An additional smaller window includes a VIVID™ Colour feature representing the solar system. In daylight the feature is a white, photographic-like image of the solar system, but under UV light is fully coloured. An iridescent stripe is an additional security feature that complements the image of old coins decorating the reverse of the note, representing Copernicus' formulation of the quantitative theory of money.

Banknote Industry Strives to Thrive

Nestling in the heart of the Balkans, Sofia, the capital of Bulgaria, was the picturesque setting for the latest edition of the High Security Printing™ (HSP) conference series (4-6 March). The sell-out event, which had to close its doors to new registrations three weeks in advance, brought delegates up to speed about what is happening to banknotes in the region and around the world.

Three themes stood out: the future of cash, sustainability and innovation. While the first of these was covered in a special 'Future of Cash conference' workshop, sustainability and innovation were threads that ran across almost every presentation and discussion. The industry is striving to do better and to make cash the best that it can be.

Is there a future for cash?

It started with the Future of Cash conference running a half day workshop which covered cash usage data and thinking about how and why it is changing, whether cash is a public good and/or a basic right and discussion groups on different aspects of what is happening to cash.

The challenge of less cash was clearly outlined, along with the impact of inflation on cash usage. While freedom of choice is a critical part of the cash story, much time was spent on the importance of cash when crises occur, along with the underlying 10-20% of the population who need cash. The hard reality of both requirements is driving discussions about how to ensure both access and acceptance. Without both, cash fails.

Discussions touched on regulation and/or financing of cash, the need for equal acceptance, not just acceptance of cash (if one till in ten accepts cash in a supermarket, cash ends up being severely disadvantaged), the importance of costs and fees and the need for a level playing field for cash.

Security remains at heart of banknotes

Kerre Corbin's session telling the real life story of a counterfeiter drew a large crowd, demonstrating that security remains at the heart of banknotes.

Oberthur Cash Services, speaking as part of the main conference agenda, explained that 60 central banks have now adopted IBNS regulations. Countries that have, have seen a dramatic drop in ATM attacks and cash in transit (CIT) companies have been able to move to lighter vehicles and single crews.

Cash overview

The first session saw Oberthur Fiduciaire, the main sponsor of the conference, outline its story of innovation and progress and updates on both its acquisition of a

majority share of Rolling Optics and its new Anima™ product, Bioguard™ and a quick overview of its developments.

Reconnaissance used its banknote and cash databases to review design activity, cash usage and sustainability activity in the region since the last EMEA conference. While 27% of countries have made a design change of some sort, only 13% of denominations have been changed. Some 141 denominations are about eight years old and 43 are 19 years old, suggesting design amendments are due.

Data on 17 countries found the volume increase for banknotes had a compound annual growth rate (CAGR) of 5% and data on coins for ten countries had a CAGR of 2%. World Bank Findex data found access to bank accounts growing across the whole region and the use of digital payments increasing faster.

Danish developments

Although not in the first session of the conference, Danmarks Nationalbank presented its recently announced changes to its currency, the development of a new series for issue in 2028, that older banknotes will no longer be legal tender after 31 May 2025 and that the Kr 1,000 will not be legal tender after that date either.

The new currency and demonetisation of the Kr 1,000 come against a drop in the number of cash payments from 23% in 2017 to 11% in 2023 and a drop in value from 16% to 9%. With 90% of transactions being for less than Kr 500 (€67), there is felt to be no need any longer for the highest denomination.

Denmark has Europe's most established protection of cash acceptance in law, and few people are more than 10 km from an ATM.

Sustainability

Out of 16 banknote related presentations at the conference, four were predominantly about sustainability, four made substantial reference to environmental activities and three included mentions of the environment. The level of activity, action and interest devoted to environmental sustainability, which added up to 30-40% of the time spent on banknote related presentations at the conference, shows how important this topic has become.

Environmental sustainability is quite a 'young' topic in conference agendas and, as result, presentations feel 'fresh' because very new thinking and work is being presented as opposed to what is usually more evolutionary developments in other sessions.

The European Central Bank (ECB) gave a detailed report on its Product Environmental Footprint analysis of banknotes (see CN December 2023).

Kurz, presenting 'Security and Sustainability; a Mutual Journey', described what it has done on environmental sustainability, which has won it the EcoVadis rating agency's silver award. For example, it has reduced energy by 20% by optimising its drying processes. It has combusted exhaust air and reused solvents for energy. It has used thinner polyester (PET), recyclable PET and thinner lacquers. Investment in its photovoltaic plant has saved 6,000t of CO2 generating 13 million kWh.

Koenig & Bauer Banknote Solutions (KBBNS) provided details of its work over decades to improve the efficiency and reduce the input materials required to produce banknotes. In recent years, environmental sustainability has been a major part of the motivation, not just value creation.

Examples include super-sized sheets increasing yields, printing speed increases and faster make-ready, which have increased production by 30%, smart design for manufacturing, reduced energy consumption and more ecological processes.

A more recent development, selective inking technology for intaglio production, has resulted in less ink usage and less intaglio sludge that then needs to be disposed of.

Royal Dutch Kusters Engineering presented both the results of its survey of the sustainability work of 83 central banks, particularly how they dispose of unfit banknotes, and its own work to allow both paper and polymer substrate waste to be re-worked into high value new products. A more detailed description of the presentation and its study will be published in the April issue of Currency News.

Hunkeler Systems also presented its work on the management and recycling of unfit banknotes.

Giesecke and Devrient (G+D) presented for the first time on its new Banknote Fibre Extraction (BFE) solution. Cotton has a high calorific value and is, therefore, high value. According to G+D, if cotton fibres are shredded, then the fibres are damaged, reducing the options for their high value disposal. As a result, it has developed a new solution that breaks fibres rather than cutting them.

G+D has developed a mechanical solution that uses no water or chemicals, breaks the fibres using pressure (sheer stresses), pressure changes and air turbulence/micro-turbulence. The machine has been engineered to work at the same throughput rate as G+D's banknote processing systems – 600-800kg per hour.

The output from the BFE machines can be formed into blocks for transportation or use without the need for additional packaging materials. The resulting output material meets the EN 643:2014 standards, allowing it to be disposed of along regular paper waste bin routes. The resulting pulp can be used to make other non-banknote paper or be used to create moulded products, for example using natural fibre injection.

Continuous innovation

Spread across two sessions, 'Design and Security' and 'Currency Innovations', a series of presentation made clear a wide range of innovations across the banknote industry.

Komori Currency Technology, which celebrated its 100th anniversary in October 2023, presented its Phoenix house note with innovative digital printing which links with Jura's banknote authentication software.

Orell Füssli described its Escher® 3D intaglio design and printing techniques, and how it can now use a 2D photograph to create the 3D model needed to create the designs.

Banco de España described applications of its Neurocash software. It is being used to investigate how banknote designs work in circulation, production and communication materials. It says there is no need to make mock-ups of banknotes. It can be used to establish just how sensitive the public are to defects and to explore perceptions of legal and illegal banknotes.

Work is now going on to create virtual neuro designs based on augmented and virtual reality.

Jura reviewed traditional print security features. It went on to say that digital printing has a place on banknotes, particularly for personalisation and serialisation. It is particularly good for spot colours, special UV features, IR features, special line structures and screens. It needs, though, to develop unique features for digital printing,

otherwise using digital print is faking analogue features.

Hueck Folien, in addition to describing its extensive sustainability work and its wide portfolio of security features, described its new Optomove® feature which is based on micro mirrors with six colours possible.

Distinkt presented on its work to create a new generation of dynamic luminescent inks based on nanotechnology. This work has not yet created a final product, but ink has been developed that demonstrates optical changes in response to near IR and UV light.

Distinkt says the material can be authenticated both physically and digitally. The digital solution is in the form of QR codes created in two state, multiple state or encrypted transition codes.

The material is said to be irreplicable, industrial, inexpensive and 'green' (environmental) and able to work in the form of an ink, powder or film.

Inorcoat presented its work on PVD coatings on intaglio plates. These are chrome free. The level of hardness can be selected, and they operate at low temperatures. It is also active in the coin market, working with the Croatian Mint to produce 420 million euro coins.

Seprinto's LaserLine Secure Luna technology reduces ink usage by 10-15% and improves print quality non-invasively. No radical ink management is required.

Finally, Regula has developed a wide range of standardised visualisation, verification and analysis tools for use with optically variable devices.

A specialised exhibition of over 40 companies was held alongside the conference sessions, providing delegates with an opportunity to see the latest industry products and solutions.

Other highlights of the event included the conference gala dinner in the Grand Hotel Millennium, where awards for the prestigious Regional Banknote of the Year were presented (see page 11).

The conference closed with the annual HSP EMEA football match, sponsored by Oberthur Fiduciaire. Fortunately, and unusually, there were no injuries, and the match was greatly enjoyed by delegates.

The next HSP EMEA will take place in early February 2025 in Switzerland.

Best House Note

In this new award category, the joint winners were the industry's two manufacturers of banknote production equipment.



First was the Laika series from Koenig & Bauer Banknote Solutions, intended to explore and push the boundaries of what is possible in design and production. The design theme was space, and the series took its name from the Laika, the first animal (a dog) to orbit the earth in the Soviet spacecraft Sputnik 2, launched into outer space 1957, that paved the way for human spaceflight.

The series comprises a family of five specimen notes (three on paper and two on polymer), replete with both proven and new security features, and was the result of several partnerships within the high security printing industry – including with De La Rue, LenSys, Louisenthal, Lumenco, SICPA, Kurz, PurintoMark, NPA, and PWPW.

The objective of the series was to see how far the boundaries of technology could be pushed, while ensuring efficient production, minimising waste, and making machine readability a flawless process.

The second winner of the House Note award went to Komori for its Phoenix 2023 house note, produced to celebrate its centenary and which brought to life its concept of 'Power to the Print – Technology that Empowers'.



A collaboration with Jura, Landqart and SICPA, the note was intended to demonstrate the potential for security through print alone, and combines classic, proven security printed security features with some of the latest technologies, including digital printing for the numbering. This has allowed each banknote to be unique and to interact with mobile phones. (Full details of both the Laika series and the Phoenix 2023 house note can be found in Versions 1 and 2 of the special Concept Notes report).

IACA Awards – the Finalists Are...

The International Association of Currency Affairs (IACA) has announced the finalists of the 2024 Excellence in Currency Technical Awards.

They are:

Best New Banknote Feature, Product or Process:

- CCL Secure – Effect™ Cameo feature
- De La Rue – ASSURE™ covert feature in the core of a polymer banknote substrate
- Jura and OEBS – stainless steel intaglio plate making process
- Louisenthal – Green LongLife™ banknote substrate
- Meta Materials – Inspired by Nature – QUANTUM™ stripe

Best Limited Circulation/ Commemorative Banknote:

- Bank of Guyana – \$2,000
- Eastern Caribbean Central Bank – ECCB \$2
- National Bank of Kazakhstan – 10,000 tenge

Best New Cash Cycle Innovation Finalist:

- Bangko Sentral ng Pilipinas – The Coin Deposit Machine
- The ECB in cooperation with the euro area NCBs – Product Environmental Footprint (PEF) study
- Giesecke+Devrient Currency Technology – Banknote Fibre Extraction

For the first time, there will also be an award for the Best House Note, with finalists including:

- Banco de Mexico – commemorative house note for the 5th anniversary of the printworks in Jalisco
- Bundesdruckerei – Ignis, the first note of the Nihilo Series
- Casa de Moneda de Chile – 279th anniversary house note
- Komori – the Phoenix anniversary note
- Kurz – Kinegram® Around the World
- Landqart – 150th anniversary house note
- Louisenthal – Jump™ – Camera house note.

The finalists for the first three categories have now been put to a vote of IACA members. For the Best House Note category, IACA's central bank members will vote for the winner, along with delegates at Banknote 2024, who will cast their votes during the conference.

The winners for all four categories will be announced at the Banknote Conference Awards Dinner on the evening of 15 May.

Programme Overview – 2024 Banknote Conference

The 2024 Banknote Conference program was formed with the ideas, insights, and suggestions from the Banknote Advisory Board. As the industry's premier technology-focused event, the committee's input is a valuable part of the overall program structure, say organisers Currency Research, ensuring the most relevant, technology-focused topics for our industry today are covered such as the latest advancements in currency technology, trends, security features, and much more.

With a history of bringing together industry leaders, innovators, and experts, the conference already has more than 130 organisations hailing from more than 50 countries and over 50 central banks and printworks registered, with six weeks to the start of the conference.

The pinnacle of the conference's opening ceremony will be marked by a keynote address delivered by Chief Lynn Malerba, the Treasurer of the United States, who will set the tone for the conference by offering attendees a compelling vision and invaluable perspectives on the future of currency and payments.

Moving to the plenary sessions, these will be as follow:

- Cash Trends
- Counterfeit Trends & Threats
- New Developments in Currency Production
- Industry's Technical Achievements: IACA's Technical Award Finalist Presentation
- Substrate & Inks
- Notes and the Cash Cycle: Designing for Automation
- Redesigning Currency
- Physical Production in a Digital World
- Sustainable Cash Production & Destruction
- Innovations Sessions

There will be three workshops this year on Monday 13 May, preceding the main event.

First is 'Circulating Coins – Intrinsic, Essential, Social', which will focus on the role of coins in the cash cycle, examining their importance for payments and the trends in volumes, denominational structures and the note/coin boundary, using brand new circulation data. It will be presented by the team from Currency News™, and will provide a taster for the next Coin Conference, which takes place in October this year.

Second is the State Printworks Summit, an open forum for peer-to-peer discussion and sharing of issues,

challenges and technical developments between different state printers.

And third, for the first time, is Designers Convening @ Banknote Conference, comprising a specialised program for banknote designers on integrating production and design.

The International Association of Currency Affairs (IACA) will also be hosting a discussion meeting for members on the subject of 'Seeing a Future for Cash Visibility & Collaboration', followed by a celebratory lunch to mark its 20th anniversary.

Also on the Monday will be a tour of the BEP's newly-expanded Western Currency Facility (WCF) in Fort Worth, which produces more than half of the nation's annual paper currency order.

A separate visit to the Federal Reserve Bank of Dallas' Economy in Action Exhibit and a tour of its cash-processing operation has also been arranged for Thursday, 16 May – the day after the conference.

Networking

Networking is an important part of the Banknote conferences, and this year the event will lead off with a welcome reception at the Ft Worth Stockyards, providing an authentic Texan experience.

The network and awards dinner will be hosted on-site at the Omni Hotel, whilst there will also be an evening cocktail reception in the exhibition area and daily breakfast, coffee, and lunch breaks.

According to Currency Research, this year's program is designed to ignite discussions, foster collaboration, and shape the future of currency technology. 'The 2024 Banknote Conference will be bringing together the largest gathering of global senior-level attendees from central banks, currency-issuing authorities, security printing companies, technology providers, researchers, and other stakeholders involved in currency design and production. You won't want to miss it', it said.

banknoteconference.com

Suriname Goes Green for New High Denominations

The Central Bank of Suriname (CBvS) has introduced two new high denomination banknotes; the 200 and 500 Suriname dollars (SRD), showcasing advanced security and sustainable substrates.



Presenting the new notes are CBvS Governor Maurice Roemer (right) with Patrick Marcato, Senior Regional Sales Director for Giesecke+Devrient (left).

Suriname has been challenged by inflationary pressures in recent years, and CBvS has stated that its priority is to ensure efficient circulation and replenishment of banknotes, thereby facilitating smooth payment options for the public. To allow this, these new notes enable larger payments with fewer banknotes, reduce queues at ATMs, and will alleviate the strain on counting and transaction machines.

Suriname is in northern South America, situated slightly north of the equator, bordered by the Atlantic Ocean to the north, French Guiana to the east, Guyana to the west, and Brazil to the south. It is the continent's smallest country (165,000 km²), and over 90% of its territory is covered by rainforests, the highest proportion of forest cover in the world. Its economy is highly dependent on natural resources (petroleum, gold, bauxite) and agriculture. The capital and largest city is Paramaribo, which is home to roughly half the population of just over 630,000 (also the smallest in South America).

Historically a Dutch colony, in 1975 it gained its independence. It continues to maintain close diplomatic, economic, and cultural ties with the Netherlands, and is the only sovereign country outside Europe where Dutch is the official language.

The currency, the Suriname dollar (SRD), was introduced in 2004, replacing the

Suriname guilder. A new design series was issued in 2011 in denominations of SRD 5, 10, 20, 50 and 100. The recent introduction of the SRD 200 and 500 banknotes are the first new denominations since 2004.

Sustainability and security paramount

Suriname's existing notes are already protected with holographic stripes on the front and colour shift windowed thread on the reverse. But even further security was a priority for the two highest denominations. In addition, given Suriname's forestry and agriculture basis, CBvS was attracted to a more environmentally friendly and durable substrate which could at the same time provide state-of-the-art security features.

CBvS had already experienced the durability of composites through the adoption of Hybrid ADDvance® for the SRD 5 and 10 notes. The choice of the Green Banknote from Louisenthal was, therefore, a logical next step, particularly as it has already been issued in several countries. From the early positive results in these countries, CBvS was confident that the Green Banknote technology could also contribute to a more environmentally friendly and efficient cash cycle in its own country.

For a start, the material mix of organic cotton and certified cellulose are reported to reduce carbon emissions by 63% compared to fibres made from conventionally grown cotton. Additionally, the carrier film for the key security features – RollingStar i+ security thread and varifeye™ ColourChange security patch – comes from a certified recycling circuit with 70% recycled polyester.

Design with integrated security

The main motif on the front of each note is the headquarters of CBvS, in keeping with the other notes in the series. The building also appears in the watermark for both notes.

The design theme for each is based on industry – the back of the SRD 200 celebrating the fishing industry and the SRF 500 rice cultivation. Additionally, on the back of each note is depicted a tree, the fruits and seeds of which integrate with the designs on the front of the notes.

The SRD 200 features the Sandbox tree. The fruits of the tree were used as vessels in which fine, dry sand was stored, and used as sand for drying ink the absence of blotting paper. These fruits appear in the Rollingstar® LEAD Pure stripe which, when tilted, shows a colour change from gold-to-green, a flip effect of the '200' denomination numeral to a star and the seeds from the tree. Additionally, the fruits and seeds are visible on both sides of the note through a laser cut transparent window.

The back of the note features a Rollingstar i+ thread with Cube design. It changes colour from gold to green when the note is tilted and the denomination numeral can also be seen.

The SRD 500 features the Buriti palm, which has a popular fruit with edible seeds. Through the varifeye ColourChange Patch, the fruit changes colour. When viewed from above, it is gold-coloured and shows various effects like the flip effect '500' to a star. When the banknote is held up to the light, the translucency shows a moriche palm fruit in deep blue.

The back of the note also features a Rollingstar i+ thread with Cube design, this time changing from magenta-to-green when the note is tilted. And as with the SRD 200, the 500 denomination can also be seen.

To support the introduction of the new notes, the interactive Mijn SRD (My SRD) smartphone application was developed to familiarise the public and explain the new security features.



Note and Coin News

■ Banco Central República Argentina has confirmed that new 10,000 and 20,000 peso (ARS) notes will enter into circulation in June.

They will be the highest denominations to date and come after years of demand from business and banks. Argentina's current highest denomination is the ARS 2,000, issued in 2023, with the most commonly used note being the ARS 1,000.

The designs of the new notes continue the move away from the Native Fauna series, launched in 2016, to a revision of older

designs from the Heroines and Heroes of the Homeland series in order to save costs and shorten production deadlines.

The ARS 10,000 peso note will bear the images of war heroes Manuel Belgrano and María Remedios del Valle, a renowned heroine from the War of Independence. The portrait on the ARS 20,000 will be Juan Bautista Alberdi, architect of the 1853 Constitution.

The new notes will be printed on cotton paper with watermarks and security threads.

■ Danmarks Nationalbank is introducing upgraded version of the 100 and 200 krone banknotes, in which the MOTION® security thread on the reverse of the notes is being replaced with a RAPID® security thread on the front. The 500 krone was similarly upgraded in 2020, while the 50 krone will be upgraded in 2025.

The Bank will introduce a completely new series of banknotes in 2028-2029, but is upgrading security features of the current 2009 series ahead of then. The only note in the series that will not be upgraded is the 1,000 kronor, which is being withdrawn in May 2025.

Events

8–10 APRIL 2024

OPTICAL & DIGITAL DOCUMENT SECURITY

Lisbon, Portugal

opticaldigitalsecurity.com

13–16 MAY 2024

BANKNOTE CONFERENCE

Fort Worth, TX, USA

events.currencyresearch.com

3–5 JUNE 2024

HIGH SECURITY PRINTING LATIN AMERICA

Santiago | Chile

hsp-latinamerica.com

24–26 JUNE 2024

CASH SUSTAINABILITY FORUM

Frankfurt, Germany

cashesustainability.com

9–11 SEPTEMBER 2024

SECURITY DESIGNERS FORUM

Warsaw, Poland

securitydesignersforum.com

28–30 OCTOBER 2024

THE COIN CONFERENCE

Lisbon, Portugal

thecoinconference.com

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